



Nürnberg, Augsburg and other places, that the streets of Mittenwald could scarcely contain them.

In addition to these might have been seen all the year round in the streets, men having in charge twenty or more horses, whose business it was to transport merchandise and to supply extra horses for conveyances over the mountains.

These men formed themselves into a corporation called the Rott, and together with the Raft Corporation became a powerful influence in the town, where they had the monopoly of transport both by road and river (Isar). The chief street is still called the Rottstrasse.

This town reached the highest point of its prosperity when in the year 1487 it secured the right of holding the annual fairs hitherto held in Bozen. It grew rapidly and fitted up houses and factories for receiving and depositing goods. It built hotels, large coach houses, yards and stables for the accommodation of strangers.

The warehouses were stocked with treasures and spices from the Levant, with jewels and trinkets from Venice, and with tapestry, fancy goods, and raw products from the German market. But even more varied than the goods in the warehouses was the life lived within the town during the time of the fairs. Noble merchants from the north and from the south arrived here on richly caparisoned horses, accompanied by their footmen and servants. Smaller traders came in from north and south on foot, carrying their wares on their backs, rich drivers and rough porters, officials of the Rott and Raft Corporation, riding and walking messengers, pious pilgrims all astray in the confusion while seeking their way to the church, the musicians pouring forth their joyous strains in the front of the hotels. What a picture it made, and what a contrast to the present!

For a hundred and ninety two years these fairs brought prosperity to Mittenwald and the neighbouring towns of Partenkirchen and Ammergau, and when they ceased to be held here all this prosperity, life, vigour, and joyousness gave place to an almost gloomy quietude.

But although its glory departed with its fairs more than two hundred years ago, it could not be deprived of its beautiful situation, its quaint streets and houses, its magnificent mountains, its gay and dancing river, its beautiful flora, its interesting people, its traditions and superstitions—all these remain yet to delight those who are able to visit the place.

There is no gloom or dullness there now, for it is the centre of an industry which brings it into communication with the whole world, and that is the making of violins and other stringed instruments.

The changes which steam and rail have wrought in Europe generally have not touched this place, and the influence, anything but good, which has been exercised by the tourist class in Switzerland and elsewhere has not yet found its way here; indeed, so little is known of Mittenwald and how to get to it, that I will tell how we got there and at what expense.

We left Munich at half-past ten in the morning, taking our tickets to Murnau, a distance of fifty-one miles, for which we paid four shillings and a penny each, second class, and nine shillings for luggage, not a pound of which is free in Bavaria, and arrived at our destination at two o'clock.

The train moved so slowly that we were almost inclined to believe what we had heard, viz., that beggars often walked by the side of it collecting alms.

We passed through the little village of Gauting, with its two churches close together and exactly alike, about which the story is told that the pastor and his flock having disagreed, he lost his position, and with his own means

built a second church precisely like the first, where he continued to preach for the rest of his life. A second story runs that last year a gentleman came to Gauting for rest and quiet after having been under treatment for a disease of the eye which caused him to see double, and of which he considered himself quite cured. The first thing he saw on leaving the station was these two churches, and in despair he returned the way he came, believing that his malady must be incurable, as he still saw double.

Then we passed Mühl, a short distance from which King Pepin used to hold his court. It was to Mühl that his affianced bride was to be sent, but the miller's wife in this village was ambitious, and conceived the idea of becoming mother-in-law to the King. So giving instructions to her husband and his man to waylay the coming bride and kill her, she substituted her own daughter, who bore a strong likeness to the princess. The men were more merciful than the woman, and instead of killing the poor lady they let her loose in the woods, bringing home a roebuck's tongue as a proof of her death.

The miller's daughter was married to King Pepin and all went well for a year. At the end of that time the king, while hunting, was benighted at the mill, and one of the courtiers discovered the real princess hiding among the flour sacks. She showed proof of her identity, and the miller's wife was forced to confess her guilt.

Her husband had already died of remorse, but she and the false queen were put into tubs full of nails and rolled down into the river, and the king married the persecuted princess, who became the mother of Charlemagne.

We had several good views of the Starberger sea also, as we moved slowly along.

At length we reached Murnau, where at the Hotel Post we obtained a sledge. We were to have had a grand one, all red velvet and blue tassels, which had belonged to the late King Ludwig, but our boxes were too big, and we occupied therefore a humbler one with two horses and a good coachman, and started off to the merry music of sleigh-bells.

What a delightful sensation it was as we flew along in the clear air through fir forests and picturesque villages, with the white, pure snow glistening in the sunlight!

We went to Partenkirchen without pause. Here we changed sledge and coachman, and well wrapped up we again went out into the cold, fresh air and made our way to Mittenwald. It was like travelling in fairyland, so beautiful was the effect of the bright moonlight on the snow.

For these two sledges we paid thirty-seven shillings, and the journey between the two places took six hours. This can be done at a fourth of the expense if the post omnibus be made use of; but then it is of course nothing like so pleasant as one's own carriage or sledge.

We were glad to find our rooms ready for us, a splendid wood fire and a bright lamp burning, as we entered the Hotel Post a little tired and cold. The recollection of this hotel and the kindness and unbounded hospitality of host and hostess will be always one of the pleasantest in this very pleasant journey.

It had been so long our earnest desire to see this old town, and so many had been the pictures we had drawn of it in our imagination, that there was great danger of the reality falling short of our expectations.

Fortunately for us it stood the test. Its situation is exquisite. Standing high up in the southern Alps of Bavaria, almost midway between Munich and Innsbruck, it is overlooked and guarded by the magnificent rocky walls of the Karwendel and Wetterstein mountains, 3,000 feet above the level of the sea—mountains which hold their icy sceptre at least three parts of every year.

The Isar, as it flows rapidly on from its

mountain home by the foot of the Karwendel, adds not a little to the beauty and brightness of the scene. The quaint and frescoed houses, the fountains and running streams in the centre of the streets, the beautiful old church, the kind and hospitable people—all make such a charming whole that no wonder the few who know it go again and again to renew their pleasure in the old-fashioned picturesque town of Mittenwald.

There are lovely wooded walks, too, in every direction; the edelweiss grows in abundance on the mountains, and many lovely flowers are to be found here which are not met with elsewhere. It is a wonderful, but by no means disagreeable mixture of an old south German commercial town and an agricultural village.

The entrance to the houses is by large arched gates, similar to those one sees in Nürnberg; and on the walls of the houses are marvellous frescoes, with colours rich and good as when 300 years ago they were painted. Take it altogether, one can scarcely go to a place more full of stirring recollections, more beautiful in its situation, or less spoiled by modern progress.

The inhabitants are scarcely less interesting than the place. They are original, independent, lovers of freedom, and endowed with a taste for the fine arts. You have only to show yourself an artist or a musician, to be honoured and taken to their hearts at once; they are kind and trusting to strangers; they are full of romance and poetic feeling, and it is rare, indeed, to find a thief and a liar among them.

One feels sorry that they should have given up their former picturesque costumes; they are a handsome race of people, and the ordinary modern dress is not suitable. They, in common with their neighbours in Ober-Ammergau, possess an innate talent for theatrical representations; and although public acting is gradually dying out among them, they still indulge in it in their homes on winter evenings. They are a very religious people; their church is beautiful and well endowed. We were present at the Sunday afternoon service, at which the old and venerable pastor catechised the young men and women of his flock.

It seemed to us as though every house must have been left empty during the service; old and young came pouring out of the big portals in such numbers, all wending their way to the church, in which there was soon not even standing room.

After a short, earnest service the young men and women quietly stood up to be catechised in Bible history, and to receive a short address on their daily duties. There was no false shame—it was evidently a time-honoured practice, and I could not help thinking a good one also. The pastor was like a father among his children, knowing them all by name. It is easy to see that religion is a very important factor in their lives, their very amusements are bound up with it: take for example the Passion Play. It is easy to understand that in a place such as this, with its old world history, its mountains, its woods, its joyous streams, there would be an abundance of legends, superstitions, and old customs, and this being so we should not represent either people or place correctly if we omitted to mention some of these.

There is a strong belief among the people that great treasures are hidden away in the Karwendel, and jealously guarded by mountain spirits and gnomes; and it is further believed that a number of people, on account of the misuse of their riches in this world, or because of their miserliness, are banished with their treasures to the inner part of this wonderful mountain, and are allowed only now and then to revisit the upper world to look for men who will redeem them from their unhappy condition.

The legend which you hear from everyone is about a beautiful lady (called the Erzfräulein), who has been for hundreds of years bewitched and kept prisoner by the king of the gnomes. She is said to live in a crystal palace, deep down in the heart of the mountain, which is fitted up with indescribable treasures, and before which the waves of a fiery lake move hither and thither. The entrance to the palace is guarded by terrible dragons. Whoever will release the lady from her condition is to be rewarded by all the treasures with which she is surrounded.

It is said that she shows herself now and then to children, sometimes even to grown-up people, who may chance to be gathering wood or plucking berries in the neighbourhood of the mountain. She wears a mediæval dress, such as was customary for noble ladies, and on a girdle, sparkling with gold and jewels, hangs a reticule. She is wonderfully beautiful, but her pale face and attitude show great sorrow. If she sees a child, or anyone of a pure heart, she beckons to them with sorrowful gesture that they should follow and enter her palace. Many have made the attempt to follow, but the dragons which watch the entrance vomit flame and fire upon them. Those who desire to enter—so say the people—must mark their forehead with the sign of the cross, must keep silence, and in spite of terrors and dangers which meet them on the way, they must silently proceed, nor must they let any sign of fear escape them. If they succeed in this the monsters and their flames will have no power over them, and they will step unharmed into the palace.

Here they will find a magic sword, with which to conquer the dragons, and the lady will be set free from the ban.

Up to this time no one has succeeded in the enterprise; the lady still waits to be freed, and still is to be observed near the mountain, where also a fiery wheel may be seen rolling rapidly round, and where also ghastly owls of an unnatural size congregate, and in the summer nights make such an awful screech that they can be heard for miles.

Other legends there are concerning the Isar, which seems always to have had more or less of gold in its sand. This seems to have been well known to the Venetians, who in centuries gone by used to come each year for it, building their huts beside a brook which flows into the Isar at Mittenwald. Here they industriously washed the sand and found for their pains many nuggets of gold.

The legend runs that a shepherd boy, sitting beside a fountain in the street of Mittenwald, watched the sparkling water till all at once he observed glittering little balls come tumbling out of the fountain in great numbers. He put his hand in, and filled his cap up to the brim with them. On showing them to the people they declared the balls to be of pure gold. They searched the place where the boy had found them, but could discover nothing but sand—the envious mountain nixes had shut up the gold fountain.

One more legend, and I have done. There was once a grasping man in the community, who tried to increase his land by removing the boundary stones back on to his neighbour's property. As a punishment for this he has

been compelled to keep nightly watch as a ghost, and patrol his fields. He is said to carry his head under his arm, and will never attain to rest and sanctity. We did not see this apparition, but were assured there were old people living who had.

We remained in this romantic and beautiful old town till we had learned the history of the violin, from the time it was a child in the forest until, a thing of perfect beauty and symmetry, it waited quietly for the master-hand to draw forth its sweet enchanting sounds.

We have told how we reached Mittenwald, and of our delightful sojourn there. We left it one clear frosty morning, at nine o'clock, amid the kind wishes and regrets of host and hostess. The sledge and a pair of horses were at the door to convey us to Innsbruck, a journey of thirty-two miles.

What a journey it was! One more beautiful we never made. Imagine us speeding away, unaccompanied by any sound save that of the sleigh bells, through fairy forests and between majestic mountains, with the Karwendel ever raising its snow-white sparkling head into the intensely blue sky as the king of all!

As to us, we looked like a couple of elderly fairies, when at two o'clock we drew up at the Tiroler Hof Innsbruck, all frosted over, our garments an ashy-grey, and our breath frozen on to our veils into a stiff sheet of ice; but a good meal and warm fire soon made all right. The journey, everything included, between Mittenwald and Innsbruck cost us two pounds.

In our next chapter we hope to tell you about the violins of Mittenwald.

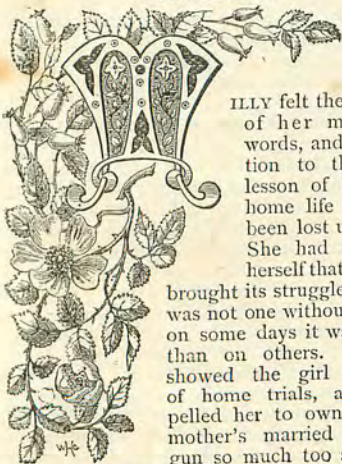
(To be continued)

EATING RUE PIE.

A SHORT STORY FOR WORKING GIRLS.

By RUTH LAMB.

CHAPTER II.



MILLY felt the wisdom of her mother's words, and in addition to these the lesson of her own home life had not been lost upon her. She had seen for herself that each day

brought its struggle. There was not one without, though on some days it was harder than on others. Memory showed the girl all sorts of home trials, and compelled her to own that her mother's married life, begun so much too soon, had

been one of incessant toil. Ignorance, and want of domestic experience at the outset, had made it much harder still; for the mill hand of sixteen years old knew nothing of household work. She had begun with all to learn, and she had no one to teach her, not even her own mother, for Burton's work lay far from the neighbourhood where, during a short visit, he met his girl-wife.

The result had been a poor, slipshod, hand-to-mouth state of things, amid which the troop of children were growing up somehow, but with little more of training than their mother had to begin with.

Milly was the eldest living. A hard-working lass, with her mother's loving heart and a great deep sense of her own ignorance, together with a longing hope that her married life should not be a repetition of what she saw and grieved over at home.

She was sorely tried between her own convictions, seconded by her mother's advice on the one hand, and Dick's anxiety to be married on the other. She was afraid to make him angry by a direct "No," when he talked of a wedding in three months' time. She loved him truly, but with a more reasonable, self-sacrificing affection than Dick's for herself.

He, poor fellow! thought that he was considering Milly above everything else in wishing to devote his earnings to make her comfortable, and planning to take her right away from the place she called "home," but which was so different from the tidy, well-ordered cottage where his life had been spent.

Two months passed all too quickly, and Dick kept urging Milly to make up her mind.

"There are two plans to choose between," he said. "I believe, if we do marry, mother would let us live with her. She has no daughter, and she would treat you as if you were hers, for my sake, though she likes you for your own too. She could teach you everything, for she is a rare fine housekeeper, seeing she was in service and in good places for fourteen years."

"She didn't get married whilst she was a girl in her teens," said Milly archly, and looking up with a smile into Dick's face.

"Maybe she hadn't a chance," he replied, feeling that he had given an argument against

such an early marriage, when he was pleading for it in his own case.

"That is not likely, Richard. You have only to look at her face and notice her ways to be sure that your mother was a treasure that plenty would have been glad to get for themselves."

"The other plan is for me to take my bit of money out of the bank, and furnish two little rooms to start in. Two rooms for two folks would be plenty," said Richard, not choosing to answer Milly more directly.

"Dick," said the girl, "you know how I care for you, and how sorry I am to vex you in any way. But I do feel how much better it would be for us to wait two or three years yet, before we get married. You would be able to save a bit more, in case of slack work or anything that might stop your wages, and I should be learning things that would make me a better wife. I would ask your mother to teach me what mine cannot, for she never had such training; and when she says that I am fit to get married, I will not keep you waiting any longer. You are made so comfortable now, that I feel quite afraid when I think how little I can do outside the mill. Dick, dear, take your mother's advice, and do believe that I only want what is best for you. If I thought about myself only, I could be very glad to get right away from my home. There is little comfort in it. You know that."

Dick could not answer the gentle pleading words with angry ones, or shake off the hand that rested so trustfully on his arm. He heard how Milly's voice trembled, and he caught the sound of a sob as she finished.

cottas are very dark and rich, and more becoming than the early hue of that colour. Prune and dahlia are both found in cloth for ladies' wear, and in cloaks; but greys, browns, and very dark greens seem to be the predominating colours for the coming winter.

I must now turn to the subject of mantles and out-of-door raiment. In reality, there is not very much to say about them, for there is nothing worn but small jackets and long cloaks, with a few mantles here and there, which are jackets at the back, and have long pointed fronts, which make them look like long mantles more than anything else. Beaver cloth, lined with silk to ensure their slipping on and off over woollen dresses, forms the favourite material for these little jackets, and they are made up in all dark colours as well as neutral hues. *The general shape* is tight-fitting at the back and open in front, either with or without a waistcoat. Many of them have lapels and waistcoats of fur, and nearly all the jackets and mantles, if not fur-lined, are trimmed so as to make them look as if they were so. Seal-skin jackets follow the same rule, and have open fronts and waistcoats of beaver. There are two small pockets on

the right front, and one on the left front, of most jackets, having flaps to them. One very stylish mode of trimming a plain jacket is represented in our picture, entitled "In the New Gallery." It is striped with braid from the neck (and sometimes also from the armholes) to the edge, the braid ending in each case in a trefoil shape.

All the newest cloaks are made full. Some are put into a yoke, some gathered round the shoulders; and a cloak, called the "Bonne femme," has a shaped neck-piece, and the cloak is put into it in wide pleats. Some have pleated backs fitted in, the fronts being double, and fulled into the neck by means of pleats or "smocking." All the fronts are long and double, like the striped cloak in our illustration; and few, if any, sleeves or capes are to be seen. Ulsters of tweed and plain cloths have capes, which are large, and fall to the waist and below the hands. Some of these large capes have tabs across the front, which button down, and others have hoods. Macintoshes will be made with fitting backs and the new double fronts, instead of the short capes coming only from the back.

In our paper pattern we give one of the new fashionable skirts that are flat, straight, and alike on each side, giving the same general impression of plainness that is shown by a redingote and hanging straight from the waist. The dress-improver has disappeared in favour of two crinoline flounces, as seen on some people; or else a tiny pad and one steel, six inches below the waist; and the much-draped and full skirts of last year are apparently quite passed and gone.

Jerseys and Garibaldis are still as much worn as ever, though of course in thicker materials; but most of them are now worn with some description of sleeveless Eton or Zouave jacket, made in velvet, silk, or moiré, which are much used over lace jackets in the evening. These last-named have full sleeves in puffs, with a deep frill of lace falling over the wrists.

