LEARNING ABOUT LACE
Can you tell the difference? The lace on the left is hand-made; its machine-made counterpart is on the right. Many of the finer details in ground and design are faithfully reproduced, but on closer inspection it will be seen that the detailing in the hand-made version is not so regular and precise.

LEARNING ABOUT LACE

How it is made

and how to use and handle it

Everyone with a feeling for beauty of texture and design loves lace. It is admired for the infinite variety of patterns and colours in which it is made, for its value as a trimming and as a dress fabric in its own right. For many of us, too, its age-long history, going back to the days before written records, signifies spell-binding romance, which has been intensified rather than lost now that lace-making machines have taken over where the hand worker left off, thus putting the textile industry's loveliest product within reach of everyone, even of the most modest means. Yet few people who buy and handle lace have any real knowledge of the many kinds available, the yarns of which they are composed, or the best methods of choosing, making up and caring for them. This applies to the woman who wears lace and the woman behind the counter who sells it to her. This book has been prepared for both. It attempts, in simple language and by means of clear and plentiful illustrations, to show how lace is made, how the many different types can be recognised, and how they can best be used for their appropriate purposes. The first part deals with the history and technique of lace-making; the second section, beginning on page 18, deals with the problems of those who buy and sell this most glamorous and feminine of fabrics. Teachers and students of needlework and dressmaking will find both parts invaluable.
The ROMANTIC story of Lace

The art of lace-making is older than written records. Our Bronze Age ancestors used decorative knotted braids and meshlike fabrics to trim their garments, as recent discoveries in ancient mounds have proved. Actual fragments, made of crinoline or horsehair, survive in plenty and it is likely that finer examples, made from more perishable fibres such as linen, were produced but have not withstood the ravages of time.

In Ancient Egypt, and a little later in Ancient Rome, another form of lace, made by pulling threads in a woven fabric and then knotting and interweaving them, was known and used. The first true lace, based on embroidery stitches and worked entirely with needle and thread, made its appearance in the fifteenth century, when splendid specimens were produced in Italy. Thence, probably by way of Spain, the art of needlepoint lace-making spread to the Low Countries. In return, so it is said, the people of Flanders taught the Spaniards how to make lace on a pillow, using bobbins and a parchment pattern.

These two types of hand-made lace (Point and Pillow) were made in great quantities in nearly every civilised country in the world for the next three hundred years, until, in fact, lace-making machines were invented in the early years of the nineteenth century. Scoffers poured withering scepticism on the ability of the first clumsy machines to emulate the nimble-fingered craft of the hand lace-maker. Their doubts were answered in full by such inventive geniuses as Heathcoat and Leavers, men of the great school of Nottingham artisans whose masterly inventions brought the luxury of lace within reach of the many.
In spite of fundamental changes in the technique of its manufacture, the beauty and distinction of lace and the fastidious standards of artistry and skill which go into its construction have been maintained at the highest level.

LACE: the pride of craftsmen throughout history

Early point laces bear Italian names, such as Punto a Reticella, Punto Tagliata, and Punto in Aria (literally "stitches in the air"). Rose Point and Gros Point de Venise are some of the most beautiful. Fineness was their outstanding characteristic, and buttonhole stitching gave them the appearance of sculpture in threads. Venice lends its name to many laces created by the craftsmen of that city, where, as elsewhere, it not only enriched the garments of men as well as women, but was a sign of rank and civic status.

In these early Venetian laces the main parts of the design were connected together by bars or bridges and decorated by picots. Some carried roses added to the picots, which gave Rose Point its name. Point de Venise à réseau, developed a little later, was a flatter lace—réseau meaning ground or net, as opposed to bridges or bars, called guipure.

Spanish lace was somewhat similar to Point de Venise but freer in style. It was as celebrated in its day as the lace produced in Italy and later in Flanders, where, as everyone knows who has travelled in Belgium, for instance, the art is still practised today.

Religious and political persecution forced many expert lace makers to flee from Flanders in the sixteenth and seventeenth centuries and seek asylum in other European countries to which they brought their art and skill. Some fled to Britain, but wherever they settled a lace-making centre grew up. Each district adapted the traditional designs in its own way, and thus widely differing forms, each known by the name of its district of origin, came to be recognized. They still lend their name to the modern machine-made types most closely resembling them, so that it is useful and important to learn something about their main characteristics.

Brussels lace was at one time known as Point d'Angleterre, an error explained by history. In 1662 the English Parliament, alarmed at the enormous sums of money spent on foreign point lace, passed an act prohibiting the import of all lace made abroad. English merchants, at a loss to supply the constant demand, bought up the choicest types in the Brussels market and smuggled them to England, where they were sold under the name Point d'Angleterre, or English Point.

Point d'Alençon, the most beautiful and characteristic of laces made by hand in France, had a somewhat similar history. At the end of the seventeenth century French Royal edicts forbade the wearing of lace not made in France. Experts were therefore brought from Italy to teach the art of needle-point lace-making and lace schools were started in many districts. Finer threads were used, and instead of the main design being joined by bars, a réseau, or net-like ground, was employed.

The bobbin or pillow lace family was originally called bone lace, because the lace workers wound the thread on small bones. Tradition has it that fish bones were used to keep the threads in place on the pillow, owing to the high cost of pins. The yarn used was fed from simple bobbins, made of bone or wood, later carved with a grooved neck to wind the thread on and a weighted head to keep it in place. Often the stem or shaft was decorated with a girl's name or a message, such as "Mary I love you" proving that they were often made by young men as presents for their sweethearts. At the end opposite from the thread groove the bobbins were sometimes weighted by hand-pressed glass beads threaded on a wire ring. Many specimens are cherished today as valuable heirlooms and some are still in use.

In the seventeenth century bobbin lace reached its highest perfection. Beautiful specimens are preserved in museums and private collections, Brussels, Valenciennes (having the true or vrai réseau), Mechlin and Binche, being examples.

