

CHAPTER XI

CARE OF CLOTHING

Importance. Clothing will appear to best advantage and wear longest when it is properly cared for. Since one purchases clothing for a definite purpose, it follows that the wearing apparel should be carefully selected to meet the requirements. After the proper piece of clothing has been selected, it should be carefully cared for in order to conserve and prolong the life of the garment. Thus we see that the care of clothing should begin with the selection.

Prudent selection of clothing is as important as efficient manufacture. The new theory of business is to protect the consumer. Everyone should seek to be an intelligent consumer of clothing or textiles and know how to choose, purchase, and conserve the clothing she buys.

How to Select. Before we purchase textiles, or, in fact, any wearing apparel, we ought to know definitely what we want. When we know the use, we can decide whether we want an expensive or cheap fabric. While on most occasions it pays to purchase durable fabrics, there are times, due to fancies of fashions, when it does not pay to purchase an enduring fabric — then we ought to purchase the cheap or inexpensive article. We can always purchase economically by selecting conservative clothing.

The following points will illustrate the above paragraphs by showing how a business woman might select her wardrobe and make her purchases economically to replenish it:

I. The first step is to make a list of the essential items in her present wardrobe, noting the use, condition, and date of purchase of each item. Preferring quality to quantity, the business woman reduces her list to the real necessities: one coat, two office dresses,

one afternoon dress, two hats, two pairs of gloves, six pairs of hose, two pairs of shoes, and one handbag.

II. She chooses her business dresses first. It might be well to allow herself never less than two (both tailored), for there must always be one to wear while the other is at the cleaner's. One of these may be of wool jersey and the other of tweed similar in type. Since one hat must serve both dresses, she chooses them in the same color or in two shades of the same hue.

III. Often it is impractical to change apparel before going out to dinner or the theater, and this means that the business woman must include in her wardrobe a "dress up" frock that will not look out of place behind her desk.

IV. The coat is the last garment to be chosen, because it is important that it should blend well with all her frocks. Black sets off every other color charmingly, and is always in good form.

V. Stockings should be selected with great care. The texture should be examined to ascertain the wearing qualities. A woman will consider the length, because she knows there is a difference in lengths even in the same size number, and if the stockings are too short there will be undue strain at the knee and there will soon be a break there. If they are too long, they will not fit smoothly, and will wrinkle at the ankles, which is not becoming. To be becoming, stockings must fit closely at the ankle and be smooth throughout the length. To attain this trimness they must fit in length as well as in foot size, and must be sufficiently elastic to yield with the movements of the wearer.

If the color contrast is too strong, stockings become conspicuous and emphasize physical defects. For slenderizing effect, select the pointed heels and choose gray tones rather than the beige. When fashion decrees that nearly the entire stocking must be seen, the same care should be given to the selection of these as we give to our hats.

VI. In the purchase of the costume note the fabrics, etc., that compose it and see if they conform to the following:

Clothing for formal occasions should be of materials that are as high grade as one's income will permit.

Everyday costumes should be made of fabrics or materials that are durable, easily cleaned, and not too expensive.

Sport costumes should be composed of fabrics that are substantial or durable, light in weight, and not easily creased.

As a rule, buying garments of good quality, well shaped, and well fitted may mean a larger initial expense, but it means that they will wear better than fabrics of inferior quality and ill-fitting garments that strain and pull; and they will not require cleaning and pressing so often. Make a personal study of yourself with different dress accessories in order to determine the correct ones to wear.

Since it is the purpose of clothing to make one attractive, it follows that a costume or garment should be examined to see if it is actually made for the person wearing it.

Of course one must remember that the fit of a costume often depends on style — sometimes a pinched or tight effect, while at other times a loose flowing costume, is in style. Hence we must always bear in mind the style tendency as well as the person wearing the costume.

The examination should proceed as follows:

Blouse or waist — Does the waist, blouse, or coat sit properly on the person so that the collar fits well on the neck and the shoulder seams rest at the crest of the shoulder. Notice whether the costume fastens without showing the fastening agents.

Sleeves should be set in to allow for seams. The edges of seams should contain enough material to prevent their pulling out, and all edges must be pinked, picoted, or overcast.

Buttonholes should be fully stitched and finished. On more expensive garments all this stitching is, of course, hand work, and in every garment self-colored thread must be used.

Experience shows that poor workmanship cannot be covered up with any superficial veneer of trimmings or novelty effects. The garment must have qualities put into it with shears and needle and not defects covered up by fancy trimmings and the use of a pressing iron.

In purchasing ready-made apparel, the article should be examined very carefully as to the following points:

While the costume is suspended from a hanger before the natural light, notice the back and front linings for flaws in the material — drawn threads, cuts, soiled spots, etc. The hems of dresses should be basted, not stitched, so that changes in length may be made easily.

Since each person has an individuality of her own which is more or less original and is governed by her taste, it is necessary for each one to reflect this quality in her dress in order to give an added style value (often called *chic*) of distinction. How can one determine this added style value? Only by experimenting in arranging her clothing, *i.e.*, by having finishing touches that no one else has. You can only obtain this by looking in the glass and experimenting until you have found or discovered the exact touch; as, for example, by arranging a scarf at your throat in some new way. Take beads and twist them in some odd fashion. Get a piece of chiffon and make a bow of it for your shoulder, your hip, or even the edge of your skirt.