I forgot to say (in speaking of skirts) that the large outside pockets have been brought back again by the taste for everything of the Directoire period. Braiding is much used, and the skirts of plain cloth have a border of braiding round the edge, the pockets and waistcoat also being braided. Some ladies, who are fortunate enough to possess them, are using the lovely rich squares of Indian, Turkish, or other Oriental embroidery for vests, collar, and cuffs for woollen dresses, and very rich they look. Gowns, all of woollen material, are more seen than those mixed with velvet. Homespun, vicuna, ladies' cloth, and woollens mixed with silk are all worn, and all suit well with the present style of making up into long coat-like dresses, which are as long as the skirt, hang evenly all round, and, in fact, are mantle and skirt in one. Very long princess gowns and long polonaises are as much worn as the Directoire coats and redingotes; and all of them seem to be equally well suited for winter clothes. This style makes all stout, rich materials more popular than they have been for years past, and so we see the advent of poplins, brocades, and matelassé, all of which are "old friends with new faces."

Stripes continue to be the leading feature in all patterns, and are generally produced in subdued combinations of colour, very fine stripes in groups being the most popular. Checks are also seen, and are large and simple, and generally unbroken crossbars of lines on a plain ground, two colours crossing each other. Then we have bordered robes of all kinds and colours, and also Persian and Indian tapestry designs, for both dresses and cloaks, and flannel with queer Japanese designs on it, for dressing-gowns.

The pattern selected for our paper pattern of this month is the "New Pleated Skirt," made quite plain, which has succeeded the old "Housemaid's Skirt," and is very much used for thick materials, such as tweed or serge. The skirt is in three pieces—front, side, and back. The front and sides are narrow and flat, the back being set in three large kilt folds, which are shown rather widely spread. The width of these folds is about equal to the width of the front. It is made to the ankles, and may be bordered with a plain band of ribbon or fur. It will take from six to seven yards of material, has a small pad, and one small steel placed six inches below the waist, at the back.

All paper patterns are of medium size, viz., thirty-six inches round the chest, with no turnings allowed, and only one size is prepared for sale. They may be had of "The Lady Dressmaker, care of Mr. H. G. Davis, 73, Ludgate Hill, E.C.," price 1s. each; if tacked in place, 6d. extra. The addresses should be clearly given, with the county; and stamps should not be sent, as so many losses have occurred. Postal notes should be crossed, but not filled up with any name. *Patterns already issued may always be obtained.* As the object aimed at is use, not fashion, the Lady Dressmaker selects such patterns as shall be of constant use in making and re-making at home, and is careful to give new hygienic patterns for children as well as adults, so that the readers of the "G.O.P." may know of the best methods of dressing themselves. The following in hygienic under-clothing have already been given:—Combination (drawers and chemise), princess petticoat (under bodice and petticoat), divided skirt, under bodice instead of stays, pyjama (nightdress combination). Also housemaid's or plain skirt, polonaise with waterfall back, Bernhardt mantle, dressing-jacket, Princess of Wales jacket and waistcoat (for tailor-made gown), mantelette with stole ends, Norfolk blouse with pleats, ditto with yoke, blouse polonaise, princess dress or dressing-gown, Louis XI. bodice with long fronts, Bernhardt mantle with pleated front, plain basque bodice suitable for cotton or woollen materials, Garibaldi blouse with loose front, new skirt pattern with rounded back, bathing dress, new polonaise, yoke bodice and bodice with full sleeves, Irish wrap or shawl cloak, blanket dressing-gown, Emancipation suit, dress drawers, corselet bodice with full front, spring mantle, polonaise with pointed fronts, Directoire jacket bodice, striped tennis or walking jacket, honeycombed Garibaldi skirt, new American Emancipation bodice (instead of stays), and new Corday skirt with pleats.



NEW SKIRT WITH PLEATS ONLY.

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER II.

It would seem out of place in writing of the violin to commence with the Mittenwald instrument and its makers, but for the fact that I came to this old-world Bavarian town to get some personal knowledge of both, and

to find answers to problems which had long puzzled me with regard to the violin.

Whatever is said, therefore, of the Mittenwald violin and its makers, must be regarded as affording some points of interest in and about the kingdom of sound, just as we study

a book on a new country before setting out on the journey thither.

It is curious to note how that the prosperity of a nation is often due to the special talent and enthusiasm of an individual cropping up at a time when, from loss and misfortune, the

people are easily directed and induced to throw their whole energy and talent into an undertaking.

It was so with the establishment of nearly every branch of the toy industry. It was so here in Mittenwald with the making of violins.

In the sixteenth and seventeenth centuries the art of violin-making in Italy was at its highest point of perfection. In Brescia, Cremona, Treves, Mantua, Verona, Padua, Venice, Florence, Rome, and Naples, dwelt the most renowned masters, who gave lessons in the art of violin-making, and their fame went out into all lands.

Of course, Mittenwald being the central point between Italy and Germany, heard very much about it from the various travellers to and fro, in addition to which it had a very celebrated maker of violins dwelling near, and who often paid a visit to Mittenwald in search of special wood for his instruments; this was the celebrated Jacob Stainer, of Absom (a little village near Innsbruck) a man of surpassing intelligence, delicate constitution, and gentle manners, the first celebrated maker who exercised his art outside the charmed circle of Italy.

The people of Mittenwald had often watched him with curiosity as he went about their forests, mysteriously striking first one tree and then another with his hammer, and then putting his ear close to catch the sound.

At the periodical cutting down of trees he was sure to be present, listening for the sound of occasional large branches as they fell into the valley below, or regarding with attention the trunks of large trees whose tops and branches were decayed, to ascertain the number and character of the rings.

These mysterious movements of Stainer had a special fascination for one of the inhabitants of Mittenwald named Klotz, who desired above all things that his son Matthias should follow in the footsteps of Jacob Stainer, and become a violin maker.

It is said he could get no rest for thinking how it could be managed, and at length he consulted a friend of his, a traveller between Italy and Germany, who promised on his next journey to the South to take the boy with him, and leave him with one of the celebrated masters.

And so it happened that Matthias Klotz, then ten years old, was, by the influence of his father's friend, placed in the workshop of Nicolo Amati, in Cremona, little dreaming of what he was to do for Mittenwald in the future.

He had a hard time of it at first, for he was terribly homesick, but Amati was a kind man and a judge of character, and took a fancy to the modest, thoughtful German lad, and by degrees the intense longing for home subsided.

He gave himself up to his art with love and zeal, and in a few years he was one of Amati's best pupils, among whom at that time were Andreas Guarnerius and Anton Straduari.

The preference shown by the master for Klotz roused the envy of the other pupils, who made his life a misery to him, and compelled him to seek protection in the house of Amati. They one day attacked him with weapons, and his remaining longer was out of the question, and so after eight years he left the town and the master whom he had learned to love, and wandered about till hunger compelled him for the time to take the place of an agricultural labourer.

This did not last long, he plucked up courage, took his staff, and sought out those towns wherein he could work at his craft. This was not difficult, and he made use of every opportunity of completing his education in the art of violin-making.

At length, after two years of wandering, he returned to Mittenwald, in his twentieth year.

as an authorised certificated master, rich in knowledge and experience, and in possession of the best models and drawings of violins, 'cellos, and other stringed instruments.

His determination was to found a school and take apprentices, as the masters in Italy had done, but before moving a step in this direction he went to the church of St. Nicolas, in Mittenwald, an old Gothic building, and prayed earnestly for God's blessing on and approbation of his work. His prayer was heard, and the seed which he sowed has for 200 years brought forth fruit a thousand fold.

Before leaving the church he went to the side of the stone altar and carved his name—*Matthias Klotz, Geigen Macher, im 20 Jahr, 1684*—which is still clear to read.

He became teacher first to his relations and then to his fellow-citizens. He related the position and influence of the Italian violin makers; he told them how Jacob Stainer, the man whom they had often seen, had rendered the little village of Absom famous in the world by his violins, and of the large sums of money people paid for his instruments.

He found observant, willing listeners, for many were without work owing to the depreciation of the Botzen Market, and gladly became his scholars.

And so it was that in the old market town of Mittenwald, in the midst of the Bavarian Alps, a German Cremona was established, without cathedrals and marble palaces, it is true, but producing violins as famous as those made in proud Cremona on the Po.

In one thing it had a preference over Cremona, viz., that in the neighbourhood there was an abundance of pine and maple wood—wood which was believed to surpass all other in intensity and quality of tone.

Just as formerly Stainer might have been seen wandering about the forests, so now Klotz was observed testing the trees and listening to the sound, and with an experienced eye detecting easily the age and grain of the wood, and noting those which would best suit his purpose.

In his time, and that of his immediate successors, the instruments made in Mittenwald were not sent abroad by agents or on ships over the ocean to foreign lands, but as a rule were carried on the backs of the makers themselves, and sold in Bavaria, Tyrol, Switzerland, and never carried beyond the Frankfort and Leipzig markets.

As time went on and the reputation of the Mittenwald violins became established, the business, if so it may be called, fell into the hands of the Neuner and Baader families, who undertook long journeys to London, Russia, and America, for the purpose of introducing the Mittenwald violins and other stringed instruments.

A century ago these journeys presented serious difficulties and dangers, but nothing daunted these enterprising people, and the result is that thousands of violins, 'cellos, guitars, and zithers are sent out from this little mountain town annually to all parts of the world. From Neuner's factory alone 10,000 are sent yearly to England and America.

The maker with his pack at his back has vanished from the road, and with him, of course, much of the early romance.

Entering Mittenwald from Partenkirchen in the summer, a wonderful sight meets the eye. Violins large and small, fresh varnished, violas without bridges, bassviols, guitars and zithers, finished and unfinished, hang in the cottage gardens and fields on lines from pole to pole, just as our clothes are hung out to dry. And to see them as you descend the hill, shimmering, shining, and swaying to and fro in the rays of the sun, calls to mind the German proverb, *Der Himmel hängt voller Geigen* (the sky is hung full of violins), by which is understood that things have a bright and pro-

ducing aspect, a proverb which well depicts both place and people.

Of the makers themselves you will scarcely obtain a glimpse, for they are off to the mountains on the first approach of summer to look after their fields, cows, and goats. Here they live roughly, sleep on straw, and do the work of peasants. *No advantage* which could be offered would keep a Mittenwald violin maker in the town during the summer months.

This intense love of mountain life is often a source of trouble to the wholesale houses, especially when large orders are waiting to be executed. They work faithfully and diligently during the winter, as you may see for yourselves if you visit the town at that season of the year; then in every window may be seen the master with his sons or apprentices seated before high benches, all occupied on the various parts of the violin.

Although there are two large factories here for the manufacture of stringed instruments, yet the art of violin making is essentially a home industry, in close connection, however, with the two great houses of Neuner and Hornstein and Baader and Co.

These houses in many cases give out the material to the home workers, and pay for the work when finished according to the manner in which it is completed. Some of the makers like to polish and varnish their own violins; others, on the contrary, deliver them to the wholesale houses white, and are polished and finished by their own special workmen.

There are a few individuals who, having worked well all the winter, and loving a roving life, prefer to be their own salesmen, and therefore as soon as summer appears pack up the instruments they have made in a chest, on the cover of which they paint a violin and the figure of their patron saint, and start for other lands, finding buyers among the clergy, schoolmasters, and play actors, and it sometimes happens that when no special home ties bind them to return to Mittenwald, they accept a good offer and settle in a foreign land.

To Herr Neuner we are indebted for much of the detail of violin making and violin mending in Mittenwald, the latter being quite as interesting as the former.

Our first insight into the art was in his factory and under his guidance. He not only allowed us to go through every room, but made us acquainted with each step, from the choosing and cutting down of the wood in the forest, to the moment when the perfect instrument stood waiting for the master hand to draw out its sweet sounds, for, perfect as it is, it is hopeless to charm without the controlling hand.

It required such an insight as this to teach us the complications of the simple-looking instrument we call the violin, and to prove to us how much more difficult it is in construction than either the harp or the piano.

We could not have learned it from books, it would have been too puzzling for comprehension, but seeing step by step of the process, and learning the reason and necessity of each, the mind gradually took it in, and no longer troubled itself as to the why and wherefore.

Unless we had seen with our eyes, we never could have understood how an instrument so simple in its construction could be so complicated in its details, nor could we have been so thankful to our ancestors for the trouble, time, and research they must have expended before arriving at the true form in which it has come to us.

The wonder, however, still remains in our minds, how, with the materials all ready to hand, so many centuries should have passed away ere this perfect instrument should have been discovered.

Musical instrument making is one of the

most ancient of arts; for the Creator, who placed in the heart of man an intense love of harmony, gave him at the same time the means of gratifying it, leaving him, however, to find out what the means were, and how to make them subservient to his will; and it was early in the world's history that Jubal, Adam's grandson, learned the secret of infusing life into dead matter, and producing sweet sounds from wood and metal, thereby earning for himself the title of "Father of all such as handle the harp and organ." From the beginning, therefore, the heart of man has craved for musical instruments and had them, but the violin, the king of instruments, is the child of the last two or three centuries only. No one knows the name or the country of the inventor, nor the exact date of its springing into life; yet what other instrument ever had the power of this to charm, to soothe, to provoke enthusiasm, to scold, caress, inspire, to paint the thoughts, to express the passions? "It is," says an old enthusiast,

"the sustainer of our voice, the necessity of our symphonies, the soul of our concerts, the life of our dances, the charm of our assemblies."

What is it which gives to the violin its enormous value, and places it on the throne of the domain of musical instruments?

It is a something detached from the instrument, yet a most intimate part of it—a something which holds it in subjection, and makes the air, the wood, and the strings submit to it, and which, being put in motion, draws forth the sounds, otherwise dormant, and makes them vibrate to its touch.

This magic wand, this sceptre, is the bow. Armed with this, the king of instruments never grows old like other instruments, but increases in strength and beauty with the centuries. Of the origin of this sceptre it is difficult to speak with certainty. Whether we derived it from Arabia or from Wales authorities are not agreed, but all are of one mind that it was brought to its present perfect form in France.

In the making of the violin there are certain fundamental principles to be observed, and as they have to do with nature, and not with opinion, they can never be infringed without damage to the instrument. The laws are the same, whether they have to do with the smallest of violins, or the largest double-bass, and the violin maker is bound to possess knowledge of these, otherwise his work will be a dead failure.

For example, he must understand thoroughly the nature of the wood to be used, the equilibrium of the air, the size of the model, the height of the arch, the piercing of the holes, the relation of the parts to the whole, and the composition and tint of the varnish.

All these came under our notice in Mittenwald, in Herr Neuner's factory, where the whole history of the violin is to be seen, and in the next chapter we will try and explain what we actually saw, beginning with the wood.

(To be continued.)

SUNSHINE AFTER RAIN.

By LADY WILLIAM LENNOX.

CHAPTER IV.



NINE months had passed since that bright August morning when Kitty apostrophised the river just before going to the church for her own wedding. She had been many times since to her accustomed seat close to the Dee, and as she listened to the hum of insects, and all the other pleasant sounds which seemed to come with the sunshine, she told herself that her dreams had been realised, and that her cup of happiness was well nigh full. At first there used to be no "well nigh" about it. She was perfectly happy for about three months; but then these Grants, who had arrived ten days after her marriage, began to make friends so far as they could with Jamie, and she did not like it. Kitty had one unfortunate quality in her disposition—jealousy. She was so fond of her husband that she did not really like his even caressing a dog or cat, and directly she fancied he found a certain pleasure in talking to the Grants, she added that on to the dislike she felt because of their rough manner, and at last grew to positively hate them. Foolish, indeed, she was, and making worries for herself without the smallest foundation; but she chose to fancy that her husband liked a chat with Sandy or Andrew because they were men, and could talk of things she did not understand, such as politics in their bearing on trade, and the labour market, and so on, and as a result of that she imagined that perhaps Jamie rather looked down upon her; in fact, there was no end to the self-torment she went through, all for nothing; and being ashamed to confess to "Miss Bessie" that anything was troubling her, she kept it to herself and brooded, like the silly girl she was. Jamie meanwhile went on his way, did his work, and came home to his tea, happy, and at peace with all the world, never dreaming there was anything wrong, and never seeing that Kitty's face clouded over whenever he mentioned that the Grants had walked with him, or that he had been telling them such news as he could pick up in Aberdeen.

One evening, however, the shade was so apparent that he did notice it, and asked her what was the matter.

"I don't like those Grants," she burst forth. "You always seem to want to be with them instead of me."

"Why, Kitty!" exclaimed her husband, in astonishment, "whatever do you mean? I like the Grants, instead of you? Why, wife, you must be clean daft to say such a thing. Poor Andrew and Sandy! I never told you that the old man's gone—died yesterday. They are but ignorant folk, and like a chat, because I tell them what I read in the papers, and when I come back by train it passes the time if they meet me and walk home from the station. Kitty, woman, don't go troubling yourself about such-like follies. It spoils your pretty face, and makes me unhappy to see it." So saying, he went over and kissed her, adding—

"Ye'll not see much more of the Grants again, for they are going to emigrate to America, to try and find better work and wages."

"Oh," said Kitty, a good deal mollified, and somewhat ashamed. "Well, I can't say I'm sorry if they do go, but it's all right with you now, Jamie, darling," and she smiled brightly and gave him a kiss in return for his.

"Yes, my lassie, we'll have no more of long faces I hope now; Sandy told me he and his brother are going in a fortnight."

He sat silent for a time, drinking his tea, and then said:—

"I believe I shall have to go to London before long, on a job which they want a Scotchman for."

"London! but why do they want a Scotchman? They are no better builders here than in London, I suppose?"

"No, I don't believe we are," he said; "but it seems there's an old gentleman, a Scotchman himself, who's just got a fad to have some job done by his own countrymen, and so we'll have to go and do it, some of us. It'll be a pretty penny he'll have to pay, I'm thinking, us coming so far to the work."

"Yes," said Kitty, rather gloomily. "Well, I think he might be content with the builders in London, and not take you away."

"Aweel, aweel," interrupted Mrs. McGowan, "it'll no be for long that Jamie'll be gone, and maybe the wage will be extra."

Ten days after this conversation the two Grants came to say good-bye as they were to start for America next day. Jamie was not at home, so the visit was paid to Kitty and her grandmother.

"An' are ye really going to-morrow?" asked the latter.

"We leave to-morrow," answered Sandy; "and we'll stay in Aberdeen the night to see our sister who's married and settled there, and then start for America on Wednesday."

"We saw Jamie yesterday," said Andrew, "and maybe we'll see him in Aberdeen to-morrow to say good-bye."