Several kinds of bobbin lace were made in England in the sixteenth century, based no doubt on designs brought by refugees from Flanders. The lace-workers in Bedfordshire and Buckinghamshire were much helped by Queen Catherine of Aragon during her enforced residence at Ampthill, where she spent much of her time in lace-making, in the company of her ladies in waiting. The stitches used were taught to women and girls in the surrounding villages, and to this day a net called Kat-stitch is made there. St. Cattern's day was kept as a lace-maker's festival until recent years, in memory of Queen Catherine.

Though bobbin lace was made in Devon, the Honiton lace for which that county is most famous was introduced by
a valet called James Lodge, who, when travelling abroad with his master, saw Flemish women making bone lace. On his return he is said to have taught the women of Honiton the new methods and stitches.

The original sprigs were sewn on to hand-made net and the makers were paid a piece rate. It is reported that shillings touching each other were placed on the net, and the number of shillings required to cover the surface represented the number earned. In the nineteenth century, when machine-made net was invented, the making of hand-made net died out and Honiton applique became much cheaper.

Honiton lace is worked by joining together motifs made separately on a pillow, so as to form a continuous design, and either joined by brides or bars or connected by a ground of réseau. Well made raised Honiton, especially Honiton Point, will bear comparison with any made in Belgium, and it is pleasant to record that in Devon, as elsewhere in Great Britain, efforts being made to keep alive the traditional craft of lace-making by hand are meeting with considerable success.

So great was the demand for lace from Tudor times onwards that, by the middle of the eighteenth century, something approaching mass-production methods had been evolved. But so delicate was the work and so urgent the demand that it was often carried on in conditions that today would be considered appalling. The threads were very fine and had to be spun in damp cellars with one ray of light falling on the strand of thread coming from the spinning wheel. The custom also grew up for perhaps a dozen lace makers to work long hours in equally damp and gloomy conditions. Old pictures show them sitting round a table, in the centre of which was placed a lighted candle. Before each girl a round glass bottle stood in such a position that it concentrated a beam of light on the work in her hands. Small wonder that eyesight often failed before the age of thirty!

These conditions were, even in those days, recognised by many humanitarian reformers as intolerable, and even with such concentration of effort hand-made lace in sufficient quantities to satisfy home and export demand took a long time to produce.

The first effort to manufacture lace by machine methods was made on the stocking frame, in the Midlands—the centre, even then, of the British hosiery industry. It was foredoomed to failure because of inevitable irregularities in the pattern and a tendency to unravel when a loop became broken.

Recognising that a different approach was required, a young man named John Heathcoat, son of a farmer, who had apprenticed him as a frame setter, came to Nottingham with the firm intention of solving the problem by a new method. Familiar with the craft of the pillow-lace makers in the Leicestershire village where he had spent his boyhood, he set himself to find a means of reproducing the succession of twists and loops made by their deft fingers. The machine which he and a friend (appropriately named Lacy) patented in 1809 at least solved the problem of making a strong net by a series of twists instead of "stocking" loops.

By embroidering with a needle on such foundation nets half of the manual labour of making lace was thereby saved.

In two years Heathcoat's machines had become widely known and their products were in great demand, but in 1811 the Luddites, an association of displaced craftsmen who tried by all sorts of methods, including violence, to stem the rising tide of industrial mechanisation, broke into his factory and destroyed most of his equipment.

So disgusted was Heathcoat at this setback that he moved to Tiverton in Devon and started making nets in a disused woollen mill. His business flourished and even today Devon remains an important centre for the net-making part of the industry. The firm of Heathcoat and others today make all kinds of tulle (the correct name for silk net), nets of cotton, rayon, nylon and other man-made fibres, and elasticated plain and fancy nets for corsetry and swimsuits.

In 1823, when Heathcoat's patent expired, many other factories were set up.
Continued from previous page

in Nottingham, to take over where he left off, and soon Nottingham was supplying world markets with plain nets.

Meanwhile the next forward step had been taken when another young artisan-inventor from the Midlands, John Leavers, a framesmith and setter, gravitated by a process of inevitability to Nottingham City. Stimulated by Heathcoat's initial success, he made up his mind to discover a method by which the pattern as well as the groundwork of a fancy lace could be combined in one process. In 1813 he solved the problem and thereby established in Nottingham an industry which has flourished and grown there to its present proportions.

The kind of lace made by the Leavers Machine, improved and perfected through the decades, is still known by his name, and the city which he made his headquarters still lends its honourable title to the product known throughout the world as Nottingham lace.

On the Leavers Machine almost any type of pillow lace can be reproduced with such perfection of detail that only an expert of long experience can detect the difference.

Chantilly, Alençon, Valenciennes and a host of other styles of this most delicate and intricately detailed of fabrics are produced, paradoxically, on the textile industry's heaviest and most complex machine.

Unlike the comparatively simple loom on which ordinary woven fabrics are made, the action of the lace machine is three dimensional. An immense number of threads, sometimes of several yarns, are controlled by Jacquard cords in three groups—warp, beam and bobbin, with additional beam threads when the design is to be outlined.

Skill in many forms is needed by those who operate and maintain these fantastic precision instruments.

The process of making lace requires the utmost alertness, and when, as must sometimes happen, a thread breaks, nimble fingers are ready to reunite the loose ends. Such skills are only a few of the many which go into the perfecting of these lovely laces that emerge in all widths, weights and designs, from these mechanical monsters. Fortunately, up to the present the skill and artistry required have always been forthcoming and the industry is ensuring its own future by training young recruits at modern and well-equipped colleges in the City of Nottingham and elsewhere. It is a matter of local and national pride that fashion's loveliest and most versatile fabric is still sought by connoisseurs in every other city in the civilized world.

Many factories, as has been shown, specialise in the production of nets. These are used in great quantities nowadays for dresses and veilings and can be justly regarded as a fabric in their own right, but they are also the foundation of a second group of laces called needlework embroideries. The technique is very different from that used on the Leavers Machine. A set of automatically controlled needles, often hundreds in number, affixed to a bar set across the width of the net to be embroidered, reproduce simultaneously all the greatest precision every part of a key design or repeat. The action of each needle is, in effect, that of an ordinary sewing machine, moving as it does, backwards and forwards stitch by stitch through the fabric. The design tends to be linear and flowing rather than solid, and lace of this kind can be identified by the fact that the background may be distinguished from the design superimposed upon it.