And so they left, Kitty being glad to see the last of them, and Mrs. McGowan rather sorry, as she liked a little company.

Jamie came in soon after they had left.

"Well," he said, "I am ordered to go to London on Wednesday, for the job I told you of, but it won't take long—not more than a fortnight, I believe. A good many of us are going. I just met the Grants," he added, "and said good-bye to them. I'll write from London directly I can and tell ye about the place, which is grand enough, from all I hear."

"Yes," said Kitty, feebly. "I'll go and see that your things don't want any stitches put in them before you go, Jamie, dear."

Wednesday came and went, and with it Jamie; and Kitty, who had never been parted from him before for more than a few hours, felt so low and depressed, that it was all she could do not to burst out crying before her grandmother, who was not at all the person to sympathise with any such exhibition of feeling. By dint of great effort, however, she did "keep up," and went about her usual work without saying a word; only in the evening she walked to the Manse and had half-an-hour's talk with her friend, which did her more good than anything else possibly could have done. She walked home briskly, for it was dark and cold, and comforted herself with the thought that she would soon have a letter telling her where he was, and so on.

Two days passed in peace, as she did not expect to hear directly, but by Saturday evening she began to feel just a little surprised, and then vexed, because no tidings had come from her husband. Sunday and Monday did not count, but Tuesday came and still no letter; Wednesday and Thursday ditto, and in fact the second Sunday found her still without any tidings.

Sunshine. Song by Berthold Tours.—This is a simple setting of some good words by F. E. Weatherly, M.A. The third phrase of the music is a curious reminiscence of Sullivan's song about a silver churn, in *Patience*.

Tiny Feet. A song by Morton Elliott.—We can recommend this song to average singers, as a simple and effective thing, strongly impregnated with the character of an Irish melody.

Bonnie Wee Thing. Words by Burns, music by Amy Elise Horrocks.—This is such a pretty song, with such excellent "local colour" about it, that we recommend it heartily. Compass C to F.

La Bergère.—A rustic dance, by Warwick Williams, is a bright little piece, à la gavotte.

C. JEFFERYS.

Life, we've been long together. Words of Mrs. Barbauld's, set to music by Ernst Helmer.—This is a ballad of the Balfe-Wallace period, and although a decidedly weak composition, it has some melodic interest. There is the display of a gift, without any use having been made of it.

REYNOLDS AND CO.

Grannie's Rings. Music by Theo. Bonheur, and words by Arthur Chapman. The words are very touching, and represent a charming

social interview between a child and her grandmother.

The Last Vespers. Music by Cuthbert Vane.—It is surely time to protest against the damage which the well-deserved popularity of such songs as "The Storm" and "Children's Voices" has wrought, by flooding the market with a demand for ballads with a refrain from the Church Services. In this particular song the conspirators in composition are reduced to killing a Sacristan! and the refrain is borrowed from the Nunc Dimittis! Another is named "Miserere Nobis," which is the refrain murmured by a monk who happens to pass a bridge just as a poor lunatic leaps over into the water. A song which, under similarly sad conditions, made a stirring demand for a life-belt would be more natural in character and less morbid in tone.

Danse Imperiale. By E. Boggetti.—You never know under what disguise a gavotte will "dissemble" nowadays! Everything not a march is safe to be a gavotte. This belongs to the latter class.

THOMAS MURBY.

Elsa and the Imprisoned Fairy. A Cantata for Juvenile Voices. By Thomas Murby.—There are many good points about this fairy cantata, but also some features which might be developed to greater extent with decided

advantage. For instance, the two-part writing is simply a series of thirds. We think, if Mr. Murby is able to do so, that he should elevate the second sopranos to something above mere imitations of an upper part at the distance of a third, and should give children an early love for independent counter-melody. Again, the melodies in solo numbers, and harmonies and rhythms in the accompaniment, ought to introduce features of interest and even novelty; threadbare harmony and commonplace tunes only make children lazy and apathetic.

ORSBORN AND TUCKWOOD.

The Tempest King. By Oscar Verne.—Is a very fair specimen of a ballad for bass voice. It is dramatic, and would require a big voice.

Dresdina is a graceful little gavotte (this time disguised as "Stately Measure"!) by Carl Malemberg.

Gigue in G. A bright, frolicking dance. By E. Boggetti.

Vesper Voluntaries. Book 20 of this useful series of organ, or rather harmonium, pieces contains 12 movements of varied character. By King Hall.

The Juvenile Portfolio of Dances is a book, cheap at a shilling, of Quadrilles, Polkas, etc., for little people. The best number is the old dance, Sir Roger de Coverley.

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER III.

"A fellow so mercurial as your fiddle is not to be created out of any chance piece of timber."—*An old book.*



ALTHOUGH we know for a certainty that every thing on the earth and under it has, from the beginning, been laid under contribution by man for the purpose of pleasure and of art, yet in passing through a forest the last thing that would suggest itself to us is, that the trees under whose shade we are walking are endowed with a wonderful power—latent, it is true, until the hand of man inspires it with life—a power of expressing the inmost longings and passions of the human heart, a power to draw tears from our eyes or make us dance with joy, a power to soothe our aching hearts and draw forth the expression of our love and devotion, a power to sympathise with us, a power of making itself indispensable to us. Can any fairy tale be more wonderful than this?

We are not surprised to see the trees cut down and made into ships, or furniture, or houses; but to see them endowed with an almost superhuman gift of companionship to man would seem impossible if we did not know it for a fact, and one which we are about to prove.

The form in which this power is lodged must, of course, be as near perfection as possible, and this it is acknowledged to be. It vies with the human voice in its delicacy and its power of expressing every shade and nicety of tone.

The skill of an hour has not made it what it is, nor even that of a century; but, as Ruskin expresses it, "the help of numberless souls has produced it." Nothing good comes forth all at once, but is the result of thought, anxiety,

and labour, and the violin, as handed down to us by the great masters, is no exception to the rule.

To us who love the instrument it will be interesting to learn by what process a tree of the forest is made to give out all its latent beauty and power, and assume the form of the graceful violin.

Those entrusted with this work of transformation have no easy task; they must be thoroughly educated in their art, and fully acquainted with those fixed laws and regulations, which to infringe, even by a hair's breadth, means failure. Presuming that this is all as it should be, then the next important step for them is to obtain material wherewith to work. This is most difficult, even though they happen to live in the midst of forests, as at Mittenwald.

There may be an abundance of wood from which to choose, but how and what to choose is the all-absorbing question, for the makers know well that the acoustic properties of the instruments they are about to make will greatly depend upon the selection of wood.

The knowledge of selecting wisely was the secret of the old Italian and French masters, who sought their material far away from their own lands, not because there were no maple or pine trees in Italy and France, but simply that those growing there rarely combined the qualities necessary for the production of a perfect violin, and so much did they value a piece of wood containing both beauty and acoustic properties that they guarded it jealously for their best work, and used up every inch of it.

It is to the old masters' choice of wood, quite as much as to the work bestowed upon it, that their instruments possess that velvety sound which distinguishes them.

It is certain that they had fixed guiding principles as to the nature and qualities of the wood they used; and none knew these better than Stradivarius and Guarnerius.

Not only did they seek wood among the

trees of the forest, but were constantly observed mysteriously prowling about far from home, tapping tables, floorings, and even ceilings with their little hammers, and bending down their ears to catch, if possible, the tone of music they loved so much to hear. If they were fortunate enough to catch the ring in anything they touched, they lost no time in making an offer for it, and never parted from it till it was safely lodged in their studios.

Guarnerius seems to have obtained in this way a large piece of well-seasoned pinewood possessing extraordinary acoustic properties, from which he made most of the bellies of his violins. He looked upon it as a mine of wealth, and was most careful in working it that not a scrap should be lost.

In like manner a pupil of Stradivarius visited Ireland, and while there came across an old maple table, which he at once secured, and made from it some beautiful instruments.

I suppose everyone has heard of Vuillaume, the famous violin maker and repairer, and how he wandered about in search of the wood he required. He might have been seen in various parts of Switzerland buying up the furniture or wood-work of a chalet, or entering the poorest hovels in search of what he wanted; and whenever he could detect the right resonance in anything he touched, he made it his at any price.

One day he went so far as to persuade the curate of a small parish to let him take away the ceiling of his sitting-room, and replace it by another; and with this heap of dried wood he hurried back to Paris, there to work wonders with it. The beauty of the wood thus found consisted in its perfect dryness and readiness to be worked upon.

Many experiments were made by the old masters before determining what were the best materials for their purpose. They tried the pear, the ash, and lemon trees for the backs and bouts (sides), they tried deal for the bellies, but they failed to satisfy them on all points; and at length they came to the conclusion

that nothing was better for the backs, necks, sides, and purfling (rims) than maple, which is beautiful, flexible, and not too soft, and for the bellies nothing equal to pine wood of certain quality, on account of its elasticity. Of the kind of pine none seemed to them so good as those grown in the Bavarian Alps and Tyrol, while they preferred to have the maple from Croatia, Dalmatia, and Turkey.

But to learn all about the wood was one of our reasons for going to Mittenwald, and, fortunately for us, Herr Neuner who guided us through his factory took infinite pains to show us the various woods, and how to detect the faulty from the perfect. But before going through the factory it will, I think, suit our purpose to accompany the violin makers of Mittenwald into their forests and watch them in their selection and purchase of wood.

It is not the privilege of all violin makers to choose their own wood; as a rule they have to buy of the merchant at a distance such as he sees fit to send, but here it is otherwise.

Before all things the trees must have the right resonance in them, and then, whether maple or pine, those selected must be very old, ripe, and dry; the dryness must be natural, not artificial.

A too great abundance of sap would render the sounds discordant and shrill, and probably cause the wood to shrink, which would damage the violin at once.

Many experiments have been made to dry the wood quickly, but nothing has yet been found whereby it can be done, except at the cost of the instrument.

The age of a tree is known to a certainty. When the trunk is sawn through you will perceive that it is beautifully and regularly marked with rings, which, in the centre, stand rather wide apart, but become closer and closer as they tend towards the bark. As the years get older the rings get closer together and the grain becomes finer.



Each of these rings is a record of a year; those in the centre being the new years, those on the outside and standing close together being the marks of years long gone by. Sometimes there are as many as three hundred rings. Not a single year since it was first planted but has its record there.

But in choosing wood for the violin age is not everything, for the tone of the instrument will depend upon the regularity of the rings. For example: a very fruitful year or an extremely wet year leaves its mark behind in a blurred ring, or one standing too far apart, showing that the goodness and strength were lavished on the fruit during that year, or lost in the extreme wet. Should this occur often, the tree might serve other purposes, but a violin maker would reject it as injurious to the

good tone of the instrument he is about to make.

The Record of the years that are past!

Will it be out of place to mention here that as I stood watching tree after tree divulging the secrets of its life, I wondered whether our deeds and lives would be as indelibly marked, and as clearly to be seen when we stand awaiting judgment?

I don't know of anything which so strangely affected me as this unerring record of past years, exposed to the gaze of men assembled there in order to pass judgment and accept or reject accordingly.

Again I found that the violin makers did not select the wood close to the roots nor close to the summit of the trees for their instruments. This puzzled me, until the men explained that up to a certain distance from the trunk the wood is fatter, more compact, and sucks up more freshness than would be good, and that near the summit the wood is scorched and calcined by the sun, and being met by the ascending sap it is watery and green near the bark.

They were careful not to take wood full of holes and dead with decay, for, as they told me, violins made of such would send forth sounds without freshness or life. If they could have a choice, they selected the female tree in preference to the male, as being more pliant.

On finding a tree suitable for their purpose, they chalked a mark on the side facing the south, as regard must be had to the situation or exposure of the tree; that facing the south, under the full influence of the sun, is the ripest and richest in quality, and therefore sought for eagerly; the least desirable and the least perfect being the north, which is hidden from the sun.

Again my mind wandered to the Sun of Righteousness and those who grow up under His influence, and I felt that the trees were full of lessons and allegories.

All masters of the art of violin making seem to be of one opinion as to the goodness and suitability of the trees in this and the adjoining districts for violin making, and I wanted to know the reason of their preference.

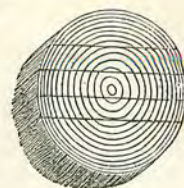
It appears that the density, elasticity, and durability of wood depends upon the soil in which it is grown; and that of the Bavarian Alps and Tyrol is strongly impregnated with salt, a substance which has been proved to increase both the flexibility and elasticity of wood.

Having secured the trees, they are taken to the wood-yard and cut up into slabs of a certain size, and laid by in a house to dry—a process which will take at least six years.

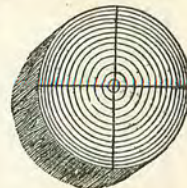
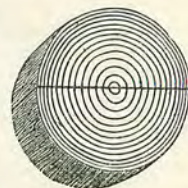
The old masters knew the importance of using very dry wood, and most of them had a sort of open shed or awning on the roofs of their houses, where the wood was stored on rafters ready for use. It is easy to see how delighted they were when they happened to come across a piece of resonant wood in some old chalet which was perfectly dry and seasoned, for they could begin upon it there and then.

It is now time to enter the factory and see how the wood is cut for the commencement of the violin; but for a moment we must look at

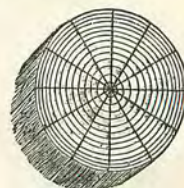
the rings again. Those widest apart near the centre supply the bass tones; those close together and tending to the bark supply the treble notes; therefore a special cutting of the wood is necessary. For example; it is not cut straight across like this, for then the grain



would be cut through and the tone spoiled. First they halve the slab, then halve that again



and cut the wood in strips from the centre,



thus securing the proper amount of year circles in each.

This method of cutting the wood so as to embrace all the tone within the one instrument Klotz evidently learned from his master Nicolas Amati, and other Italian masters with whom he sojourned, for it was the fashion of the Cremonese and Brescian makers so to deal with the wood.

We must not forget to mention that the bridge of the violin is made of ebony or mountain ash, the latter being the next hardest wood; but it is easy to discover of which wood it is made. You can make no impression with your nail on ebony, but it is easy to do so on mountain ash.

Some of Nicolas Amati's violins have the bellies made of deal, probably chosen by him because of its density, elasticity, and vibrating power. An interesting experiment was made with three rods—one of steel, another of glass, and the third of deal; and it was found that when similarly struck all produced the same note. A fourth was then added of maple, and as it is more slow to vibrate, gave out, when struck, a lower note than the deal.

Having obtained the wood, and found some dry enough to commence with, we shall hope to begin work upon it in our next chapter.

(To be continued.)

VARIETIES.

AT SEA.

A bride was on board ship, and the sea was rather rough.

"I feel so ill, my dear," she said, "and if I should die and they bury me here, you'll sometimes come and plant flowers on my grave, won't you?"

A MORTIFYING REFLECTION.—It is a most mortifying reflection for anyone to consider what she has done compared with what she might have done.

HAPPINESS.—The essential ingredients in happiness are health, tranquillity of mind, competence, and friends of good character.

DOING GOOD.—She that would do good to many must love many better than herself, and prefer the common good much before her own, and seek her own in the common welfare.

IN PRAISE OF METHOD.—A little method is worth a great deal of memory.

would rather walk ten miles any day than go five by boat; but when she was about to start on her long trudge, she found Arthur at the door in a dog-cart which he had hired, and he now insisted on driving her to Windham.

"It'll be all right, sir, never you fear, when once I have spoken to parson; he'll agree to the marriage fast enough, you'll see; but I want to go home first, if you have no objection."

"None whatever; in fact, I could hardly drive you to the Rectory, for Mr. Leicester and I are cuts just at present; but if only I could persuade Eve to marry me, he and my people too would all come round, I am sure. Let me take her abroad for a year, and she'll hold her own with the stateliest dowager in the county."

"So she will, and so she ought, for she is equal to the best of them, though I say it as ought not, and my old man would never forgive me if he heard me," said Mrs. Oldman; and so blind is love, that Arthur saw nothing remarkable in this speech.

Then after a hot and dusty drive through the quiet roads and sleepy villages, whose stillness is one of the most characteristic features of the broads, they reached Windham. Arthur put his horse up at the inn, while Mrs. Oldman made her way to the ark.

Noah was out, but he had hidden the key in the appointed place, and letting herself in, Mrs. Oldman proceeded to make an elaborate toilet, such as in her eyes befitted so auspicious an occasion as a visit to the Rectory and a private interview with the Rector. Then having fortified herself for the interview with some cold tea and bacon, she at length started for the Rectory. She was dressed in a coloured chintz dress, which had been laid up in lavender for fourteen or fifteen years, a white shawl with a coloured border, in which she had been married, her best bonnet, and a pair of silk gloves which Eve had given her years ago, but no occasion festive enough to justify their use had ever occurred; she carried a clean pocket-handkerchief, neatly folded in her gloved hands; and a fashionable young lady would have been right in maintaining she must have come out of the ark! She did come out of the ark, literally, at any rate.

She was very hot when she reached the Rectory; hot from her walk, and hot, too, at the thought of the coming interview, which, had she known French, she would have described as *un mauvais quart d'heure*.

"Is Mr. Leicester in the way? Oh, then will you please to ask him if I can speak to him alone for a few minutes," said Mrs. Oldman, as she reached the

back door after a long mental conflict, in which she had debated with herself whether the importance of her visit would not justify her in going to the front door, but with a fine discrimination she decided the importance of her visit did not affect the lowliness of the visitor's estate, so to the back door she went.

The folded handkerchief did a deal of duty, without being unfolded, as Mrs. Oldman followed the servant through some passages to Mr. Leicester's study, which she entered with knees that shook under her as she made her curtsy. Mr. Leicester, who was writing at his table, rose, and put a chair for her opposite himself, and seeing from her dress and manner the occasion was not an ordinary one, he inquired after Eve, to give his visitor confidence to state her business.

He was a reserved man, and though greatly beloved by his humbler parishioners, his manner was cold and distant, though, as they knew, a warm and sympathetic heart beat under that cold exterior.

"Eve is better, sir, thank you, much better. The doctor wishes her to be moved away from Bridgham at once."

"So I understand; and my daughter has promised Noah to drive her home this evening."

(To be continued.)

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER IV.

"Speechless alive, I heard the feathered throng;
Now, being dead, I emulate their song."
From the Italian.

WE have seen how the violin industry was established in Mittenwald, and have been witnesses to the manner in which the wood is selected. We will now follow this up by going through Herr Neuner's violin factory, and into the homes of private makers, which will enable us to see how the wood is used and how the work is set about.

The Mittenwaldians have good models from which to work—viz., those of Stainer, Amati, and other Italian masters—which were brought to the little town by Klotz, their teacher, when he returned from his sojourn in Italy, and the people have wisely adhered to them. This may be the secret of their success, for it is far better to have a good pattern to work from than to seek for information in books, and it is certain that in violin-making the best books to consult are the models of the great masters, on whose tables of wood their laws and principles are engraved.

The laws are the same whether they have to do with the smallest of violins or the largest double-bass, the identity of the rules being determined by those of the proportions.

The structure of the violin is the result of long experience, skill, and thought, and in so perfect a manner has it been handed down to us by the Italian masters, that it seems impossible to improve upon it.

We have only to read the lives of those who devoted their time and genius to the perfecting of this instrument to see what persistent industry they brought to bear upon the work, and how passionately they loved it.

There is a little sketch of Straduaris,

describing him as tall and thin, wearing on his head a white cap, and in his work a white leather apron over his clothes, and concludes by saying that as he was always at work, he was never seen without his white apron.

One can almost see the picture of the man sitting up in the garret opposite the old church, working day by day for half a century, and pouring his longings, his passions, his love, his power, and his fancy into those exquisite lines and curves which appeal so strongly to our sense of the beautiful.

An enthusiastic lover of music, mounting this same garret not so long ago, said to himself as he looked round, "Here, up in the high air, with the sun his helper, the light his minister, the blessed soft airs his journeymen, through the long warm summer days worked Straduaris!"

But he was not the only master whose life and energies were given to the perfecting of the violin, as we shall see later on.

The changes to be noticed in our violins when put side by side with those of the great masters is a somewhat larger sound board, in order to bear the increased pressure caused by the diapason being higher than in former times, and a little longer neck, owing to the greater length of string.

We are so accustomed to think of the violin as a whole, that if we were asked on the spur of the moment to say how many parts there were in it, we might probably count on our fingers the top, bottom, sides, neck, bridge, pegs, and button, and think we had told all.

These would not, however, express by a great many the number of parts which make up this graceful and harmonious whole. There are as many as fifty-eight, and it is necessary that all should be perfect.

If by chance any one of these members

should get out of order, or suffer in any way, the whole body of the violin would be sick. There are no separate interests; each part depends upon, and is helpful to, the other. Each, too, has its own burden to bear; the spirit that lay hidden in the wood would not only lose all its sweetness and power to charm, but would transform itself into a screech owl, if the various parts of the body in which it resides were not healthy and in harmony.

The body of the violin is like our own in this respect: that if one member suffer all the members suffer with it. It is like it, too, in that each has its proper place and function, and that all the parts are set in motion by, and are obedient to, a will power.

The analogy may be carried yet further. Neither one nor other can live without air—air regulated and in constant action. To deprive them of this would be to destroy life. We breathe through the pores of the body, so does a violin.

There is, however, this exception to the analogy, that whereas our bodies will in a few years crumble to dust, the body of the violin knows no decay. It grows more beautiful day by day, and gives forth sweeter sounds as the years go by. You may lay it aside for years, but it will awake to life and sweetness the moment the will power is brought to bear upon it. In a sense, it never grows old.

True, it may be stained with age and use, but this only adds to its honour and value, for, as Wendell Holmes beautifully expresses it, "it is stained through and through with the concentrated hue and sweetness of all the harmonies which have kindled and faded on its strings."

No wonder it exercises a fascination over people, and that they love it with an affection oftentimes beyond that they give to their

friends; for who is there or what is there belonging to us that would accompany us to prison, to loneliness, or to festival, careless as to place or condition, so that it be with us? And what is there of all our possessions that can so suit itself to our position and moods as our violin?

I was once speaking with Herr Ludwig Straus before he came to England to delight us at the Monday Popular Concerts, and I remember a phrase of his as he was taking his violin lovingly out of its case. "I shall never marry; this [touching his violin] has all my affection; it is wife, friend, everything to me; it knows when I am sorry, and mourns with me; it knows when I am glad, and rejoices with me; it never scolds, it never tires of me."

How dearly Paganini loved his beautiful "Guarnerius," his only friend and companion, is easy to see by the acute agony he suffered when obliged to submit it to Vuillaume for an operation. Each crack and blow went to his soul, and he trembled all over.

Of course I know that everyone has not this intense love for a special violin, and I would quote as an example Molique, a pupil of Spohr, who was not only a splendid violinist, but a composer also. He did not in the least mind whose violin he played on. He would frequently come to a concert where he was to take a leading part without his violin, borrowing one from the orchestra; but this is a rare exception.

It seems that the violin has now and again exercised the physician's power of healing. Lord Beaconsfield told the story of a man of position being suddenly seized by violent illness, and instead of sending for a physician, desired the attendance of a band of violinists, who "played so well in his inside that his bowels became perfectly in tune, and in a few hours were harmoniously becalmed."

But all this time Herr Neuner has been waiting to conduct us through his factory. First we went into some large rooms where we saw stores of maple and pine-wood already cut, dried, and ready for use.

A curious feeling came over us as we stood there with our newly-acquired knowledge of the mysterious properties of wood, and the power they were likely some time or other to wield over us. We half expected to see some shadowy forms, or hear some ghostly sounds; but we remembered they had not yet taken the form in which a human voice or stroke of a hammer would meet with a response—the spirit within was for the present fast bound.

What we actually saw were pieces of trees of high character—trees which had done nothing in their lives to destroy the spirit and power within them, the infallible proofs of which they bore about them, in the perfectly regular rings spoken of in the last chapter.

We passed into another room, where men were busy over these pieces of wood; each had a pattern from which to work; this pattern, whether for the back or belly, was laid on the wood, so that it could not shift its position, and outlined with a dark pencil.

The wood was then passed on to a set of workers, whose business it was to cut away all outside the pencil mark, and leave only the shape of the top or bottom table.

These shapes were given to the most experienced and talented workmen to mould them into the required form. For this work they had various sizes of instruments, which looked like cheese scoops, and with them they obtained the various gradations of thicknesses, and gave to the backs and bellies that graceful arch which pleases the eye so much.

The slightest irregularity in performing this part of the work would render all the rest imperfect. If the bellies and backs be too much arched the elasticity of the wood does not get free play; if they be too thick the wood would give out too shrill a sound, and if

made too thin the result would be too deep a tone.

We could not understand this, as we had always believed just the contrary, and asked to have it explained. Herr Neuner said that ours had been the general belief until research and experiments had proved the opposite to be the fact.

He then took two plates of the same material and exactly the same diameter, one, however, being twice as thick as the other, and, to my surprise, the tone drawn from the thin plates was an octave lower than that given out by the thick one!

We lingered long in this room, there was so much to interest us. The work here could be done by no hard and fast rule; there was nothing to guide the hands but genius and experience.

It was here we learned that the utmost attention must be given to the gradations of the thicknesses in the belly and back of the violin, and that in this operation lies principally the talent of the artist.

It has been said with truth that "the thicknesses of the upper and lower tables are like the wheels of a machine, the dial movements of a watch, or the clockwork of a pendulum."

Our guide explained that the workman could not with impunity decrease or amplify the thicknesses even by an atom. If too thick they oppose to the pulsation and movement of the air too much resistance, and if too thin they do not oppose enough.

In the latter case the vibration stops and the notes get rigid.

The bottom and the upper table contradict each other if the thicknesses be wrong. There is trembling where there should be resistance, the left sounds to the prejudice of the right, and the right to the prejudice of the left.

Again we saw that the workman had to use his discretion about the thicknesses in another way. For example—suppose the wood for the belly were extra hard and dense, he would make it thinner; but if very soft, light, and dry, he would make it thicker; and on this point there is no theory or strict rule.

In fact, Herr Neuner declared that the fault of the large majority of violins was that the thicknesses were badly calculated by workmen not up to their work.

We did not pick up this knowledge all at once, but went from the factory to the homes of the private makers, and to the violin school in the town, where we heard lessons given on the structure of the violin, and illustrated by the work in the hands of the pupils.

The falsification of the thicknesses is easy to prove. There is no more need to take a violin to pieces to find this out than to melt down a five-shilling piece in order to test its genuineness. "The bow will be the touchstone, the sound the condemnor, and the ear the judge."

If the table bends under the bridge, if the violin does not keep in tune, if the strings give out uncertain sounds, it is generally because the belly and back are too tight—the first step in the construction is wrong, and therefore not to be remedied.

In forming the two tables, the maker must secure equality of action, facility of respiration, and full volume of sound. If the arch be not sufficiently high, three things are lost, viz., quality of tone, solidity of the instrument, and elegance of shape.

The results of wrong or faulty thicknesses are given by an old writer in the following words:

"The first strings will be ear-piercers, the second will sound like kettledrums, the shrill thirds will talk through the nose, and the fourth strings will be iron bars."

Stradivarius experimented for forty years on the shape and thicknesses of the two tables, and so well was he rewarded for his pains, that his instruments are to this day the most esteemed for the power of their tone.

The Italian masters generally have been described as mathematical builders, from their nice and minute observation of the proportions most conducive to power, tone, and elegance. They never abandoned themselves to the caprice of chance. Each piece of wood fashioned by their hands reveals the most profound thought. It is certain that each master thought for himself, and never gave lodging in his mind to what is called luck or chance.

When with painful efforts a master traced new routes for himself, more or less direct, the various parts of his work were just as much subject to rules and principles as in the old road.

"If," says Abbé Sibire, "the efforts of those clever, capable men were not always master-strokes, they advanced the science for the future; and far from imputing blame to them for their deviations, we ought to be obliged to them, for some of their involuntary errors, arising from inexperience, have become to us sources of light."

Nicholas Amati, in whose house and studio the young Mittenwaldian Klotz was educated, and who stands second only to Stradivarius, his pupil, gave unremitting attention to the minutest portion of the art he loved so well. With his increased knowledge and experience, he learned that the two most important things in constructing a violin was the choice of wood and knowledge of the gradations of thicknesses in the upper and lower tables. To this last he devoted himself, and the result was, that he gradually departed from the form and model from which his family had worked, and made changes both in the arching and the thicknesses of the backs and bellies, till he arrived at those beautiful instruments known as the "Grand Amatis," and made for himself a name which will live as long as the world loves music.

Seeing and hearing all this, made us understand a little of the importance of the work we were watching. But here were only two individual parts out of the fifty-eight necessary for the whole, and besides they would be of no service as long as they stood alone and unsupported by the other members, however beautifully they were finished off, and we expected now to be taken to the room where the supports of these two tables were being made.

Not so, however; we had forgotten a very important thing indeed, which was the making of the two mouths or *f* holes on the upper table.

Each master had his own idea about these all-important sound holes, and therefore they vary somewhat in form and position. Looking at these with a critical eye, you may almost pronounce at once the name of the master.

The piercing of these holes requires scrupulous care and attention, and are worked from a pattern. The table is divided accurately in the centre, which is the respondent to the sounds; if this were not done the air would be rarer on one side than on the other; it would enter and depart in unequal portions, and draw out the sound without dividing it as exactly as it is required.

For this work you must have compass in both eye and hand, as any irregularity would seriously affect the position of the sound-post, and render that of the bridge impossible.

As lookers-on we are constantly impressed with the fact that on the intimate relation of all the parts together depends the success of the instrument. Each must correspond to and balance the other, and if the workman knows his work he will constrain each part to do this.

Our guide now proposed to take us to the room where the sides or bouts were made; but lest we should weary our readers, we postpone our visit there to the next month.

(To be continued.)

pare with a rougher and less highly glazed surface than the old make. There are three door panels, having as subjects arum-lilies, iris, and clematis, and a long, narrow panel of water-lilies and marsh marigolds for the mantelpiece. On each side of the door is a figure panel, the subjects being Joan of Arc and Grace Darling. Another flower group contains old George Herbert's fine lines:—

"A servant by this clause
Makes drudgery divine;
Who sweeps a room as for Thy laws
Makes that and th' action fine."

There were given in addition three other flower panels, and a body of volunteer workers painted an Indian-red dado round the room. Exclusive of a mantel-hanging and curtains worked by a member at her own cost, the expense of this decoration did not exceed £2.

The other illustration in this number shows one end of the long room or hall the society has lately decorated for the Sisters in charge of the All Hallows Mission, Southwark. The room is used for all kinds of school and parochial purposes, but more especially for the assembling together of the girls under the charge of the mission. One end of it is occupied by a stepped gallery, and the walls are unplastered, and are distempered cream colour, with the exception of the dado, which is painted dark red. Those forming the two sides of the room have, at intervals, brick pilasters, about 18 inches wide, and twelve in number. The decorative project took advan-

tage of these, and has placed a high panel on each. These contain flower subjects, filling the lower portion of the picture, while tree branches—such as those of the apple-tree and weeping willow—or flights of birds, occupy its upper part. Each panel (executed on a dark red ground) occupies the width of a pilaster, and is framed in a deal moulding stained dull black.

The "Three Virtues" are commemorated in a scroll over the gallery in the form of the words, Humility, Obedience, Charity, one of these words being in each of the three spaces into which the wall is divided by its pilasters. Reference is thus made to the figure subjects (partly shown on our illustration). They are about six feet high by two and a half wide, and represent "St. Christopher bearing the Infant Christ," "St. Francis Preaching to the Birds," and "St. John the Baptist surrounded by six Apostles"—the latter after the beautiful Lippo Lippi in the National Gallery. All the figures are painted on a gold Japanese paper, not smooth in surface as that we have just mentioned in connection with the Victoria Hospital for Diseases of the Chest, but with an embossed design, selected as not being too Japanese in pattern to accord with the subject executed on it. Over this bright gold background was passed a sponge containing umber, straight from the tube, and with turpentine—but no oil—as medium. The result is a rich brown tone of gold, and the effect gained is decidedly happy. The border around the Lippo Lippi (see

sketch) is executed in the same method, out in a stronger shade. The frieze around the room contains the quotation from Coleridge's "Ancient Mariner":—

"He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us
He made and loveth all!"

It is painted in light yellow letters on an Indian-red ground, the material being prepared canvas. Above and below this inscription are placed borders of "Lincrusta Walton," a material with which most of our readers will be acquainted. It is one of which the Society's decorators have made considerable use. It is not expensive; the designs are for the most part good; it is easily fixed, and it takes colour well. A four or six inch border forms an effective frame when placed around a wall picture, and treated well in colour.

The initial letter to this article also forms an illustration of a series of panels that the Society placed some years ago in the Baker's Row Playground, "an open space" bought for and dedicated to the use of the Whitechapel poor by some philanthropists. The work is executed in oil, on sheets of zinc, which is a material we consider most suitable for work intended to stand in the open air exposed to the weather. The panels are further protected by a prettily-treated pent-house roof of wood.

(To be continued.)

MITTENWALD. AND ITS VIOLINS.

BY EMMA BREWER.

CHAPTER V.

"Given: a log of wood;—Make: a fiddle."
—Problem.



HAVING watched the pieces of pine and maple, with all their pent up forces, gradually assuming familiar shapes under the hands of skilful workmen, we leave them for a time in order to look about for some agent which

shall not only support and draw together these two graceful tables, but have power to release the sweet sounds which lie within them, and give life to that mysterious something which is to bind them to mankind and enable them to take part in the songs of angels.

If these tables are to tell out their strange and wonderful secret of sympathy and of harmony, they must be brought together by a bond which shall be in harmony with them, sensible of their emotions and capable of reflecting them. It must be willing to convey and mingle the sweet sounds of both one and the other without intruding its own identity, and as a preparation for this solemn work it must be willing to submit itself to the knife, fire, and water.

Is there anything animate or inanimate which would be willing so utterly to sink itself in order to bring out the sweetness of others?

This question was often asked by the old Italian masters in their search for, what seemed, the impossible. They knew well enough that unless they could light on such an agent their aspirations after fame would come to naught and their instruments turn out failures.

Those who had spent so much love and devotion on these tables knew how very fastidious they were, and that though willing enough to give forth their richest and sweetest sounds as long as they were treated with dignity, they could yet scold like angry women if any attempt were made to unite them by means of an unworthy or unsympathetic agent, showing decidedly that "Evil communications corrupt good manners."

This explained the masters' earnestness and perseverance in seeking a proper support for their upper and lower tables, and at length, after making many experiments, they were rewarded by the discovery that ribs or sides of maple, corresponding in character to the lower table, would answer every requirement.

As the Mittenwaldians follow in the steps of the old Italian violin makers, we were not surprised on entering another room of the factory to find a number of workmen engaged on long strips of this particular wood, which they were planing to a thickness of about $\frac{1}{4}$ th of an inch.

This being done, they were passed on to others who cut them into short lengths, according to a pattern which decided both width and length. Six of these were necessary for one violin.

We now witnessed an interesting process, that of fitting and bending them to the model. I have not spoken of the moulds or models further than to say that they were very good; but in order to make clear what we saw done with these strips of maple, we would mention that there is an inside solid mould round which the instrument is built up, little by little, and an outside frame or mould inside which the building grows.

In order to get the strips to the position they are to occupy in the violin they must be bent to the curves of the upper and lower

tables; this is done by dipping them two or three times in water and compelling them to the required form by means of heated irons, much in the same way and on the same principle as a boat-builder deals with the planks he is going to use for his boat.

This process, to be effectual, must be gradual; the consequence of hurrying it would be either to snap or warp the wood. Supposing it to be done properly, the sides are pressed round the inner mould and joined by means of glue. No nail or metal is ever employed in uniting the various parts of the instrument, and how exquisitely these joins are made one can see by taking up any decent violin.

These six *bouts* (the proper name for the sides), which are to support the two tables, have assistance given them in their arduous task by twelve linings and six blocks, which give, says Otto, to the inside of the violin the appearance of an Italian guitar. All these work harmoniously together for the good of the whole.

As we stood watching the admirable way in which one part after another was bandaged and put in stays, we fancied it not unlike being in a hospital ward looking at a skilful surgeon binding up broken limbs.

There is still something to be done before the box can receive the upper table, which is as important to the well-being of the violin as is the heart or the nervous system to a human being.

The sound-post is to be put in, and in such an exact and exquisite manner as to make it part and parcel of the upper and lower tables, in fact as if it grew from one to the other.

It takes a very skilful workman to adjust this post as well as to form it; it is a little round prop of fine, even-grained pine; it must not be a shade too long or it would force the

back and belly apart; it must not be an atom too short or it would fall when the strings were let down.