An extension of this idea gives us other types of embroideries. Instead of net, either another fabric—generally a voile or satin—can be used, to produce a broderie anglaise effect; or an acetate rayon fabric base, colloquially and appropriately known as 'vanishing cloth', is employed as the foundation. When the embroidery is completed the basic fabric in this latter type is chemically dissolved away ('burnt-out' is the term most often used), leaving the guipure lace intact and complete in itself. Such lace can be recognised at once as having a more solid (but no less pleasing) appearance than most others, and by the absence of background, either mesh, net or fabric.

The other forms of production which the lace industry undertakes are millinery veilings and hair nets—both contributing in no small measure to world supplies.

Further proof of British skill and enterprise is afforded by the success achieved in the new field of nylon lace.

Modern buyers and store executives need no reminder that customers nowadays demand that nylon garments shall be trimmed with nylon lace. It is only logical that all parts of any wearing apparel such as lingerie made from this modern fibre should be of the same yarn rather than the whole object is lost. All sections of a garment made from nylon must wear, wash, dry, clean and keep their shape equally well throughout its long life.

In addition, all-over laces and flouncings, made throughout of nylon, can nowadays be dyed in the piece in every fashion colour and be had in the clearest white. These go to the making of dresses with the most delicate appearance but with all the superb wearing qualities of this tough, stable yarn. Much of the lace being made on Leavers, net and embroidery machines today is made from it, either entirely or in combination with the traditional fibres to give the product added strength. Its manufacture presents no real difficulties now but this was by no means the case up to very recently. Until, in fact, British inventive genius tackled and solved another difficult technical problem connected with the lace industry, and conferred one more boon on the world of fashion!

Throughout the history of lace-making the universal lubricant found by experience to be the most effective was graphite (popularly known as blacklead). Particles of the fine black powder inevitably found their way on to the persons of the machine operators and on to the lace itself. In the case of rayon, cotton and silk this was no great matter; subsequent scouring processes removed the discolouration with ease. Not so with nylon. Graphite dust in the atmosphere so deeply penetrated into the filament and was so difficult to remove that for a time it was thought that a perfect white or a clear delicate pastel shade without a trace of grey would be almost impossible to produce.

However, the lace industry is fortunate in having in its employ a team of young scientists who accepted the challenge and set out to find an effective substitute for graphite. Their answer to the problem came in the form of a new "white lubricant", now known as Lacra, that is already in use in many factories. In conjunction with new methods of screening the working parts of machines still using the older lubricant and by air-conditioning the factories so that the particles are carried away from the work in hand, nylon lace can now be produced as successfully as any other. One result is that more and more young people are attracted to this fascinating industry.
Leavers Lace Making

It is a strange paradox that the textile industry’s largest, heaviest and most complicated machine produces its sheerest and most intricately worked fabric. The Leavers machine has been said to have “the strength and intelligence of the elephant and the delicacy, patience and artistry of the spider.” But it represents much more than this. It is a monumental reminder of the incredible ingenuity of man. Named after its inventor, John Leavers, it is made up of some 40,000 moving parts and controls an immense number of threads (50,000 or more in some patterns). When in motion it may contain enough yarn to stretch half way round the world.

A Leavers machine can produce an infinite number of different designs, and designs within designs. It can reproduce priceless examples of pillow lace and—equally effectively—turn out an infinitude of contemporary patterns. The Battle of Britain was immortalised in lace; beautiful laces based on the mysterious structure of the atom commemorated the 1951 Festival of Britain; and the Coronation of Queen Elizabeth in 1953 inspired some of the most fascinating motifs in the history of this fabric.

The threads in Leavers lace manufacture are in three groups—warp, beam and bobbin—with additional beam threads for outlining. The bobbins are made of two discs of brass riveted together and the thread is wound between them. The warp threads are suspended vertically and are set just wide enough apart to allow a bobbin to slip between them. The wafer-thin bobbins swing backwards and forwards, pendulum-fashion and always in the same path. The vertical threads move either to the right or to the left for varying distances as required by the pattern. This three-directional movement (right, left and across) is predetermined by the Jacquard and twists the threads together in a manner characteristic of all Leavers lace.

This is but one of the many styles of dress, corset, lingerie and other laces which can be produced on the Leavers machine. An all-over style, it has thicker threads outlining the dainty floral pattern.

To translate the artist-designer’s ideas into terms of mechanical movement is the job of the draughtsman. On a complex chart every motion of the threads is separately plotted. Each thread is represented by a number which shows how it moves at every moment during the entire process. The design becomes a network of numbers.
The Leavers Process

The yarns forming the warp come off beams at the bottom of the Leavers machine. First stage in preparing these beams is the winding of yarns from dozens of packages on to a mill—the large cylindrical unit above. From this the warp yarns are wound directly on to the beam at right.

Winding the thread on to bobbins calls for a keen eye and nimble fingers. From packages at the back the yarn is wound directly on to the bobbins. When one batch is filled the ends are carefully positioned into another batch of empty bobbins, the threads between groups are cut, and winding begins.

The man who looks after this mechanical monster sometimes has to exercise his skill in deftly dealing with broken threads in the structure of the lace. Some machines are so constructed that they automatically stop when a thread breaks. This is no job for the man who is "all thumbs".

Here is a close-up of the arrangement of threads in a Leavers machine. The bobbins are just beneath the centre bar. It requires over 15,000 threads to produce an all-over lace like this. There are 7,000 miles of yarn in the warp. A nylon lace is being produced on this machine.
The Jacquard is the "brain" of the machine. The numbers on the draughtsman's chart are translated into a series of holes punched in Jacquard cards, like the holes in a player-piano roll. The cards are laced together to form an endless band and placed under a set of steel rods. As each card rises all rods not directly under holes are pushed up. This motion determines the pattern.