So important is this sound-post that the French call it the soul of the violin. It is a tiny thing, but it does a giant's work; for example, it regulates the power and quality of the sound, it performs the functions of the heart with unerring regularity. It communicates to the back the succession* of shocks given to the strings by the bow; it has the same effect upon the upper and lower tables as the bow has upon the strings, and not only so, but it continues the vibrations and keeps them regular with one another. "Through it," says Mr. Haweis, "pass all the heart throbs or vibrations generated between the back and belly."

Having secured the heart, the next thing to do was to provide the nervous system of the violin. This was done by making a bar of fine, soft, even-grained pine, and placing it inside the upper table from end to end, in a slightly oblique direction, under the left foot of the bridge. This is called the bass or sound-bar, and is a curious and deeply interesting part of the instrument, and so very sensitive is it to external touch that it is spoken of as the nervous system of the violin. If it by chance get out of place or out of order, or is made of wrong material, the violin is attacked by a nervous fever known to violinists as wolf-notes. In selecting material of which to make this delicate organ care is taken to get the pine which yields the highest note when struck.

The work allotted to the sound-bar is that of transmitting to the entire belly, or upper plate, the vibrations communicated to it by the left foot of the bridge, and to prevent them from entering into a series of segmental vibrations. Nor is this all: it is its duty to strengthen the belly to bear the heavy pressure of the strings, and to be in perfect harmony with the bridge. But who is to know the exact dimensions of this bar—how thick it is to be, how strong? It takes a lifetime of study, and only the most skilful of the workmen are entrusted with the work.

The sound-bars put in by the old Italian masters have all become too weak for the modern high pitch, and there is scarcely one but has had its sound-bar replaced, otherwise they could not have borne the present increased tightness of the strings.

The bar requires the most delicate handling;

* If any one should care to know how the vibration is communicated by the sound-post from one table to another she can do so by a very simple experiment. Have a saucepan of boiling water on the fireplace, one end of a poker on the lid, the other to the ear or between the teeth, and she will hear the sound of boiling distinctly, the sound being conveyed more readily through the solid iron than through air.

to force or confine it is to harden the sound and change the wood into steel. As a proof of this the following true story is told:—

There lived long ago in Paris a certain amateur, whose collection of violins was most choice and formed all his worldly wealth; every penny he possessed went in the purchase of violins. There were instruments by Amati, by Guarnerius, by Straduarus, and even a real Stainer. He was content, and his ambition satisfied, when suddenly he discovered that the famous violin ordered by a certain marquis of Straduarus had been brought to Paris.

It had lately been rebarred in Italy and badly done, but its beauty was incomparable, it was a perfect picture. For a collector the temptation to possess it was very great, and the amateur of whom we are speaking was not strong enough to resist it; he felt he must have it at any cost. And so he sacrificed several superb violins in order to acquire one whose sounds were decidedly noisy, harsh, intractable and strong, yet without substance.

There was no doubt about its beauty; it was perfect both in form and colour; it had every quality that could attract notice, and a handle and corners whose angles were perfect; such, indeed, as one finds in the models of Straduarus, which have no rival. And so this amateur having made the sacrifice, became the possessor of this squealing, howling thing, and, strange to say, he was not dissatisfied, for taking into consideration the wood, the maker, the model, he felt sure that this vice did not belong to it by nature, but was occasioned in some way by a misunderstanding between the sound-bar and the bridge; and he was right. The violin was untabled, the operation performed, and the substitution of an elastic pine bar for one of wood quite unsuitable, worked wonders. Its singing at once resembled its plumage, and it was difficult to know which most to admire, its beauty or its excellence; at all events the amateur was content, for he was heard to say that an empire could not tempt him to part with his king of violins.

Leaving the bass or sound-bar to be glued on to the inside of the upper table in such a manner as to lead us to believe it had grown there, we must return to the sides or bouts for a few minutes; they are in readiness to be fixed on to the upper table as soon as the bar is dry, and so far all is right. Their office and self-denying work have been explained; but something has been left unsaid concerning them which is of the utmost importance to the violin—viz., that the instrument must breathe, and can no more live without air than we can. The sounds which issue from it owe their sweetness and intensity entirely to the proper measure of air within its body,

and this in its turn depends upon the height of the sides.

If there is want of exactitude in measuring the air, inequality of the sounds will result; they will be slumbering when they should be flying, or launching forth when they should pause, and so, acting with too much haste, would get entangled or broken.

It seems that Amati and Straduarus both made some slight alteration in the depth and curves of the sides, one making them a trifle deeper, while the other extended the curves; but these deviations only occur in a few of their instruments; in every case, however, they were in harmony with the two tables whose servants they are.

This regulating the air is a most difficult point to crop up just as we think we have seen the body completed, for who is to know to a hair the depth of the sides which will enclose a certain volume of air in the box, and who is to know the exact amount of air which is to be enclosed? And yet this is the very essence of violin-making.

Several of Straduarus' violins were tested by Mons. Savart, who found in every case that the sound yielded by the mass of air within each was equal to one hundred and twelve vibrations in a second, and this is what every violin-maker strives for in the disposal of his materials. He must know to a hair what is needful to facilitate the undulation of the air, to make it oscillate within like the pendulum of a clock, and to prevent its jerking or shaking. We shall find as we go on that the regulation and measuring of the air for the violin is quite as indispensable to its life and action as it is for human beings in a hospital ward. We shall see this more clearly when we come to the make and use of the bow.

The upper table now being fixed to the bouts, the box or body is complete, with heart, nerves, and supports all ready for work in the new life about to set in; but it must have an ornament, if in all things it is to be like those of the old masters. This ornament is called purfling, and is a nice finish to the body. "Its only real use," says Ed. Heron Allen, "is that it preserves the edges of the instrument from splintering, by binding the fibres together as with a border.

Purfling is an inlaid border that marks the inner edge of all violins, the double purfling being a sign of the Brescian school. We watched it being fitted round the back and belly, and tapped into its place by a little hammer. This being done, the body is finished in the white, as it is called, and must be laid aside while we see the other parts made ready.

(To be continued.)

USEFUL HINTS.

Grilled Breast of Mutton.—Boil the mutton in the stock-pot; when done drain it, and brush it over with oil; dip it in breadcrumbs mixed with chopped parsley and shalots; broil and serve with piquante sauce.

Epaule à la Sainte-Menehould.—Bone a shoulder of mutton and braise it, take it out and drain it, dip it in breadcrumbs, then stir a little oiled butter into three yolks of eggs, brush this over the breadcrumbs, and then put a second layer of crumbs with a little butter over and put in the oven to brown; when brown serve with the gravy from the braise, strained and reduced. Breasts or necks of mutton are very good dressed in this way; the bones can be removed after they are braised.

Epaule Fourrée (stuffed shoulder of mutton).—Bone a shoulder of mutton, take half a pound of sausage-meat, cook it in a little butter until it is a light brown, add some chopped mushrooms to it, and see that it is rather highly seasoned; put this in the shoulder of mutton, tie it up securely, then braise, and serve with gravy from braise.

Mouton au Persu.—Take a piece of the best end of the neck of mutton; remove the skin and rub the meat with chopped onions, parsley, and oil; leave it two hours. Take some branches of parsley about two inches long, having one leaf at the top of each; with the larding needle run these into the mutton; salt the meat and brush it over with butter,

wrap it in buttered paper, and bake in a hot oven for about twenty-five minutes, basting often; serve with gravy and a dish of haricots.

Haricot de Mouton.—Cut some neck or breast of mutton in pieces; brown them slightly with butter in the stewpan; take them out and make a thickening with butter and flour; cook until a light brown; add some broth, sweet herbs, parsley, salt, pepper, and a clove of garlic; then put in the meat, cover and let it cook. Boil some French beans in water; when the meat is nearly done, drain the beans and add to the meat, and let them simmer. Haricot beans, carrots, or turnips are used when French beans cannot be had.

cells, and the presence in each individual cell of certain granular particles; hence this layer has been termed the "stratum granulosum."

Passing still lower in the specimen, we come to another layer of cells, which forcibly remind us of the cells which we already have seen represented in Fig. 2—the columnar epithelium cells; they are not stained so deeply as the cells in the stratum granulosum were, for they have not the granulation of each cell like that layer, and therefore do not take the stain so completely. You will notice that the cells change from their quasi-squamous or columnar condition to that of a perfect columnar cell, not suddenly, but by a delicate gradation, those towards the surface more nearly approaching in character the squamous epithelium, those towards the deeper parts the columnar variety. The layer now under consideration is represented in Fig. 5 by "d," and an individual cell is depicted by "e."

It will be apparent to you that in Fig. 5 this layer dips down into the subjacent tissue "e" in four places, and that between these four involutions are received three processes of

the underlying tissue called "papillae." The stratum of epithelium we have just investigated is called the stratum Malpighii, from the name of its discoverer.

Taken collectively, the layers of epithelium we have considered thus far go to form the "upper skin" or "epidermis," as it is called, and it is this part of the skin that one sees raised in the formation of a blister. Now there is a special interest associated with this part of the skin, and that is the "process of regeneration" which is continually going on. The same cells are not for ever present in the skin, but are always undergoing fresh changes. New cells begin from the stratum Malpighii. Let us follow the life of such a cell. It begins as a columnar cell, and remains as such in the stratum Malpighii, but presently another cell appears beneath it, and pushes it upward; at the same time as the result of pressure it becomes shorter and broader, more like "δ" in Fig. 5; the same process being carried on it comes to the condition represented by "γ" in Fig. 5, and now we have the first indication of the beginning of the end. The cell gets granular; this is due to the presence

of a substance called "eleidin," which is closely connected in chemical composition with "keratin," the essential part of the topmost layer. Passing onward, our cell loses its eleidin, and is composed mainly of keratin, but still retains its most vital part, the nucleus; it is now in the stratum granulosum (Fig. 5, β). And now the end comes, the nucleus disappears, the cell shrivels, becomes a mere scale, and is lost from the surface as "scurf." Even at the last it retains the potentiality of its columnar form, for if such a cell be immersed in caustic soda solution it swells up.

While speaking of the epidermis, Fig. 6 will be of some interest. It represents the condition of affairs in the skin of a negro. You see that at the lowest part of the stratum Malpighii there is a distinct black line (a). This is a collection of pigmented epithelial cells similar to those in Fig. 4, and to these does the black man owe his characteristic colour.

I have dealt only with the epidermis in the present article, leaving the true skin with its various appendages for a future occasion.

W. LAWRENCE LISTON.



MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER VI.

"This small, sweet thing,
Devised in love and fashioned cunningly
Of wood and strings."

I DO not know the author of this heading, but it so exactly describes the violin, its qualities, its method of construction, together with the love and devotion which its makers bring to the work, that I could not resist using it.

The violin is indeed "a small, sweet thing," perfect as art and nature can make it; but small as it is, it possesses a far-reaching, mysterious power of penetrating the human heart and sympathising with its every mood. At one time its sweet, pure notes may be heard speaking peace to the wearied brain, at another comfort to the sad and troubled spirit, and at other times entering heart and soul into the frolics of the young and the pleasures of the glad in spirit. What a loving, sympathetic thing it is!

Read the histories of the old masters, and note the enthusiasm and devotion they bestowed on their beloved art. Watch too the makers of the present day, and you will not doubt that hearts, intellects, and hands all work together to fashion this small, sweet thing.

Fashioned cunningly it certainly is, as all may see who are visiting with us the violin makers of Mittenwald. Up to this time we have been watching the formation of the various parts of the body, or resonance box, and seeing them put together, but there are still several additions to be made if we would possess the instrument in its entire power and beauty.

For example, there is the neck and the

figure-head on scroll, the making of which is a special work, as we may see for ourselves if we continue our visits to the factory.

The workmen are sitting on their benches, with thick blocks of maple before them, and gauges of various sizes. They lay the pattern of the neck on the wood, pencil it round, and then set to work with their gauges.

Strange to say the old masters did not pay much heed to the neck, believing it to be of no real importance to the tone of the instrument. We, however, think differently, and are very particular that it shall have exactly its proper position and length, and as much beauty and grace as we can bestow upon it.

If the neck be too short it is disfiguring and demoralising, for it cannot perform the increased work which the higher pitch of these times imposes on it. If it be placed too forward or too much behind it forces the bridge, and has an injurious effect upon the tone of the violin, rendering it sharp, short, or metallic; altogether the neck requires a good deal of attention, but it is quite worth the pains. It is true that it gets a good deal of help from the bridge, the thicknesses and the arches, but it gives back quite as much and even more than it receives. It is an important member of the whole, but its life and health depend upon its working harmoniously with all the other members. Should it attempt to stir up strife among those with whom it is bound, it would lose its position, and another would be found to take its place.

It is joined so beautifully to the main body that it is difficult to detect it with the naked eye. It is done with glue and not by means of nail or screw, therefore it can be removed

without taking off the belly should the process be necessary at any time.

Owing to the present alteration in pitch the necks of old violins have to be lengthened, and thus it is that there is scarcely a Stradivarius, Amati, Guarnerius, or Stainer in use but has been provided with a new and longer neck to suit the emergency of the times. The scrolls or figure-heads of violins are so very much alike to an outsider that it is difficult to distinguish one from the other, just as when one looks at a flock of sheep we think the faces all alike, but to the shepherd, or to a practised eye, each one has its own distinctive features; so it is in the scrolls of violins. Each possesses so decidedly the characteristics of the master who formed it, that it is as easy to read as his handwriting.*

In having new necks put upon the old and valued violins, the owners are most careful that the original scrolls should occupy their old places, because, as we have seen, they are the stamp or sign of the maker; and in the dissecting or putting together again many curious accidents have happened. One mentioned by Hart, under the title of "The Missing Scroll," is of this character.

It seems that the owner of a valuable Stradivarius felt the necessity of having the old neck removed, and a new one fixed in its place. So he went to the best violin surgeon

* Hart, speaking of Guarnerius, says: "Who can fail to recognise the quaint head into which he seems to have thrown such singular character by the mere turn of his chisel, and which, when imitated, always partakes of the ludicrous, and betrays the unhappy copyist who is unable to compass that necessary turn."

he knew to get this delicate operation performed. He was a clever surgeon and an honourable man; but he had a great failing, which was want of punctuality. It was a great trouble to the owner to part with his treasure at all, but when time after time it was promised and never ready for him, he went in anger to the shop, wrapped up all the pieces of his Strad. in paper, and took them home, determined to get some one else to do it for him; but on taking the pieces out of the paper, he was almost beside himself to find the scroll missing.

Back he went to the instrument-maker whose unpunctuality had been the cause of all his trouble, asking every one he met, and astonishing them too by his wild manner, if by chance they had picked up a fiddle-head. No one had seen it, and his last hope was that he had left it behind in the shop. But, alas, there was no scroll there, and all who love their violins can understand that he was completely overcome by the magnitude of his loss. He offered rewards for its discovery without success. A few days later it was found by an old apple-woman in a gutter, and offered to the violin surgeon for two shillings.

Sometimes, scrolls find their way on to wrong violins and wander about from one instrument to another, and after years of wrong-headedness come back to their own body at last simply by accident. Hart gives a very amusing history of such an one.

Having now the body, the neck, the head, the soul, and the nervous system of the violin, we cannot do better than get the bridge made and placed. This simple little piece is called the tongue of the violin, or as Mr. Haweis facetiously styles it, the wife of the instrument. At all events, whether tongue or wife or both, it is one of the most important parts of the whole. It not only forms a support for the strings, but communicates the vibrations from them to the body of the instrument, and requires the utmost care in its adjustment.

It is a thin piece of wood standing across the belly of the violin between the *f* holes, and in a line with the little notches; its height is from an inch and a quarter to three-eighths, and its little feet should cling as tightly to the belly as though they grew out of it. The top should be only half the thickness of the feet, and the grain of the wood should run in the direction of its length.

It is not every piece of wood you take up that can be turned into a bridge: the selection must be carefully made, so that the wood may be suitable to the constitution of the violin; for example, if the instrument be wanting in brilliancy the bridge must have solidity of fibre. If it lack mellowness, then the bridge must make up the deficiency. In fact, the bridge must be thoroughly examined to see if its qualities agree with the violin in all respects, for they have to live together, and the violin being masterful and fastidious will put up with no unsuitable mate. "It is necessary," says one authority, "that the bridge should even have pores proportionate to those of the violin." If the bridge be too high or thick it muffles the tone, and if it be too low the tone becomes thin and sharp. Nothing will answer except what is exactly right. Fortunately the union of the bridge with the violin need not be of lifelong duration, and it is not at all rare for a violin to possess two or three. Mr. Haweis' simile of the bridge being the wife does not seem at all an unlikely one, and the remarks he makes upon it are very quaint:—"A perfectly harmonious marriage is as rare between violins and their bridges as it is between men and women. Although the old violin is very capricious in his choice, he does not object to elderly bridges, and when he finds one he can get on with, will obstinately resent any rash interference with the harmony of his domestic arrangements."

It will be interesting to those who have the opportunity to compare the bridges of the Amati and Stradivari violins with those now in use. It will be seen that the design settled on by them has been scarcely altered at all. Many think that the ornamental cutting of the bridge is merely a matter of taste. On the contrary, it is a necessity, as any deviation from it is at once injurious to the tone of the instrument.

It is difficult to imagine how a little piece of maple, which seems merely to keep the strings on the finger-board from touching, should have such a powerful effect on the tone of the instrument to which it is not even fastened; it is, as all know, kept in its place by the pressure of the strings.

Savart, whose many experiments have been an education to those who have studied them, tried a plain piece of wood for a bridge, and glued it on to the violin; the result was that it deprived the violin almost entirely of sound; it became better when he made legs to it, and better still when the lateral cuttings were made.

As the finger-board and the bridge have to keep on good terms one with the other, always obliging and never contradicting each other, we will take that piece next. It enjoys the distinction of being made of dry, well-seasoned ebony, which is the hardest of all wood. Sometimes, however, mountain ash is used, which is the next hardest, but it is easy to detect the substitute; for example, an impression can be made with the nail on the ash which is quite impossible on the ebony.

In former times the finger-boards were curiously ornamented by inlaying them with pearl, silver, and ivory, according to a design; but this ornamentation finds no favour in the present day, owing to the unpleasant jar, which is the result of the pieces getting loose; in fact, except as a curiosity this ornamentation is not a success.

The finger-board requires to be very carefully constructed, otherwise the strings jar against it, and the movement of the bow is impeded. It is glued on to the neck.

The nut or rest is the little piece of ebony over which the strings pass on to the finger-board. Its position is between the peg-box and the finger-board. Heron Allen says he was asked why the nut need be a piece separate from the finger-board, and as it was exactly what I wanted to know I will give his answer.

"It is of course that the grain of the finger-board being parallel to the tension of the strings, it could not stand the strain of the strings, but would become dented by them (it should be $\frac{1}{4}$ in. high and $\frac{3}{8}$ in. long) at the upper end. The nut is therefore placed at this point so that the strings, on leaving the peg-box, encounter only the cross-grained piece of ebony constituting the nut, on which they can make no impression as they would on the soft parallel grain of the finger-board."

The button, although apparently an insignificant little piece of the whole, is by no means unimportant, and requires great skill to make; it is to the violin what the keystone is to the arch; it gives vitality to the whole instrument. Many violins have been spoiled artistically for want of skill in forming this little piece. Its position is at the back, just where the heel of the neck rests.

And now a few words about the pegs, for everything is of importance if it have place at all in a violin. In a little room on the ground floor of the factory we saw hundreds of these little pegs, and as many of them had been some time in stock they had shrunk a little and become somewhat oval on one side, and several men were correcting this fault before they fitted them into the holes.

The best woods of which to make them are ebony and rosewood. Boxwood is not un-

frequently used, but it is very inferior to the other two. Pegs have been made of horn and ivory, but were not satisfactory.

When pegs have worn smooth, so that they do not hold, they should be rubbed with chalk, and not with resin, in order to fix them. We have watched the construction of the violin thus far, and the compass and the file may rest after their labours; but it is still in what is called *the white*, that is to say, unvarnished.

Many are the opinions as to the efficacy of this process, but as all instruments are varnished, it will be interesting to us to know why and wherefore. First, there is no doubt that the varnish preserves the wood from the inclemency of the weather, and above all from the breath of the player. Without it no violin could attain old age, and the tone would lose sweetness and power. That is the common-sense view of the effect of the varnish, but that is only a very small part of the subject; there hangs about it an inscrutable mystery which has puzzled violin-makers for the last hundred and fifty years.

The exquisite tints of the old Cremona varnish, ranging from a yellow orange to a brown mahogany red, have never been equalled, nor can it be distinctly stated what the mixture was which produced them. It seems that for a century or more before the time of the Cremona makers, Italy was indebted for the few colouring and varnishing receipts which she possessed to the Jesuit Fathers, whose missionaries obtained them from India, China, and other places in the far East. It is supposed that two of the materials used were dragon's blood and sandal wood.

The first of these it is almost impossible to obtain now, it is a product of *Dracæna draco*, and yielded resin of the finest quality; but whatever the materials and the secret of dissolving and mixing, all is lost, and we can only approach the truth. How many experiments have been made, how many restless nights and days of study have been given by violin-makers and chemists to recover the secret no one could say. Of one thing we are quite certain, viz., that varnish has a marked influence on the air, the wood, and the tone of a violin, if it be properly put on, but it is not easy to apply it so that you get the full benefit of it.

"Varnish," says a master, "must be a dress, not a muffler, and its office is to soften the sounds without obstructing them." A thick, fat varnish stops respiration, therefore it should be light, clear, and volatile, so that it may stretch without cracking, and cover without bending.

The pine of which the belly is made imbibes like a sponge, therefore the varnish must be free of those ingredients which would burn and calcine the sap. The varnish should never obscure the "clouded shadows" of the maple, or the veins of the pine. Those of us who possess a Cremona will notice that the veins of the wood can be seen as clearly through the varnish as through glass, and it is just the beauty and delicacy of this varnish that makes it so difficult to repair an old violin; it is almost sure to get rubbed or injured, and to replace it with nineteenth century varnish would be a barbarism not to be thought of.

We will leave the violin with its fresh varnish to dry until next month, when we hope to supply it with strings and a bow.

These articles are not to teach us to make with our own hands the violin, but to help us to understand all its parts, otherwise I would have gone into detail about the materials and mixing of the varnish; but those who desire more particulars cannot do better than study Heron Allen's book on violin-making.

(To be continued.)

"What is it?" he cried.

She looked at him for one moment as if she could not speak, then her voice came back, a strained, strange voice not like her own.

"It is blood," she said. "He is dead."

"Good heavens! You have been with him? Captain Bob?"

She nodded.

"And he is—?"

"My Robbie—he is dead."

"My poor wife! I dreaded this."

He bent over her with a great yearning

tenderness, putting his arms round her, drawing her to his breast.

"How can I comfort you?" he said, with the sharpest pang he had ever known at his impotence to comfort such a grief as this.

She looked up at him, and he read in that desolate look something just now beyond the reach of the closest human sympathy.

"Nellie," he said. "Nellie, teach me how to help you."

Through the dead coldness of her pain penetrated the longing of his words; it swept across her with one wave of

passionate feeling; he could comfort her, she could rest on him, nestle to this heart of his, this great love that would warm and shelter her.

But suddenly between that haven and her suffering rose up, pitiless and stern, the shadow of her oath—the oath that must keep them apart for ever.

With a low cry, for this pang became intolerable, she drew herself from his arms, she staggered back, raising clasped hands to heaven in wild appeal for help, and then he caught her as she fell heavily forwards in a swoon.

(To be continued.)

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER VII.

"The spirit that inspires man and breathes in nature was playing through my spirit upon the obedient vibrating strings."

—*The Fiddler of Lugau.*

UNDER the head of strings and bow a wide field of interesting matter opens to our view, the fringe only of which we shall be able to touch, for it reaches far away into the most wonderful problems of nature.

There is, however, quite enough within our reach for the carrying out of our purpose, which is to endow our violin with life and joy and mystery.

The violin whose construction we have been watching, reminds us in its present stage of nature in the winter—it is silent, irresponsible, dull, unsympathetic.

The music is within it just as the seed is in the earth, but it awaits the vibrating strings, the bow, and the master hand to bring out its glory, just as the seed awaits the rain and the sun to burst forth into bud and flower.

The varnish of our violin is dry, and as we take it in our hand it looks more like a beautiful statue in its silence, grace, and exquisite proportions. It is difficult to believe that it is brimful of power and of sympathy; that at the first touch of the master's hand it will thrill with emotion and become a living thing.

It is our pleasant task to bring it to this stage of perfection.

We have shown how much patience, genius, and study are required to form and regulate the smallest detail of a violin, and in no point is care more necessary than in its stringing, for although it is left till last, it is almost as important as the construction itself. It is here, too, that you begin to prove the work already done, for if your violin be not perfectly formed, and if it be not made of wood of the utmost elasticity, the strings, however good, will not vibrate with any steady regularity.

Nor can you put on any strings you please. You must study the constitution of the instrument, you must humour it, and get an insight into its characteristics, and then, and not till then, you may string it.

If it be an old violin, mellow in wood and delicate in construction, the strings must be those capable of bringing out its richness of tone. If it be a brand new one, full of freshness and vigour, it will require taming, and strings of a larger size will suit it best, for the thicker the string the fewer its vibrations, and therefore the lower its note.

We must remember that the strings which please some violins, and agree with them in every particular, will torture others, and it is a pity to force them to associate with uncon-

genial companions; indeed, there is not the slightest necessity for it. There is a great variety from which to choose, and it is quite possible to suit the sweetest and the roughest, the oldest and the youngest of violins.

Again, when the violin is in working order and requires re-stringing, follow the advice of Heron Allen, which is on no account to take all the strings off at once and then put the new ones on, for by so doing you would cause the sudden relaxation of the pressure and working of the fibres of the wood, and the chances are that the violin would be out of temper for days. On the contrary, take off one at the time, and put on the new one and screw it up to pitch before changing the next.

But what are strings? Where do we get them? And what is their office?

One wonders why they should ever have been called cat-gut, for there is no record of their having ever been made of that animal. Had they been, what a profitable occupation the rearing of cats would have been! The error has, however, been widely spread and accepted without question. Even our writers have fallen into it. Cowper, for example, in referring to Charles Wesley's violin playing, says: "With wire and cat-gut he concludes the day."

Another writer, too, has described a violinist as "One who stretches the bowels of a cat over a wooden box, and rubs them with the tail of a horse."

Again—

"The musicians

Hover with nimble sticks over squeaking
crowds (fiddles),

Tickling the dried guts of a mewling cat."

Making strings from the intestines of animals dates back to the Ancient Egyptians, who required them for their harps; and they were made then, as now, from the intestines of sheep. They would hardly have made them from the cat, which was with them a sacred animal.

Some interesting experiments were made by Baptist Porta in the sixteenth century, in order to find out the effect of using other intestines for strings than those of the sheep. He made some of half sheep and half of wolf gut, which produced no music whatever; nothing, indeed, but noise and discord. He made others of the intestines of the serpent, the effect of which was most painful.

Some strings were shown at the Paris Exhibition, made of human hair; but although they yielded a good sound, were by no means durable.

Shakespeare speaks of strings made of hair, viz.:

"Sweet and musical as bright Apollo's lute,
Strung with his hair."

Experience proves that the best intestines of which to make strings are those of lambs about eight months old, those being preferred which have fed on dry mountain pasture.

The demand for strings of small size, which require to be made of the best material, is very great in September (the string-making month), indeed the demand far exceeds the supply.

As to the goodness of the strings, that depends almost entirely upon where they are made. The making of them is not confined to one country; but those of Italy bear off the palm, and there is a best even among these. For example, the Roman strings are the very best, being clear, transparent as glass, very elastic, and slightly rough.

Those of Padua are highly finished and durable, but not always true; and those made in Verona are softer and deeper in colour than the Paduan strings. In spite of these differences they are made of exactly the same material, but the process of manufacture varies.

Out of Italy the German strings, mostly made in Dresden, are best; they are white, smooth, and durable, but through being over bleached are somewhat faulty in sound. Those of French make stand next; the small strings, however, are not durable. In England we make all kinds of strings, good and bad, dear and cheap; but most of the last, which are dark and uneven.

It seems really that the further the seat of manufacture is from Italy, the worse the strings—a circumstance which is to be accounted for by variety of climate. The process of manufacture is carried on in the open air in Italy, a thing impossible in other countries, where the work is done by artificial means.

The first strings have but few threads in them, and therefore if they be not clear they must be of inferior material; the seconds and thirds, being spun with several threads, are never very clear.

To test a first string before putting it on the violin there is nothing better than to follow Spohr's plan of holding a portion of it between the finger and thumb of each hand, then set it in vibration; if only two lines be seen it is free from falseness, if a third line should show itself it is not true. My attention was called to this test by a student at the Royal Academy of Music.

There are several kinds of covered strings, some being closely enveloped in fine copper or silver wire; it is more difficult to obtain perfection in these than in those made of gut.

There have been great improvements in stringing violins during the last half century. Formerly those of very large size were used alike on violins and violoncellos, a practice which has passed away.

I daresay all violin players have noticed that after playing some time their breath makes the strings flat, in fact just as playing in a moist hot room will do; while on the other hand, if the heat of the room in which they are playing be dry and burning, the strings lose their natural moisture, and get sharp. This is explained by an experiment made by Dr. Arbuthnot about a hundred and fifty years ago, in order to find out the effect of air on human bodies. He says, "I have found that the single fibres both of animal and vegetable substances are lengthened by water and moist air. A fiddle string moistened with water will sink a note in a little time, which therefore proves that it has relaxed or lengthened 1-16th. The steam of hot water will sink it a note in five or six minutes."

And now for the characteristics of the strings. Their duties are by no means light. They convey the message of the bow to the sound-post. They must always be in so sweet and healthy a condition as to produce perfect fifths whenever called upon; that is to say, if two strings are stopped by the finger at any given point, both together and at the same moment, the interval known as a fifth must be produced.

The strings are highly nervous; if, when one is vibrating, you touch it ever so slightly with the finger, it suddenly ceases. They will not work alone, they must have sympathetic companions. If you stretch a string between your fingers in the open air, and pass the bow over it, you would scarcely hear the whisper of a sound; but if you attach the string at each end to a slab of thin wood, the sound increases in intensity as the particles of wood vibrate in sympathy with it. It is something like this which occurs in a violin. The wood vibrates not only with the strings, but also with the mass of air inside.

A string will not yield a musical note under all conditions, but simply under the influence of tension, and even then the tone of the note will depend upon the thickness of the strings and the force with which they are vibrated; for the more rapidly a string vibrates, the higher will be the note produced. The pressure of the four strings on the belly of the violin is enormous when one thinks that the weight of the whole body is but a pound.

More than a century and a half ago it was discovered that the pressure of the strings was equivalent to the weight of sixty-four pounds, and that the burden was borne thus:—First string nineteen pounds, second string seventeen pounds, third string fifteen pounds, fourth string thirteen pounds. Since then the pitch has been raised a whole tone higher, which necessarily increases the pressure to ninety pounds. Of this weight the bridge bears one-third of the burden, and even this it cannot be said to bear alone, for it shifts a good part of it to the sound-post, a little less to the bar, and retains the remainder for the equilibrium. The weight of the bow is extra, and adds to it by one pound.

An old writer speaking of the strings calls them cords of tissues and intestines of animals, and he continues: "they are held to their tension by a button and some pegs, ascending sufficiently high to charge the instrument with a weight of ninety pounds."

No violinist ever understood the character and power of the strings as did Paganini. He did not treat them tenderly, for his method was to smite them, and thus from a single chord brought out

"The voice of quires and weight
Of the built organ."

He prided himself upon being able to dispense with the second and third, and to make the first and fourth strings only perform his commands, and draw tears or laughter at will from his listeners.

It was at Florence that he made these two strings convey a love scene between himself and a lady of the Court, whom he loved and by whom he was loved, and in such a marvellous manner was it performed that the audience almost lost their wits in wonder and delight. After this he frequently played on one only, the fourth, for which he had a great affection. It really seemed quite the same to him whether he played on one or four strings, as the following anecdote will show.

Having to play before a large audience at Leghorn, just after running a nail into his heel, he came on to the platform limping. At his odd appearance the audience could scarce restrain their laughter. He seemed not to notice it, but commenced the concert, when suddenly the candles fell out of his desk. At this the laugh was audible. He seemed neither to notice the darkness nor the laughter, and went on playing till the first string broke; at this the laugh was general, but when they saw that he played on to the end with only the three strings, their laughter changed to vociferous applause.

He rarely, if ever, stopped to mend his strings when they broke, which was of frequent occurrence; owing to his want of care of them, they were often quite ragged on the finger-board.

In dealing with the strings one could not help thinking of Paganini for a few moments, as he seemed to know all their secrets; but now we will return to our violin. The strings are on, and we look at it with admiration. Both we and it are in a state of expectancy: we are waiting for the something which is to bring out its hidden power and beauty; the something which is to have unbounded sway and influence over it; that something to which air and wood and strings will yield implicit obedience. We wait for the king and his magic wand, at whose touch the strings will vibrate and the song burst forth upon the air as though it had the wings of angels.

Such wonderful effects are produced by the sweep of this magic wand across the strings as to be sometimes beyond the power of words to express. At the exercise of its power the air becomes suddenly burdened with graceful, delicate, fascinating sounds; in a moment all is changed, and in their place arises a storm of vehement capricious appeals to our imagination; and even while these are vibrating in our ears comes a soft dreamy message from the magic wand, which fills our whole being with tenderness and love.

Magic wand, indeed! which can make the vibration of the strings over which it sweeps reach the strings of our hearts, the vibration of which shakes our whole being, and shows us at a glance how out of tune they are and how they need the master hand. Or it may be that the magic wand sets the strings of our hearts vibrating with a thrill of love and joy and peace.

If the magic wand draws us within its circle, we can no more resist laughing, crying, dancing at its command than the violin itself.

Strangely enough, this wand or bow has nothing in common with that over which it rules so absolutely. It is not made of the same wood; it is not shaped by the same maker; its work is directly opposite to that of the violin, which as a whole or in its individual members learns only to obey and act in harmony. The office of the bow is to command. The very air is under its orders—that is to say, the air which passes into the violin by the *f* holes.

All who play the violin know that the body of the instrument encloses an empty space which, like everything belonging to a violin, has its duties. It must be ever on the alert when the bow is in action to receive and dismiss the masses of air driven in by the wand sweeping over the strings. There is no rest

or abiding place for the air within this empty space, for as soon as it arrives it is chased out again by another mass of air driven in by the command of the bow.

We noticed in a former chapter that it was quite as impossible for the violin to live without air as for ourselves, and now that the bow is at work we shall understand better the truth of this remark.

The air, which enters and retires with a wonderful regularity, acts like a shuttle, and is the vehicle of all the sounds. The harder and firmer the driving bolt, so much the more elastic and rapid is the bound of the air; and the thinner the table the more it trembles under its excitement. The quantity which enters is nearly always the same, because it is under the orders of the bow, and that which comes out is in a measure independent, although it has to rush away very unceremoniously when the new arrival makes its appearance.

It is easy to understand now the necessity there was of exactness in the measurement of the *bouts* or sides; for the amount of space within must be capable of containing just so much and no more. If a globule of air too much be present it must be sustained; if it be lacking it must be supplied.

There can be no playing fast and loose with the air—it is a tyrant, notwithstanding that it is a slave of the magic wand; and if it be not exactly measured the sounds would be unequal, or rather they would be propelled with so much haste that they would get entangled and broken, and then adieu to the magic of the wand.

Savart made many experiments as to the relationship between the air and the sound, and the result was that the intensity of the sounds of a violin depended upon the mass of air contained within the instrument.

In consequence of this several violins of Stradivarius were tested, and in every case the space enclosed a mass of air which rendered a sound equal to five hundred and twelve vibrations in a second. And to obtain this is the aim of the violin maker, from the first moment when he sets about his work to that in which he places tools and compass on one side.

Our violin is finished, but it is a new one; and Mace, who lived two hundred and twenty-five years ago, says, "We chiefly value old instruments above the new, for by experience they are found to be the best, and they are so, probably, because that by extreme old age the wood, glue, linings, and above all the varnish, are by time dried, made gentle, and 'airified,' so that stiffness and stubbornness, which are natural to such bodies, are so debilitated that the pores of the wood have a greater liberty to move, stir, or secretly vibrate, by which means the air, which is the life of all things, has a more free and easy recourse to pass and re-pass." Other reasons are given for preferring an old violin to a new one by Oliver W. Holmes, who says there are fifty-eight pieces in a violin. These are strangers to one another, and it takes a century, more or less, to make them thoroughly acquainted. At last they become an organic whole, as if it were a great seed capsule which had grown from a garden in Cremona.