Another close-up of an all-over nylon lace being made. Warp and outlining threads are unreeling from beams at the base. Bobbin threads are meeting the warps and forming the twist behind the bar running across the centre foreground. The lace is wound automatically on to a roller seen at the top of the machine. Nylon lace can now be made on any ordinary lace machine.

Other textile machines, making woven fabrics, have only two sets of threads, however complicated the design. The warp threads run lengthways and the weft threads cross them from side to side. But in a Leavers lace-making machine there are some 4,000 bobbins, each wafer-thin, which slide to and fro between the shifting warp threads, so forming the intricate maze of the pattern. Lace is not woven in the ordinary sense, on a Leavers machine. Nor is it knitted. It is twisted. Operators, who are always men, are therefore called twist-hands.

Everything connected with the industry has to be the best of its kind. Ordinary yarns, for instance, are not suitable. Yarns for lace have to be of superior quality. Some have to be given more twist than yarns for weaving. Even nylon yarns, with their much prized dimensional stability (meaning that they don't stretch or shrink to any important extent) have to be specially processed for lace-making.

Vital part of the mechanism in the Leavers machine is the bobbin and its carriage. Paper-thin, this combination has to pass between the warp threads in order to complete the necessary twist. The bobbin can be seen as the circular inset to the carriage. It consists of two brass discs riveted together, the thread being wound between them. More than 100 yards of thread can be wound on this small bobbin. Each unit is very carefully examined after threading to make sure there is no distortion in the discs which might catch and wreck the warp threads.
Finishing firms are the lace industry’s vital contact with the fashion world. They collate valuable pointers as to style and pattern trends, colour preferences and types of lace. On such information designs and styles calculated to stimulate fashion tastes will later be based.

Lace when it comes off the Leavers machine is still far from its finished state. It must be subjected to a thorough scouring to remove all dirt and lubricating matter before it is ready for dyeing and finishing.

After starching, the lace is pulled out to length and width and dried with hot air. As the group at centre pays out the lace the operatives at the sides fix the edges over pins. From here it will go to the finishers for cutting into required widths.

After scouring, the lace is dyed by the continuous method. The ends of the piece are sewn together and in this endless form it is drawn by rollers in and out of the dye bath. The immersion time depends upon the type of lace and the colour.

After it has been dressed and dyed lace is ready to take its final form at the finishers. All-overs are cut and trimmed to required widths, draw threads removed from a piece made up of narrow laces and each trimming prepared ready for winding on to cards. Incrustations which are produced “nose to nose” in the piece are separated by hand. Mending and inspection are other important functions of the finisher.
NETS AND EMBROIDERIES

The yarns for the warp in net fabric are contained on long beams at the base of the machine. First stage in the preparation of these beams is the winding of yarn from dozens of packages on to a mill—the large cylindrical unit above.

Like Leavers laces, nets are made by the action of bobbins twisting with warp threads. The techniques are different, however. Two sets of bobbins—back and front—are used on the net machine. Front and back tiers of bobbins cross to right and left respectively, producing a diagonal line of twists at front and back of the warp threads to form the net mesh. The crossing and twisting produces a non-slip structure. Silk, rayon, cotton and nylon are used in making nets. The size of the holes, or mesh, and the degree of fineness of the yarn vary for corsetry, bridal veils, trimmings, evening dress wear, industrial uses and anti-mosquito protection.

The Schiffli embroidery machine transforms plain nets into richly ornamented reproductions of hand-embroidered and Point lace. The technique is based on a simple sewing machine action with a row of many needles moving backwards and forwards simultaneously through the fabric. The formation of the design is controlled either by a pantograph or Jacquard attachment. Schiffli embroidery is applied to other fabrics such as voiles or cambric, to produce “broderie anglaise”. Embroidery on fabrics which are afterwards dissolved or “burnt out”, as the process is called, to leave the embroidery intact, produces the famous guipure laces.

Here the threads from a batch of filled bobbins are being guided into an empty batch. The amount of yarn wound on to each bobbin depends on quality and thickness of yarn.

Here is a view of a net machine. Varying from 204 inches to 274 inches in length and weighing many tons, these machines can produce gossamer-sheer fabrics for evening or tough, durable nets for corsetry.

More modern than the pantograph is the automatic Jacquard attachment. Its action is to move the fabric in various directions as the design takes shape, so that the needles form a continuous pattern.
Embroidered Nets

The design being traced by the pantograph operator in the picture at left is here seen being embroidered on to the net. It is the movement of the net through various planes in sympathy with the pantograph which completes the design. The operator makes one movement of her master pointer for each stitch. The operator in front is traditionally known as the Front-Girl. She mends the yarn if it breaks. The Back-Girl, just visible through the lace, attends to the shuttles.

The pantograph plays a vital role in creating the design in Schiffli embroidery. A much enlarged plan of the design on draught paper is followed in outline by the operative with a needle tracer. Any movement of the needle is duplicated in the machine by a change in position of the fabric base on which the design is being reproduced.

Here is a close-up of the embroidered net which is being produced on the embroidery machine above. The actual design, enlarged six times on draught paper, is being followed by the pantograph operator at left. This piece of fancy net will form part of the trimming of a linen handkerchief.

From the embroidery machines the goods pass to the examination tables where skilled machinists make good any flaws in the design. Detailing missed by the machine can be put in and matched perfectly to the pattern. Multi-colour embroideries are receiving attention in this picture.

The result of the many and varied activities described on the preceding pages is at last achieved: the creation of a masterpiece such as the gown shown on the facing page, or decorative laces to trim the fashion world’s loveliest garments.
An important product of the lace machine is the handkerchief edging, made either on the Leavers or the embroidery machine. It is said that the first Queen Elizabeth used circular lace-trimmed handkerchiefs, made, in those Tudor days, of pillow lace. For the coronation of her namesake, an equally famous Elizabeth, Queen of England, the lace industry designed souvenir handkerchiefs with appropriate themes.

**Lace for Handkerchiefs**

*a custom which spans the centuries*

Right: two linen handkerchiefs in the contemporary manner. That on the left is edged with an embroidery lace in a design illustrating London landmarks—scenes on the Coronation route to Westminster Abbey. That on the right has a Leavers edging incorporating the rose of England and the royal crown.
**Chantilly.** Some of Nottingham’s finest dress laces are of the Chantilly type. In the finer qualities silk yarns provide a calweb-sheer ground. As in this attractive floral design the actual motifs are usually outlined in heavier threads.

**Flouncing.** Made from cotton, rayon and other textile fibres, flouncings are produced in light, medium and heavy styles and various matt and lustre finishes. A flouncing has one straight-finished and one scalloped edge.

**Guipure.** A distinctive style of lace that in recent times has found many additional fashion outlets (see page 11). Florals and scrollwork motifs are favourite design themes. Bars as opposed to net fill up the spaces between the motifs.

**All-overs.** With a fancy pattern that repeats regularly the all-overs style of dress lace is another that is produced in a variety of textile yarns. Here is the latest development in nylon all-overs with thick threads outlining a floral design.
Lace Edgings

and Insertions
to add the touch of daintiness

Edgings, trimmings and insertions for the adornment of outer-wear and lingerie are produced on Leavers and other machines for lace-making.

Barmen machines create lace resembling the Maltese type, and Warp machines produce a form of looped or knitted trimming. Nets embroidered by the Schifflé process, as well as guipures, add to the variety.

Many of these laces resemble the traditional hand-created types and are recognisable by the style of ground or design—Filet by the small square mesh; Valenciennes by either diamond or round hole ground; Teneriffe by a cartwheel motif.

Alençon, produced in many widths, can be recognised by the heavier threads outlining the pattern and the presence of the light cloth-work texture in the design. Graceful, flowing lines of the floral patterns give Alençon its characteristic beauty.
Cotton is the main textile fibre employed in making edging and insertion laces but a newer development, nylon, is gaining ground rapidly. Nylon lace is a logical accompaniment to all-nylon underwear fabrics since speedy drying and strength are characteristics common to both. Nylon makes possible lace of extreme delicacy in texture and with a tensile strength hitherto unknown for this class of fabric. Other beautiful narrow laces are made of rayon yarn or a combination of rayon with cotton. In this case the rayon usually outlines the design. As the development of Orlon, Terylene and other synthetic fibres proceeds so we may expect to see more narrow laces in these yarns, each with its characteristic advantages.

**Corset Laces**

*Combine sheerness with strength and durability*

Laces for corsets and bras combine natural daintiness and sheer elegance with high fitness for purpose. Fancy Leavers lace for the corsetry trade is so constructed as to provide a particularly firm fabric that will not stretch out of shape. Because of its exceptional tensile strength nylon is widening the field considerably for all corset laces.

Yet another strong fabric is created when two or three thicknesses of net are united by embroidery. Durability and resilience are special features of Jacquard elastic laces. They are made in a wide range of fancy effects.
Lace, as a decorative finish for blouses, gives wide scope for the manufacturer and the home dressmaker alike. Here a stylised leaf motif guipure is used, both as an integral part of the bodice and as a sleeve trimming, to add sumptuous elegance.

CARE AND UPKEEP of Lace

Bobbin Alençon fining for trimming.

Day dresses tend to be as simple as is consistent with good tailoring and design, nowadays, and we turn as a matter of course to glamorous feminine fabrics like lace and net for our evening gowns, our blouses and our prettiest underwear. Many modern laces are so beautiful that they are worth treasuring as our ancestors cherished their hand-made heirloom laces handed down from mother to daughter, through the generations. Care in cleaning and laundering, in pressing and ironing will help to preserve your laces for your descendants.

Some laces, for instance delicate Chantilly flouncings or Alençons, are intended mainly for evening or special occasion wear and are best dry cleaned. Others, such as cotton or nylon edgings and all-overs, can easily be washed at home. Floated in a mild lather for a few minutes they will quickly become fresh and clean. They should then be squeezed (not wrung) in a warm towel and laid flat to dry on a clean surface such as a linen cloth. Flat pressing is then a simple matter.

The word “pressing”, rather than ironing, is used advisedly. Many types of lace are made on machines that produce a number of pieces simultaneously and these are separated later, either by drawing threads or clipping them apart. The edge will keep its shape and wear admirably with normal care, but, naturally, if it is pulled roughly or forced out of shape with the point of the iron it might tear or fray.

Most kinds of lace have a right and a wrong side. Sometimes, as we have seen, it consists of a net foundation on which the design has been embroidered mechanically; in some Leavers types the design is outlined in a thicker thread or cord. Guipure is a thick lace with a design standing up in quite high relief. In all these cases, then, it is important that the three-dimensional effect should be preserved. The ironing board must be well padded, preferably with several pieces of soft blanket. Over this a clean cotton cloth should be firmly fastened and finally the lace be laid face downwards upon it. In this way the raised parts of the pattern are pressed into, and not flattened by the pad.

Lace, especially the kinds used for dresses, is often constructed of several different textile fibres in combination. For example, the background may be of pure silk, the main part of the design of cotton, and the outlining thread of rayon. When using an iron on such a “mixed” lace the heat regulator should be set to suit the kind of yarn in the lace needing the lowest temperature. In most composite laces this is rayon.

Nylon is often used by itself as a lace-making yarn but it may be “mixed” with other fibres in composite laces to give them strength and durability. The effect, in any case, is most attractive, as the fine nylon filament used for the background is much stronger than it looks and throws up the design in clear relief. Lace of this sort will be found to iron or press very easily as the nylon iscrease- and crush-resistant and keeps the lace from being pulled out of shape.
NET
and its uses

It may be soft and diaphanous for a bridal veil; strong and functional for a corset; delicately embroidered for dress wear; crisp and wiry for a face veil. Plain nets are produced in many varying styles of mesh and finish. Silk, rayon, cotton and nylon are the main textile fibres employed. For diaphanous ball gowns or durable corset panels nylon conjures up a new meaning in strength for this sheer fabric. Plain rayon or cotton nets in a wide range of colours find important outlets for evening wear, children’s and bridesmaids’ dresses. Cornelly and Schiffli embroidery, flock-spray and diamanté work are among many techniques used for adding fancy decoration to nets. Other fancy nets include those with tiny spaced spots, solid tape stripes or two-tone checks. Adding chenille spots to veilings is a traditional hand process carried on by cottagers in the villages surrounding Nottingham.