Let us not, however, be discontent with our new Mittenwald violin, for Otto, who is a great authority, says, "It is an established truth that an instrument acquires a beautiful and mellow tone not by age but by practice. Constant vibration shakes the resinous particles out of the wood, thereby rendering it more porous and better adapted for producing a good tone than it otherwise is."

The make and the makers of the bow we leave for another chapter.

(To be continued.)

matter-of-fact Muriel Egerton, raising her eyes and eyebrows in a comical way.

"Then there will be such a crowd of new experiences," continued Ruth Stacey, not deigning to notice Muriel's unpleasant suggestion, "and Tasmania is such a charming place, so a gentleman tells us who has been there, the scenery so delightful, I can't help enjoying the thought of it."

Muriel went on weaving her flower-chain in silence.

"You know, dear old Mu, I'm awfully sorry to leave you—I am indeed; but four or five years will not seem so very long, perhaps, and father has promised me that if I keep in the same mind, and go on studying steadily until I'm eighteen, he will send me home to Girtan the very first opportunity that offers."

"Very likely you will alter your mind."

"No, that I'm sure I shall not. I'm perfectly determined to fit myself to take some good position." And a very determined little body Ruth looked. Then she gave a merry laugh. "Become Lady Principal of some high class college for ladies, a professor of something or other; who knows?" And she waved her hand in dignified style.

Muriel now joined in the laugh.

"Well, Ruthie, you may don the student's cap and gown; all I want is to wear the nurse's livery. I'm trying to persuade father and mother to let me be trained for a sick nurse, when I'm old enough. I should love it. It is glorious work."

"Yes, of course, very good and useful, but I could not fancy spending my life making gruel and poultices," rejoined Ruth.

"My father says he believes many a patient's life has been saved by skillful nursing. I would rather be engaged in such work than in cramming people's heads with learning that may never be of any use to them!"

"How you talk, Muriel!" ejaculated Ruth, jumping up and facing the would-be nurse. "Is not the mind worth more than the body? Did not Miss Chubb tell us one day that every scrap of knowledge worth gaining, thoroughly acquired, must be of benefit not only to ourselves, but no one can tell to how many others?"

This oration was delivered in Ruth's own emphatic manner, and with suitable gesticulation.

Muriel smiled; she was used to these outbursts, and, being in a somewhat satirical mood, answered—

"Well, Ruth, since I'm not half learned enough to understand how the mind could get on here without the body, or the body be worth anything without the mind, we will divide the work between us."

"Ah! laugh away, Muriel; I expect we shall both get our wish."

"I am not very hopeful about it."

"Why not? I thought Dr. Egerton approved of girls being brought up so that they could earn a living if it were a necessity."

"So he does, and it certainly is likely to be a necessity with us—such a number of us—but he seems to think I cannot understand the hardships of a nurse's work, so he will say nothing definite yet, and I am to go on with my studies just as if I were going to be a governess, which I'm sure I shall never be!"

Growing near them were a few dandelions that had dropped their golden petals and stood erect, their light seeds looking fit balls for baby fairies.

"Let us see what the fairies prophesy for us," said Ruth, plucking one of these and beginning with "Have it! Have it not!" until with Have it, the last tiny feather was wafted away. Giving another to her friend, and taking the wreath from her hands, "Now, Muriel," she cried, "try your fate." The fairies being equally kindly disposed towards Muriel, she was seized by the waist and waltzed around the staid old elms by lively Ruth.

"You'll see, Muriel, the fairies will grant us our desires."

"Then some day, Ruth, there will be an announcement in the *Times* to this effect: 'We regret to say that the second of the course of lectures being delivered at the Royal Institution by Professor R. Stacey, on "How to Sweep the Cobwebs from the Sky," is unavoidably postponed in consequence of the learned professor having a severe attack

of clergyman's throat.' Nurse Muriel will then make the 'gruel and poultices,' and generally fuss over the body of the said professor until the patient has sufficiently recovered to resume her work of filling other folk's brain boxes again."

The garland being completed, it was stowed away in the basket, and, warned by the sound of a gong, the girls scampered off to a small iron gate in a wall and let themselves into the grounds of the Rochdale Grammar School, of which Mr. Stacey had been for some years head master.

Dr. Egerton and Mr. Stacey were friends of many years' standing, and between their two eldest children, to whom we have just been introduced, a similar bond of friendship had been formed, when very young, and, strengthened by school companionship. This friendship was to be tried by a long parting. Mr. Stacey, who was not a strong man, had accepted the appointment of principal to a new college founded in Tasmania, and he, with his wife and family, consisting of two boys and a girl besides Ruth, were shortly to sail for their new home. Muriel was now paying her farewell visit to Rochdale, and three weeks later the sad "Good-bye" was said, amid many tears and protestations of unchangeable affection and promises of religiously kept-up correspondence.

Dr. Egerton was a medical man in a thickly-populated eastern suburb of London, and, as Muriel said, the father of a large family—three were schoolboys, two little girls were under the tuition of a daily governess, and a tiny boy and girl were still in the nursery. Seeing, therefore, that the doctor had no private property, it was not surprising he felt the desirability of his daughters being prepared to earn a living. But he wisely decreed that Muriel, being a bright and clever girl, should have all the advantage it was in his power to give her in the matter of education. Hence she returned to the Misses Chubb's care for another two years, leaving school then to take up a daughter's home duties before beginning still graver responsibilities.

(To be continued.)

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER VIII.

THE BOW.

"His grizly beard was long and thick,
With which he strung his fiddlestick;
For he to horse-tail scorned to owe
For what on his own chin did grow."
Hudibras.

WE now come to the magic wand or bow, whose influence over our violins is so mysterious and absolute. Strangely enough, it has no affinity with that over which it dominates; indeed it is a thing quite apart; it is not born in the same class, neither has it any previous acquaintance with the characteristics of the creature it is to rule, and yet the whole training of the violin has been to ensure obedience to this despot which should one day sway its destinies. It is in a measure owing to this training that the wand has been able to take it from among the mass of musical instruments, and place it in the forefront as their king.

The maple and the pine, as they grew up in strength and beauty in their forest home, would scarcely have believed it had the wind whispered as it passed them that in the future they would owe their position, development, and

influence to a reed or a sugar barrel. It is often the mean and the unlikely which bring out the beautiful and grand in a character—the very contact between the opposites will effect this.

A thing of so much power as the bow must have a history, but, like many another great influence in the world, its origin is enveloped in mystery. Many men have had many opinions about it, and yet beyond a certain point they have left us to grope about in the dark, if we care to do so. This, however, would be unprofitable, as it certainly would not clear away the clouds from its birth. Of this we are sure, that the ancients did not possess it and we do; they may have had something like it in shape, but the power, grace, and magic, which are characteristics of the present bow, had no existence in days of old.

Just as our violin is scarcely recognisable as a descendant of the old clumsy triangular sort of *rebec* or *crowd*, so it is difficult to believe that the bow of the present day is a child of the clumsy, crooked reed bow, with a strand of coarse hair rudely stretched between the extremities, which our forefathers used.

A few illustrations and some remarks of travellers in the East are all the information we have concerning the early life of the bow, and whether it be of Arabian, Syrian, or Welsh origin cannot be decided. It did not rapidly throw off its original ungainliness, and the violin was ready for the bow before the bow was sufficiently graceful to prove an efficient ruler. Indeed, during a hundred years of the violin's palmiest days the bow was inartistic and clumsy, and the union of the two was another illustration of "Beauty and the Beast."

We owe a great deal of the power and efficiency of the bow to France, which produced as great enthusiasts in the art of bow-making as Italy in that of violin-making.

What is the special work of this bow, so masterful, so absolute, so mysterious in its power, as to have deserved the name of *magic wand*? First and foremost, it is to make the violin, which up to this point has been dumb, speak. It endows it also with the power of thought-reading, of receiving and conveying the sentiments and feelings of human beings; of expressing prayer and praise, love and anguish, joy and sorrow, better even than can

be done by the human voice. It develops the hidden powers of wood and strings, and puts them in touch with our hearts; it is the medium, so to say, by which we can express thoughts and feelings, often too deep for words. It renders the violin an instrument of peace and contentment, of gentle suasion and harmony among the whole human race.

Its method of performing its work is very simple; guided by a human hand, it sweeps across the strings, it may be, a feeling or a love message, a prayer or a shout of joy just fresh from some heart; the strings, trained to perfect obedience, take it up in a second, and by their vibrations wake up the two tables of the violin, connected with them by means of the bridge, to add their vibrations and take up the sound. Almost before you can draw a breath the vibrations have set the air in motion, which in its turn is alive and eager, never resting till the message which it carries reaches its destination. The power of the bow is seen, therefore, more in that which it makes the violin do than in that which it does itself.

The violin, as handed down to us by the *Amatis*, by Stradivarius, Guarnerius, and Stainer, is so perfect that neither the ingenuity nor the fault-finding characteristic of man have been able to find a flaw in it.

This cannot be said of the bow, which has only quite lately approached its perfect stage. It is just possible that the ancients excited their strings to vibrate by other means than hair. Paganini, as we know, sometimes used a slender rush. Its origin is, as we have said, enveloped in mystery. I wonder if it was the result of watching certain insects, for in a book of Knight's published in New York in 1875, he says—"Grasshoppers, crickets, and the like are frequently spoken of as singing, yet they do not sing—they *fiddle*. By rubbing legs and wings together, each in the manner peculiar to the species, these insects produce the sounds which characterise them. Locusts are fiddlers; their hind legs are the bows, and the projecting veins of their wing-covers the strings. On each side of the body, just above and a little behind the thighs, is a deep cavity closed by a thin piece of skin stretched tightly across it like a banjo cover. When a locust begins to play, he bends the shank of one hind leg beneath the thigh where it is lodged in a furrow designed to receive it, and then draws the leg briskly up and down several times against the edge and veins of the wing-cover, the leg being the bow." It is just possible that this suggested the bow.

Some three or four men stand out from among the bow makers as worthy the thanks of all lovers of the violin; they are Francis Tourte, J. B. Vuillaume, François Lupot, and John Dodd, an Englishman.

The first of these is among bow makers what Stradivarius is among violin makers. He was born in the year 1747, in Paris, and died in 1835. He was perfectly uneducated, and when apprenticed to a clock maker at an early age, he could neither read nor write; indeed, I do not know if at any age he could do so.

At the close of his apprenticeship he gave up a trade he had no love for, and took to that which filled him with enthusiasm, viz., bow-making. It is more than probable that during his eight years of apprenticeship he gained that skill and delicacy of hand, and that marvellous accuracy of measurement, which when applied to his new work made his reputation.

His first attempts at bow-making were made on old sugar barrels, which he was able to pick up cheap, and the bows so made he sold for about one shilling each. Every bow he made was a step forward on the field of discovery, and his great desire now was to find a stiff light wood which would do credit to his work. He decided that Pernambuco wood* would be the very best, but it was dear, and he was poor. This wood was sent to France in billets for drug purposes, and it was rare to find a piece with straight grain and long enough to make a bowstick, and it was this difficulty which compelled him to ask so much money later on for his bows.

He did not shape the bow out of a thick plank, as the violin maker did the back and belly of his violin; had he done so he would have cut the fibres across, instead of keeping them intact throughout the length of the bow. His method was to heat the stick right through the inner fibres, and then bend it to the shape required.

Nor did he confine his attention to the wood only, he was equally careful about the hair; in this part of his work he was ably seconded by his daughter. He preferred the hair of French horses, he said, to any other, as being larger and stronger. He rejected all hairs which were not perfectly cylindrical and equal throughout their length, and he found that not more than one-tenth of any given number of hairs possessed these qualifications, most of them being flat on one side.

Having obtained those that pleased him, he subjected them to a thorough cleansing by soap and bran, and last of all passed them through clear water tinged with a little blue. He did not use quite so many hairs as we do now. As a rule our bows contain from 150 to 200.

He frequently mounted his bows in tortoise-shell, mother-of-pearl, and gold, and obtained for such eleven guineas; they are much coveted in the present day, and command very high prices. He spent the latter part of his life very quietly, and divided his time between bow-making and fishing.

The next best bow-maker to Tourte was J. B. Vuillaume, born in Paris 1799. He lived to the age of seventy-six, and was one of the most perfect copyists and imitators that ever lived.†

He took immense pains to discover the secret of Tourte's success. He measured every one that passed through his hand, and never lost an opportunity of watching Tourte as he cut up the billets of Pernambuco wood, and of seeing how careful he was to get the grain straight and its curl in the proper direction. Yet with all his care and watchfulness he does not seem to have guessed the secret. He brought, however, to the making of the bow the same spirit of scientific inquiry which he applied to the making of the violin, and we are not surprised, therefore, to hear that he remedied one or two very serious inconveniences under which the bow laboured.

One was the difficulty in arranging the hair so as to form a perfectly even surface throughout its length, and the other was the constantly changing position of the nut.

It was, however, his wonderful power of

copying which made him so famous, and in nothing is this power better shown than in the copy he made of Paganini's Guarnerius, which, to the great distress of the owner, fell from the roof of the diligence as he was entering Paris. He took it at once to Vuillaume, knowing that if anyone could repair the damage done to the thing he loved best on earth, he could.

It was while this violin was under his care that Vuillaume felt an irresistible desire to make a copy of it which should defy detection. On the day when Paganini was to receive his treasure back from the hands of the mender and healer, Vuillaume put two violins on the table before him, saying, "I have succeeded so well in restoring your violin, that I am quite unable to distinguish it from the other Guarnerius which has been entrusted to me, and which seems to me exactly like it—you of course will know your own in a moment."

Paganini was greatly agitated; he took up first one and then the other, he took them one in each hand, but to no purpose, he could come to no decision. One hope remained, he snatched up his bow and sent it flying over the strings, first of one and then of the other—all were equally obedient to its command; he was distracted, and his perplexity increased every moment. It is said he strode about the room with his hands clenched and his eyes on fire.

Vuillaume, content with his triumph, begged Paganini to be calm. "Here is your violin," he said, taking up one; "and here is the copy I made of it," taking up the other; "keep them both, in memory of me."

Vuillaume was an extremely honest man, otherwise there is no knowing where this power of imitation would have landed us.

England is not without its celebrated bow-makers, among whom John Dodd stands prominent. What he might have been had he not been poor and fond of drink it is impossible to say, for with these drawbacks he made a great name, and is often called the English Tourte.

"His bows," says Fleming, "are remarkable for their magnificent wood and workmanship, and for being exceedingly light and graceful." One fault they had, which probably was the result of poverty—they were too short. He never would have an apprentice, declaring he did not wish to teach anyone his method of making bows, and, poor as he was, he refused £1,000 for making known his secret.

Dr. Selle, of Richmond, who knew him well, says: "In his person he was very small, and waddled rather than walked; he was negligent in his attire, wearing an old threadbare coat of the most miserable description, smalls, and a broad-brimmed hat."

He visited the public-house with great regularity four times a day, and he died at Richmond Workhouse of bronchitis on the 4th October, 1839, at the age of eighty-seven. His bows sell very well in the present day, two or three sovereigns being the usual sum paid for them.

And now that we have our violin and its bow as perfect as we can get them, we will wait until the next chapter in order to find if among our women and girls master-hands may be found to draw out the sounds with which to charm and influence us, and in this we shall not be disappointed.

(To be continued.)

* Brazil wood, and a particular kind of snakewood which grows in Demerara, are also used for bows.
† Heron Allen.



of the Joch Pass. The travellers found, as always is the case with these altitudes,

"Hills piled on hills, and Alps on Alps arise."

The way they had to climb looked still more distant and remote than it had done from the other side of the valley, when they had espied it from the gardens of their hotel.

"This reminds me of those lines I read to you. Do you remember them?" asked Evelyn, and quoted—

"The aims whence ever anew shall arise the soul;
The goal that is not—and ever again the goal."

Dottie, it is scarcely needful to say, did *not* remember the lines, but Miss Wentworth, who caught the remark from her elevation, was interested at once, and would have gone off into a literary discussion, had the jolting and uncertain pace of her steed rendered it possible.

Outside the little hostelry of the Trübsee they saw, as they approached, a mule standing, with a lady sitting on its back, the driver resting by its side. She was evidently declining the voluble solicitations of the little landlady to descend and enter, and a glass of milk was finally brought out to her.

Evelyn suddenly uttered a loud exclamation as she saw the lady's face under the broad hat.

"What is the matter, Evelyn?" cried Dottie.

"Oh, Dottie! Don't you see who it is? Mrs. Allingham West. I should know her in a moment, although she looks so different."

"And who is she?" inquired Dottie, innocently.

"Why, Dot! you are really too

provoking. Don't you remember the conversation of the Royal Society?—the authoress? Oh, you must remember! And here she is!"

Evelyn rushed forward to impart her information to Miss Wentworth, and was somewhat embarrassed by the way in which that lady received it.

"Oh, yes. The gifted author of 'Transmigrations!' A very fortunate and gratifying thing to meet her. I'll just get off my horse, and introduce myself to her."

"Please don't! I'm sure she wouldn't like it," begged Evelyn, in an agony, as she saw Miss Wentworth preparing to suit the action to the word.

"And why not? I should think she would appreciate an interview!" replied the American.

To Evelyn's unspeakable relief the lady herself took the initiative, for lowering her parasol and bending a little forward, she addressed the two girls in a clear, decided voice. How well Evelyn remembered and loved its tone!

"Can you tell me if the way down to Engelberg is too steep to ride in comfort?"

"I should not like to ride down the Pfaffenwand," replied the girl, in a tremulous tone, while the colour rushed to her cheeks. "The rest of the way is easy."

"Oh, thanks! My man is so stupid, and only talks patois; it is useless to ask him. And now, as you come from Engelberg, perhaps you can tell me—is the place very full?"

"It is crowded," replied Evelyn, with truth.

"And the best hotel?"

"They are all good; but we like the one where we are staying—the Abendglüh."

"And that is full, I suppose? Yes? Dear me! we ought to have written for

rooms from Meiringen." A line was on the lady's brow.

A thought flashed into Evelyn's mind. She interchanged a word with Dottie, then spoke.

"It will give me so much pleasure, in case of any difficulty, if you will take my room at the Abendglüh. When we return I can share my cousin's. Please do. I know you by sight. I should think it the very greatest honour to be of any use to you."