Nottingham net used here in its most romantic form for the sweeping, cloudy skirt of a bridal dress. Delicate embroidered lace forms the apron-fronted bodice.

Typical of many decorative styles is this embroidered net. The graceful floral pattern is effectively contrasted by the sheer ground.

White and coloured yarns are ingeniously used to create a check patterning in this fancy net. The tiny spaced motifs add a decorative touch.
The yarns used for lace-making include: Cotton, Silk, Wool, Rayon, Nylon, Orlon, Terylene, etc. Most of these materials can be used alone, but they are often used in combination, e.g. pure silk with rayon; or nylon and rayon; or pure silk, rayon and cotton.

**A GLOSSARY OF LACE**

**FOR EASY REFERENCE**

**Aленçon**

*Аленçon*. Distinguished by a “cordonnet” or heavy thread outlining the design, usually floral, on a fine mesh ground.

**All-overs**. Lace in the piece—patterns with regular repeats. Widths. 34 in., 36 in., 40 in., 54 in., etc. Has no scallops on either side.

**Appliqué**. A style where a pattern is superimposed on net or other material.

**Armenian Edgings**. Narrow trimmings of formal design.

**Baby Laces**. Narrowest light Val. laces.

**Barmen**

*Бармен*. Machine-made reproductions of hand-made French and Belgian Torchon and Cluny.

**Beadings**. Very narrow tape-like insertions—hemstitches, faggot stitches, ribbon-holes, etc.

**Bineche**. Lace resembling Val. with distinctive star-shaped net.

**Blonde**. Silk lace in floral designs, having well-defined holes in floral heads and nearly straight edges.

**Bobbin Fining**. One of principal Leavers machine set-outs. It is frequently used to give a light cloth effect to the pattern.

**Bordun Cord**. A thick cord usually of silk or rayon wound round a cotton core.

**Broderie Anglaise**. A light but solid fabric with embroidered pattern including holes. A Schiffli machine product.

**Bruges**. A barred lace similar to Honiton.

**Brussels**. Fine lace with a variety of net grounds. Mainly floral.

**Burn-outs**. See Guipures.

**Carrickmacross**. Irish crochet style with loops and purls.

**Chantilly**. A fine spidery style in vase, basket and floral designs with outlining in thicker threads, used mostly for millinery and dresses. Silk and rayon are a common combination of yarns for this style. There is a decided scallop and picot edge.

**Clips**. Surface threads between features of the design removed in finishing.

**Cluny**. A coarse, strong lace made by hand in France and Belgium.
Embroidered Net Lace. Style as implied by the name.

Filet. Square meshes with the squares partly filled in to form the design.

Flouncing. Type of wide scalloped lace. Usually made in 5 or 6 yard strips across the machine.

Galon or Galloon. A lace having a scalloped edge on both sides.

Grounds or meshes—round, diamond (Val.), square (Filet), etc.

Guipure. Heavy lace used as edgings, insertions, or in all-over form for blouses, dresses, etc. It has leg work as opposed to net. Design is embroidered on a fabric which is later dissolved away, leaving the motifs intact.

Honiton. Style based on tape-like designs. Small clothly motifs loosely joined.

Incrustation or Medallion. Distinct designs pre-made or cut from the piece. Light types are set in by hand on lingerie and heavier types are used to add ornamentation on articles of household use. Lace with intricate cut-out.

# The three main types of Lace

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| Uses                          | DRESS, BLOUSE AND LINGERIE TRIMMINGS, EVENING AND COCKTAIL DRESSES, BLOUSES. | DRESS, BLOUSE AND LINGERIE TRIMMINGS, WEDDING AND CONFIRMATION VEILS. | CORSETRY DRESSES, BLOUSES, VEILS AND VEILINGS, CORSETRY, GLOVES |

This sketch shows diagrammatically the structural difference between the movement of the threads in a Leavers lace machine and the weave of a normal loom. The bobbin threads, represented by the diagonal lines, can be seen twisting with the warp and beam thread (upright) to form the pattern.
Sales guide to Lace

Hints for Stores Staffs

The fine, delicate qualities of lace are unexcelled for dress fabrics. This ankle-length evening dress is in almond green over pink tulle. Such use of contrast colours brings out to the full the structure and beauty of the new laces now appearing on the market.

Lace has been so long absent from the British woman's wardrobe that many once-familiar types look like novelties to the girl who has grown up since 1939. Older customers welcome the return of pre-war products but need help in familiarising themselves with post-war developments and recent fashions.

With a little basic training sales staff thus have a first-class opportunity to do a real selling job the easy way. Handling merchandise with its own eye-catching beauty and display qualities, they have the backing of top-ranking designers who have enthusiastically acclaimed its return as a fashion medium. Through the department comes a constantly changing variety of patterns to maintain customers' interest, and those who sell lace have a story to tell that breaks down into a multitude of selling points touching upon every occasion and every customer's requirements.

Most women find greater difficulty in selecting an appropriate dress lace than a narrower type for trimming. For the customer with this problem, the kind of garment and the amount of wear it is likely to receive are decisive factors.

Selling staff must be able to advise, for instance, that cotton all-overs or nylon will stand up to harder usage and more frequent cleaning or laundering than will delicate Chantililies or Alençons with a pure silk or rayon ground.

On the other hand, the latter and other comparatively fragile-looking types are intended for evening and special occasion wear and are luxury fabrics in their own right, to be treated with the same respect and care as a woven fabric designed for a similar purpose would automatically receive.

A few seasons ago, Paris and London couturiers set a vogue for sheers, exemplified by organza and tulle; more recently they focused attention on fine shadow laces and slightly firmer nets, thus paving the way to the heavier qualities and stiffer nets currently in use for much dress wear. Photographs of models made up in these firmer laces appearing in consumer periodicals will have the usual effect on demand, and buyers who are alert to the trend will stock such types in quantity.

Customers like them, since they prove easier to cut, drape, and sew than the more airy qualities, and show up particularly well in the solid jewel colours—red, green and blue—as well as sherry, rose and violet, now available alongside the newer pastels which include rose-beige, silver-grey and green-grey.
These firmer laces are also more appropriate for making up into tailored suits for spring and summer. A matt-surfaced lace laid over a bright-surfaced woven fabric or vice-versa is a useful principle to observe in this field.

For dresses with a “regal” look, conspicuous parts of the design can be re-embroidered with metallic threads or pearl or crystal beads, as is sometimes done by leading fashion houses, but it should be pointed out that lace is a highly ornamental fabric in itself and that there is no real need to gild the lily.

A strong selling point applicable to all dress lace is the ease with which it lends itself to simple styling and straightforward cutting without waste. Indeed, certain kinds of dress laces are sold with a view to making dressmaking as easy as possible. Flounceings, for instance, have one straight edge and one scalloped. The former can be readily gathered or pleated with no unnecessary bulk, and neither edge needs to be turned or hemmed—an obvious saving of labour and material. In addition, the scalloping provides a decorative finish which no other fabric can offer.

Advice on the choice of colour is also valued by the customer who is rediscovering the pleasure of using lace.

Some, such as beige or the deeper reds, are traditionally regarded as the older woman’s prerogative, but such fixed ideas run counter to modern conceptions of suitability. It is not only the bride, nowadays, who wears white, nor is it necessary to be a dowager to dress in black lace. Both kinds are widely used by couturiers for all types of day and evening wear, and the immense range of colour and shade in which modern dress laces are produced provides endless opportunities for attractive displays.

Paper pattern publishers have been quick to seize upon all these virtues that appeal to the home dressmaker and are introducing in their style books more and more designs appropriate to lace. The lace industry is cooperating with them in advising on suitable types for particular styles, and is helping to make available prototype garments made up from current patterns for display in store windows and showrooms.

One recommendation applicable to all lace but especially valuable as a selling point in the dress lace section is its lightness. Yard for yard it has the advantage over almost any other material—a major consideration in these days of constant travel. Neither does it readily crease or crush, or take up any considerable space in wardrobe or travelling trunk.

Nylon laces of all kinds—for trimmings and as dress fabrics—are of topical interest since their comparatively recent release for general sale in Great Britain (subject, of course, to the proviso that export needs must have first consideration). The customer who hesitates to pay the slightly higher price at which they sell needs reminding that their expectation of life is longer than that of any other yarn in general use, and that combined, as they often are in modern lace, with rayon or cotton, they add strength and stability while maintaining the delicate appearance of the fabric. A Chantilly, for example, with a fine denier nylon yarn mesh will last and launder or dry clean and keep its shape better than many laces with a coarser ground in the traditional yarns.
Making-up advice for Lace customers

The ability to advise on the home sewing of lace is a first requisite in every sales assistant's training. Time taken to make a brief study of its practical application would be amply repaid, and would give the salesgirl extra interest in her job. The counter staff in the haberdashery department would also profit by a little simple briefing.

The choice of needles, for instance, is a seemingly minor point which yet calls for guidance. They should be as fine as possible. For general use it is safe to recommend a hand needle size 9 or a machine needle size 11, for fine mesh laces such as Vals, filets, and Teneriffes, to be used with mercerised cotton number 60. Other weights require proportionately larger sizes and thicker thread.

When machining, tension and length of stitch can be ascertained only by testing on a trial scrap of the actual lace so that a little more than the bare minimum should be sold.

If edgings have to be frilled the customer should be advised to buy an amount equal to twice the length of the edge to be trimmed. This is not, as the customer might suppose, a device to make bigger sales but a necessity to ensure the most satisfactory result. Alternatively lace can be had ready frilled or combined with insertion—a fact not always known to the younger buyer.

Insertions with straight finished edges are applied on the right side first, mitring any corners. After hemming, using a fine satin stitch for preference, the work is reversed and the fabric under the insertion cut away to within about one-eighth of an inch of the edge of the lace. The raw edge is then rolled back and whipped firmly on the line of stitching.

Edgings can be applied in various ways; for example, by whipstitching to a hand-rolled or hemmed edge, or joining them to the fabric by a close satin stitch. Alternatively they can be laid on the right side, to overlap by about a quarter of an inch, stitched firmly and securely and then finished by rolling and whipstitching the fabric.

Appliqué laces are put on by bastoning on the right side, sewing into place with tiny buttonhole stitches and then reversing so that the surplus fabric can be cut away and the raw edge whipstitched as before.

When piece lace is used for brassière tops to slips, nightdresses and the like, it may be backed with net or laid flat on the woven fabric, which for the sake of extra strength can then remain intact.

Lace trimmings—Essentially feminine

Trimming laces are mostly used for lingerie, though they are also becoming increasingly popular for blouses with a hand-crafted look. They come in many forms, some of which may be unfamiliar to the younger customer, as witness the eagerness with which she now buys ribbon-hole insertions and combined insertion-edgings—new to her but loved by her grandmother. Cutouts for lingerie are no novelty, but it may be news to sales assistants, as well as to many customers, that specially constructed Leavers' laces can be clipped into various shapes and widths are available by the yard, in the same way as guipures. Staff should be warned about them so that when they cut off the desired length the outline of the motif is followed as closely as possible to avoid waste in cutting across it. The need for a pair of sharp scissors behind every counter cannot be too strongly urged. Remember that discussion on the purpose for which the purchase is required often offers a useful lead-in to advice on quantities and recommended methods of sewing.

Even in these days many customers need to be reminded that a nylon garment should be trimmed with nylon lace so that all parts wash with the same ease, dry with equal speed and match each other in lasting qualities.