"You are really very kind," replied the lady, with a faint intonation of surprise; "but I could not possibly cause you such inconvenience."

Evelyn urged her *point* with much earnestness, and explained that she would not be home that night, and that her room and Dottie's were so far at the full disposal of Mrs. West, who was, it appeared, travelling with her maid, and hoping to meet a party of friends after a few days at Engelberg. At length she condescended to accept the proffered help, in case of need, and Evelyn proceeded to write, with a hand trembling with excitement, a few lines to the landlord on a leaf torn out of the authoress's pocket-book.

Miss Wentworth, who had several times attempted to edge herself into the conversation, now broke in—

"It gives me great pleasure, as an Amuh-ican, to meet the gifted Mrs. West. I can assure you that in my country your name is a household word; and—"

"Thank you, very much," said the lady, cutting short Miss Wentworth's eloquence unceremoniously. "We shall meet again at the Abendglüh. Good morning." And she moved away, followed by maid and driver, while Evelyn stood rooted to the spot in a trance of delight at this wonderful and enchanting encounter.

(*To be continued.*)

MITTENWALD AND ITS VIOLINS.

By EMMA BREWER.

CHAPTER IX.

FEMALE VIOLINISTS.

"The power of the first wave of violins in a symphony cleanses us of all our dullness and dryness, and carries us straight out of ourselves."

"My violin is mine and I am it."

—Charles Ancherster.

It will not, I think, be out of place if we finish up these articles with some notice of the women whose names have become associated with this fascinating and wonderful instrument.

Quite a revolution has taken place in the feeling and opinion of society as to the suitability of the violin in the hands of woman. The opposition to her study of it was formerly so strong that she had to crush within her all enthusiasm and genius for it if she would not become a mark of unwomanliness to her friends; indeed, it was of frequent occurrence that for fear of the world's frown she hid from all eyes this special talent.

A woman is now no longer considered mannish and fast whose talent exhibits itself in

the love and mastery of the violin; on the contrary, it is fostered and cherished, and forms part of a high-class education.

We have come to see that the piano is not the only instrument suited to a woman's capacity, and that there is no reason why the wide field of stringed instruments should be closed against her.

It cannot be urged that they are out of place in a woman's hands, seeing that Norman Neruda and Vittorine de Bono are living contradictions of that plea, and certainly we have daily proof that the violin loses none of its exquisite grace in the hands of a woman.

That grand results may be achieved by women in the study of it we shall be able to prove, but we need for the present turn only to Norman Neruda. When she appears in public she is judged as a violinist, not as a woman, and she neither asks for nor receives any allowance because of her sex before beginning a solo.

All women cannot, of course, look for her success, yet it is well to remember that she who sets limits to herself will always be expected to remain within them. In one way

the violin will never disappoint her; it will be to her the most sensitive and fascinating companion, and an interpreter of her inmost thoughts and longings.

Outside genius, the qualities indispensable to the mastery of this instrument are enthusiasm and patience, two qualities possessed in a much larger degree by women than by men; indeed, there is every reason why she should make this instrument her own. The study of it opens out a new field for her skill and intellect, and enables her to add to the attractions of home music, which is greatly enhanced by the introduction of the king of instruments.

Just as in violin-making so in the field of composition, women have done very little; not because they could not, but simply that harmony and counterpoint have been considered out of the question in their education. They have had ability to grasp and deal with the science, but until quite lately fashion, etiquette, and education have all been dead against them. For this, if for no other reason, it will be interesting to note the career of those who, in spite of the difficulties which sur-

rounded them, have made great names in the world as violinists.

Before speaking of these I must mention that the Empress Frederick, our own Princess Royal, is an accomplished player on the violin. Scarcely a day passes but she amuses herself for an hour or two on it, and carries it with her wherever she goes.*

And now we will take the lady violinists in the order in which they appeared.

First, Madalena Lombardini Sirmen, a much-loved pupil of Tartini, was born at Venice in February, 1735, and educated in the Conservatorio dei Mendicanti there. On leaving this institution she went to Padua to study the violin under Tartini, who wrote her a wonderful letter upon the art of playing this instrument, a rare and valuable specimen of musical literature, the original of which is, I believe, in Venice.

We are fortunate in having a translation of it made by Dr. Burney in 1771, eleven years after it was written. We can only give one or two passages from it, for it is a long letter, but it would well repay the trouble of seeking it out and studying it:—

"Confine your principal practice and study to the use and power of the bow, in order to make yourself entirely mistress in execution and expression."

"Study the true manner of holding, balancing, and pressing the bow lightly but steadily upon the strings, so that it shall seem to breathe the first tone it gives."

"If the tone is begun with delicacy, there is little danger of rendering it afterwards either coarse or harsh."

Instructing her as to the shake, he says: "Practise it slowly, moderately fast, and quickly; that is with the two notes succeeding each other in these three degrees of *adagio*, *andante*, and *presto*."

These will suffice to show the character of the letter. Madalena Sirmen was a highly accomplished singer, but it was her extreme excellence as a violin player which won for her an almost European reputation; the boldness of her bow and the delicacy of her playing were marvellous. She made a great sensation in various parts of Italy, and both in Paris and London played with complete success. Later in life she still charmed but did not excite, because she resolutely refused to change the old style of playing represented by Tartini, for the new which Viotti introduced.

And now we come to a very interesting violinist, Madame Mara, whose maiden name was Gertrude Elizabeth Schmeling. Shortly after her birth in 1749 her mother died, and very sad and neglected was the condition of the baby girl. Her father, who was a poor musician, found her very much in the way, and did not in the least know what to do with her. He thought it best to secure her in an arm-chair, where the poor little mite remained from morning till night, while he went about his work. She never knew what it was to be dandled in a mother's arms, or the charm of crawling on the floor. Naturally the child fell into a very crooked and ricketty condition, from which it was long ere she recovered.

Schmeling contrived to earn a little extra money by mending musical instruments, and one day the little Gertrude, then four years

old, got hold of a violin and began to draw musical sounds from it. Strange to say, this made her father angry, and he punished her, but without any result. The temptation was too great to be resisted, and she seized every opportunity of practising on such instruments as were left about whenever her father's back was turned.

One day, not so very long after he had punished her, he returned home suddenly, and to his astonishment found her playing correctly the scales on a violin. Struck with what he believed to be a special gift, he changed his tactics, and gave her a few lessons.

So apt a pupil did she prove that she was soon able to play duets with him before a few gifted amateurs, whom he called together for the purpose of asking their opinion.

But even now, in her fifth year, the lonely, motherless child could not stand without support, and her father was obliged to carry her to the room where she was to play before this her first audience.

The effect she produced must have been

gave up the violin, and devoted herself to singing.

She is said to have declared that should she have a daughter she should learn the fiddle before she sang a note, for she remarked, "How can you convey a just notion of minute variations in the pitch of a note? By a fixed instrument? No. But by sliding the fingers upon a string you instantly make the slightest variations visibly as well as audibly perceptible."

She married Mara, the violoncellist, about the year 1771, and died at Revel in Livonia (a province in Russia) in January, 1833.

Next in order comes Regina Sacchi, or, as she was more often called, Strinssachi. She was born in Mantua in 1764, and educated in the Conservatorio della Pietà, in Venice. She was a most distinguished violinist and a great friend of Mozart.

At a very early age she visited the various countries and capitals of Europe, with great success. In her twentieth year she played at Vienna, where her beauty and talent gained for her many admirers.

Mozart, in writing to his father, mentions her as "the celebrated Mantuan Strinssachi, a very good violinist, and showing much taste and expression in her playing."

It seems that this lady begged Mozart to write something for their joint performance at her concert. He promised gladly, and accordingly he composed and arranged in his mind the beautiful sonata for piano and violin in B flat minor, but unfortunately there came forth no visible sign of it.

The day approached and not a note was written. Strinssachi, getting very anxious, earnestly entreated him for the notes, but it was not until the evening before the concert that the manuscript arrived, and was found to contain her notes only. Thankful to get even these, she studied them all night.

The concert-room was crowded, and the aristocracy and Court were all present. The sonata commenced; the composition was beautiful, and the execution of the two performers perfect. Had Mozart played it over even once with the lady it would not have been so wonderful; but he had never heard it with the violin till he played it in that crowded room. The applause was deafening, but the Emperor Joseph's enjoyment exceeded all other. From his box just over the head of the

performers he saw there was nothing on Mozart's desk but a sheet of blank paper. At the close of the concert he beckoned Mozart to his box, and said in a low voice, "So you have once again trusted to chance?"

"Yes, your majesty," was the answer, half in triumph and half in confusion.

Mozart in his later years gave up violin playing altogether, but he was always in sympathy with its nature.

But to return to Strinssachi; she entered the service of the Duke of Saxe Gotha, and remained in it till her death. Her violin passed into the hands of Spohr, who played on it at the Norwich Festival in 1839. If people had only known!

We next come to Paravicini, who was born at Turin in 1769. She was the daughter of a great singer and a pupil of Viotti, whose music she played with great perfection. Her fame as a violinist was widely spread. It was at Milan that Josephine, the wife of Buonaparte, heard her play, and was so struck



THE SISTERS MILENELLO.

striking, for it was by the help of one of these amateurs that Schmeling and his child were able to visit the fair at Frankfort.

Here the little girl's performance excited such wonder and admiration that a subscription was set on foot to give her a better education. By the time she was nine years old her health had greatly improved, and we find her giving concerts in Vienna with great success.

The English ambassador there was so pleased with her execution on the violin that he advised her father to take her to England, and not only furnished him with letters of introduction, but gave him the means to undertake the journey. She is said to have had the most wonderful facility of dashing at all musical intervals, however difficult and unusual, the result, probably, of her very early practice.

Here in London the child was petted and patronised by all the noble and influential ladies, but, alas! she was persuaded by them that violin playing was indecorous and unfeminine, and from that time forward she

* An old and imperfectly fashioned violin has been traced to Queen Elizabeth, over which she may have exercised her bow arm, though Dubourg doubts if she could have put in the sweet little delicate touches.

by it that she engaged her to instruct her son, Eugène Beauharnais, and subsequently took her to Paris. Here, for some unexplained reason, she fell into disfavour, and became so distressed in circumstances that for some time she lived upon the sale of her wearing apparel. By the kindness of Italians resident in Paris she was enabled to travel to Milan, where her abilities procured for her a competency. It is said that her method of bowing was so graceful as to triumph over all preconceived ideas of the awkwardness of the violin in a woman's hand.

Mlle. Deschamps (later Madame Gautherot) was only eleven years old when she played for the first time at a sacred concert in Paris, during the Easter of 1774. One of the leading Parisian journals said, "Her playing is vivid and brilliant, and the greatest difficulties alter neither her precision nor her strength." She continued her artistic career with great success, and married in 1782.

Two years later we find her again before the public, calling forth applause and admiration. One of the journals, speaking of the correctness, precision, and talent exhibited in her playing, says, "Her success is all the more praiseworthy since it is very rare to see women succeed with this instrument, which does not seem made for them; and since Madame Sirmen, no one perhaps has brought it so far as Madame Gautherot." During the years 1789-90 she made great impression on the Londoners by the ability she manifested.

Caterina Calcagno was born in Genoa, 1797. When quite a child she was a pupil of Paganini; and at the age of fifteen she astonished Italy by the fearless freedom of her playing; but, strange to say, one can find no trace of her after 1816.

The sisters Milanello—Teresa and Maria—were very famous violinists. They were born in Piedmont in 1827 and 1832, and commenced their career in Italy; but it was in Paris they made so great a name. Maria, the younger, died here in 1848. Naumann speaking of them, says, "At the present day, when the musical world possesses such a performer as Neruda, the sisters Milanello, excellent as was their performance, would hardly make such a sensation now as they did at that period, when the appearance of two female violinists constituted a new feature of the concert-room."

One or two others have gained reputation as violinists, but it is difficult to obtain details of their career, viz., Luigia Gerbini, Madame Krahmen, Fräulein Schultz, Eleonora Neumann, of Moscow, Madame Filipowicz, a Pole; Mlle. Singelli, Medora Collins, Bertha Brouil, and Marie Soldat.

No name is better known in the present day than that of Norman Neruda, the queen of the king of instruments. She has become so much one with her violin that it is scarcely possible to think of her apart from it. She, above all others, has shown what a woman can do with it, and what power lies hidden within it.

In obedience to her bow and in her loving arms, it almost "hales men's souls out of their bodies," and stirs depths of joy and sorrow in the human heart never touched before. Watch the faces of an audience while she stands forward, forgetful of everything but the messages with which she is charging her violin, and notice the yearning, the admiration, the trouble and the longing which flit across them as the trembling strings pour forth their strains!

Such power and such genius as Norman Neruda's can only appear now and then, and when they come let us thank God that it is in our day. Such a gift as she possesses is not a selfish one—it makes the whole world purer and better.

When an interpreter of all that is best

within us stands out from the rest of the world, a sovereign in her power of interpreting, we naturally long to know something about her early life, her surroundings, her difficulties, her character. But as a rule the knowledge to be gleaned is very meagre. We find out when and where she was born, whom she married, and what the journals of the day thought of her playing; but of her weary work, her sleepless nights, the overpowering mastery of her genius, the thousand-and-one self-denials endured for the love of her art, we learn nothing. Of one thing only in her life are we quite certain—viz., that perfection such as hers is attained only through much sorrow and pain.

From such details as have come to us we learn that her forefathers dwelt in Prague and were great musicians. She herself was born at Brünn, in Moravia, where her father filled the office of organist at the cathedral. The little Wilhelmina was a born genius, and could bring tones from her violin before she herself could speak or scarcely toddle.

At the age of six, when most little children are carefully guarded in the nursery, she appeared at a concert in Vienna in company with her eldest sister, a pianist, and attracted the attention of the audience by the power of her bow, and her execution notwithstanding her tiny hands, which were a delight to those who watched them.

In a charming little biography of her in *Men and Women of the Day*, the writer believes that whereas great poets, sculptors, and painters have frequently arisen spontaneously from the earth, the stars of the musical firmament are the results of hereditary development, and quotes Neruda as an example of this.

Little Wilhelmina was one of five children, all of whom were more or less musical. Her earliest tutor was the celebrated Leopold Jansen, who insisted upon long and incessant practice, and no doubt the poor little girl was often weary, and would gladly have thrown her violin on one side while she joined in the childish sports natural to children. But her tutor knew that her genius, great as it was, would, without toil, neither satisfy her as she grew older nor the world who was to be her judge. Something in her face, I think, shows that her childhood was a hardworking rather than a joyous one.

Jansen did not die until 1875, and must therefore often have heard his pupil in the zenith of her power and fascination as a violinist. One would like to know how he felt when listening to her.

This concert at Vienna was but the beginning of her public work. From that time forward she visited Leipzig, Berlin, Hamburg, and many other cities, giving concerts everywhere, and working and studying as she went. At the age of nine she came to London, and made her first appearance at a concert of the Philharmonic Society with much success; but she left almost immediately, and continued her travels chiefly in Prussia, till in her womanhood she came to Paris (1864), and the reception she met with there is said to have been extravagantly enthusiastic.

This year of her life was an important one for her, for she became the wife of Ludwig Norman, a Swedish musician, and was known to the world henceforth by the name of Madame Norman Neruda. She came to us again in 1869—twenty years having passed between her first and second visit, and it is said that notwithstanding her great success at the Philharmonic Concerts, M. Vieuxtemps had great difficulty in persuading her to remain until the winter.

Fortunately for us, she permitted herself to be persuaded, and took first violin at the Monday Popular Concerts, making her mark at once. From that time to this she has spent every

spring and winter in England, playing at the Philharmonic, Monday Populars, and Crystal Palace, and at Sir Charles Hallé's recitals, both in London and Manchester; and it may be said with truth that each year her playing has increased in power and refinement, and certainly her audiences have gradually become more appreciative, showing that her living among us has been an education to the people. Last year she became the wife of Sir Charles Hallé; may the marriage be a happy one; and if we may be permitted to express a wish for her, it is that she would take a thorough and enjoyable holiday, and know what it is once in her life to put aside work.

Christine Nilsson. We always associate this lady's name with the Italian and French operas, and think of her as one of the best interpreters of Bellini's vocal music, but never in connection with the violin. Yet it was as a violinist she first made her mark, as other great singers, such as Mara, had done before her.

She was the eighth child of poor parents, her father being a labouring farmer. He was evidently musical, for he was the chief chorister in the church at Wexjö. She was born in 1843, and when quite a small child, taught herself the violin and flute, and, with one of her brothers, who was also musical, visited the fairs and markets in Sweden, and sang and played to the peasants on fête days.

At the age of fourteen she went, as usual, to the fair of Ljungby, and while playing and singing in its midst was seen and heard by a rich Swedish magistrate, who was so struck with her playing and appearance that he undertook to educate and provide for her. He sent her at once to study in Stockholm, and later on to Paris, under Masset and Wertel. On her appearing in public she relinquished the violin in favour of singing.

Maria Felicita Tua, known as Teresina Tua, was born in May, 1867, at Turin. She was educated in the Paris Conservatoire, and at the age of thirteen obtained the first prize as a violinist.* For three years she played with great success in various parts of the Continent, and made her first appearance in England on May 5, 1883, at the Crystal Palace. She played also at the Philharmonic on the 9th and the 30th of the same month, and at the Floral Hall concert, June 9th.

The opinion of her playing was that it was marked by very high qualities, such as exquisite phrasing, refinement and executive skill, but that the extreme delicacy of her style was more suited to a chamber than to so large a place as the Crystal Palace, or even St. James's Hall. She accompanied Mr. Cousins in Beethoven's Kreuzer Sonata with great success.

Her parents were poor but very musical, and probably helped to develop the inborn talent of their child; at all events they brought her before the public at a very early age, long before she went to the Paris Conservatoire. It was expected after playing with so much success here in 1883 that she would have returned the following year, but we have not seen her again.†

We must not forget to mention in this list of female violinists the name of Emily Florence Chartres, of Manchester, who recently obtained the gold medal for violin-playing in the Royal Academy of Music competition. She has been created a Licentiate of the Royal Academy of Music, and an Associate of Trinity College, London. We ought to feel very proud of her, for it is the first time either of these honours has been obtained by a lady for violin-playing.

* There is a portrait and little notice of her in *THE GIRL'S OWN PAPER* of April 12, 1884.

† While this is in the press, it is announced that she is to visit London this season, and that since her last appearance here her powers as a violinist have become much stronger.