Coronation Themes
The needle-run trimming at top, has a crown motif embroidered in multi-colours. The cotton Val at bottom is intended for handkerchief edging

Joining Lace
Note the two rows of stitching where the nylon all-overs lace joins the nylon tricot, typical of the methods used in manufacturing high class nylon lingerie. The tricot fabric and the lace are overlocked edge to edge and then lockstitched, after opening out, on the right side

Ribbon-hole Trimming

Cut-out for applying with fine satin or button-hole stitch
Easy ways to identify Lace

Incrustation lace, with fine floral motif outlined in coarser threads

Lace identification is basically simple. By whatever names they are called the only laces likely to be met with in this country belong to three family groups.

(see Reference Chart, p. 22)

Leavers Laces

For the first group it is convenient to use the name Leavers, which refers to the machine on which they are made. This machine produces the whole lace whether it is a baby edging or a wide dress flouncing, in one continuous process, design and background emerging together inch by inch from the machine.

Whereas there are limitations in embroidered nets, in that the ground mesh remains constant in size and form and the patterning is laid over the net, the Leavers’ machine produces a very much more intricately styled product, owing to the fact that ground and design are made in one operation and the two form an integral pattern rather than one being superimposed on the top of the other. Almost the whole range of textile fibres is used in the creation of these laces—cotton, rayon, wool, silk, nylon and Terylene.

The versatility of the Leavers machine is immense. It can give the corded outline to an Alençon lace in the manner of the handmade original; provide a variety of mesh grounds—round hole, hexagonal, square or diamond; give a light cloth-work centre-piece to a design as in a Val, or something very much heavier as in the gimping (solid cloth work) of a heavy dress flouncing. The ground mesh may be one of the precise geometrical shapes already mentioned or deliberately irregular in order to imitate certain hand-made styles. Sometimes heavy bars instead of net form the link between the motifs.

The main Leavers types is it necessary to know can be reduced to but half a dozen and for each there are salient features that make recognition comparatively easy. Chantilly, for instance, is usually a dress lace and goes in for distinctive floral, leaf or vase patterns. The edge is usually scalloped and the ground fine and light. Valenciennes is a trimming lace, usually in the narrower widths (up to
one inch wide). It is not customary to find a thicker outlining thread to the main design. The ground mesh may be round or diamond hole.

**Embroidered Laces**

For the second, a net or other fabric is used for the background and the design is then embroidered on it. This may be done by a hand-controlled, power-driven sewing machine (as for many wedding or confirmation veils and for embroidered stoles) or by lines of needles fixed to a bar and repeating simultaneously the same pattern or part of a pattern across the width of the piece of lace that is on the machine.

These embroidery laces fall into two subdivisions.

One kind, often called Needlelace, has a foundation of plain net on which the design is embroidered and from which it can be clearly distinguished. The pattern is generally traced in a continuous line and is open and flowing. Such needlelace embroidery laces are used for all purposes, including dresses, blouses and trimmings. Corsetry laces are also generally of this type the design being worked on a double or even a triple thickness of net for extra strength.

The other subdivision of the embroidery lace family is the Guipures. Their design is embroidered by machine on a soluble base (generally a kind of satin) which is afterwards chemically dissolved away, leaving the lace firm, clear and intact. The soluble fabric is sometimes known as vanishing cloth, a point which may make it easier to remember the character of guipure lace. Although this type of lace is more solid-looking than most others, it is no less graceful and attractive. It can be recognised at once because it has no background of either mesh or net, the parts of the design being joined to one another by bars or "legs", formed when the lace is being made. It is often seen as an edging to handkerchiefs or collars, or cut into separate motifs, and applied as a contrast trimming, but it may also be had in the piece and used for blouses, little bolero jackets or even whole dresses.

**Nets**

Nets themselves belong to the third big family. Each season their range of colours becomes even wider and more interesting, and they are now obtainable also patterned with small spots, crossdyed in two colours, or with a stripe. Up-to-date finishing methods give them any desired degree of softness or stiffness.
The glamour of veiling

The millinery buyer is all too familiar with the gap between the hard line of many mass-produced hats and the soft becoming curves of merchandise in the millinery department. In any case few women naturally have a pretty hairline. Yet most customers—and many saleswomen—forget what a veil can do to effect an almost magical transformation. They associate veiling only with the tiny pieces of plain net used on low-priced millinery by way of a cheaper trimming. It is news to far too many on both sides of the counter that the lace industry in this country turns out a fine assortment of designs and qualities in an amazing variety of colours, to add distinction and an individual touch to even the plainest hat.

A little easy organisation will make available in the millinery department a selection of veilings which the customer can "try on" for herself, or demonstration displays in either the lace or millinery sections or both will show her alternative methods of trimming the same or similar hats.

The choice of modern designs is wide. Chenille spots are once more extremely popular, especially when grouped in patterns of, for instance, three to five. Newest choice is a chenille spotted border to a plain, fine mesh veiling. Loops, too, vary in size, so that the most attractive patterns result from a combination of several diameters.

Yarns used now include nylon in increasing quantities—a safe winner to back for its crush-resisting and enduring qualities, and, of course, for washability.

The pictures above show how a plain hat can be transformed by the addition of veiling into a smart and glamorous version suitable for cocktail parties. For very little outlay a woman can herself trim a severe style or a hat with a hard and unbecoming line to make it look as exciting and flattering as the most expensive model.

The pictures at left and below show two hats made by model milliners who use veiling to enhance the soft and subtle curves of the brims. In one instance a coarse fish-net type follows the downward-tilting feathered edge and throws an attractive shade over the forehead. In the other a finer, dotted diamond mesh adds grace and airiness to a hat edged with plaited straw. Veils such as these convey a touch of sophistication and romantic charm.
THIS BOOK IS PUBLISHED BY
the Federation of Lace and Embroidery Employers' Associations,
11 Smity Row, Nottingham, and
printed by Derry & Sons, Ltd.,
Canal Street, Nottingham.

It is intended for students, members of retail distributive sales
staffs, fashion journalists, and others interested in lace as a dress
fabric and as a trimming.

Single copies (3/- each, post free)
may be obtained from 11 Smity Row, Nottingham. Quotations for
quantities can be had on request.

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