THE BUYING OF CLOTHES

There are three ways of purchasing clothes: (a) made to order, (b) made at home, or (c) the ready-to-wear garment. Here are some of the advantages and disadvantages of these methods:

Made to Order

Advantages

Good materials can be used, skilled labor employed, and selected models chosen; therefore, individuality.

Disadvantages

Much more expensive; time spent in trying on; results not always pleasing, perhaps because we can not visualize the finished product.

Made at Home

Much cheaper, especially if we can make them ourselves, and therefore can spend more money on the material and purchase better quality; usually put together better. It is surprising how much can be done at odd moments.

Takes a great deal of time. Perhaps not always stylish. Those busy with other interests and outside work should not be burdened unless they use it as pick-up work.

Ready-to-Wear

Saves time. Today these garments are well cut and well made. We have the advantages of trying on the finished product.

Many models alike. Materials may be inferior. The purchaser must be a good judge of fabrics and prices to buy well.

A certain number of articles must be purchased ready made, such as hosiery, knitted underwear, shoes, slippers, corsets, overshoes, umbrellas, gloves, handkerchiefs, and handbags. In order to be a wise purchaser we must know materials, and should know the points in good manufacturing.

A word about bargains:

A legitimate bargain:

White sales in January.

Broken lots, odd sizes, soiled garments that will wash or clean easily, mill-ends, remnants, samples, novelties.

Not a bargain:

Rubber articles that have been kept a long time.

Silk sales, especially if the silk is weighted.

Buying something that you do not need.

Buying more than you can use, because the sale says, "Three for a quarter," when you know you can use only one or possibly two, or have not storage room for that amount.

Conservative Dress. If we glance over the fashion magazines, we shall find that the shape or general outline which we call silhouette will change a little from season to season. On the other hand, we shall find that the details change greatly, and it is in this respect that the clothes of one season may look queer or old-fashioned or out of style in the new season.

Since this is true, it follows that if we expect to purchase a costume that is supposed to last several seasons we must select conservative styles, that is, styles that will not change very much for two or three years.

A good serviceable costume will look well for three years, provided it is not extreme in style — that is, not too long, too short,

too tight, or too loose. Variety may be secured by change of collar, tie, beads, etc. The costume should follow the tendencies of the time, but not the novelties.

Fabrics. We have considered the question of the purchase of the costume — line, shape, color, etc. Since the wearing quality depends to a large degree on the fabric as well as the stitching, linings, and trimmings, it follows that we should know how to judge the wearing qualities of fabrics. These qualities include durability, quality, and suitability. To illustrate:

1. Durability means the property of lasting or enduring, that is, wearing a long time without breaking or losing its characteristics.

2. Suitability means adapted for a definite use.

3. Quality means the nature of the material and workmanship used in making. There are on the market various grades of quality, some excellent, fair, or poor.

There is always a tendency to substitute a poor or medium quality for an excellent quality by offering inferior fabrics or fabrics adulterated with cheaper materials. To illustrate: There are many ways of treating fibers to change their appearance; that is, a cheaper fiber may be made to look like one more expensive, or methods of finishing may be used so that they appear to be more durable than they are, but in reality they will be less strong.

Since cotton is the cheapest fiber, it is probably the only fiber that is not adulterated to lessen its cost, although a cheaper fiber, (one of shorter length) may be used.

Weave. Since the structure of a fabric determines its strength and shape, it is very important to know the structure or weave and whether it is the best fabric for a particular use. Cloth according to structure may be classed as (a) *woven* — serge; (b) *knitted* — tricolette; (c) *plaited* — lace; (d) *felted* — piece of felting.

Woven. If the fabric is woven, the exact method of interlacing may be plain weave, twills and sateens of different harnesses, Jacquard, lappet, gauze or leno, double cloth, pile, etc. Each weave is used for a definite purpose. To illustrate: The plain weave

is the strongest weave to resist tensile strength, the sateen and twill to resist friction.

Fabrics with low construction and twist, that is, loosely woven, with the yarn loosely twisted, will lose their shape very quickly, but nevertheless are valuable for women's wear as their softness allows them to fall into folds — to drape easily. High construction and strong twists are necessary for firm fabrics to give longest wear. Loosely woven fabrics also are likely to break in washing or when subject to strain, due to the friction which pushes the threads aside and produces a thin section in the fabric. This is particularly true in the satin weaves with long floats.

Weaving imperfections, such as loose threads or knots, cause considerable trouble in laundering. Sometimes in weaving a thread breaks, and the ends must be tied together. When it is finished, the knot may be cut, but the loose thread remains. These spots become weak in the fabric and account for the wearing of the holes which appear, particularly in linens after they have been washed two or three times.

A loosely woven fabric with a plain warp and filling yarn will soon become soiled, but it is easily cleaned. On the other hand, a closely woven fabric is not so easily soiled, but retains the dirt more tenaciously.

The common defects in the structure of cloth are:

1. Missing thread in either the warp or filling, which is inserted in the case of woolens and worsteds after weaving.

2. Broken threads that have been tied together in a knot, which forms a rough place or bump, and are broken off in the washing, causing a tear.

3. Uneven yarn — the larger yarn weakens the smaller yarn by friction until the threads break and form a hole.

4. In sateen weave there are many "floaters" which are apt to catch and break or slip out of place.

5. Pins and fastening agents in clothes tend to make small holes which gradually increase in size.

Since a defect like a tear in wearing apparel will decrease its strength, all tears or breaks and fastening agents should be repaired as soon as possible.

The fact that a woven fabric is rigid and self-supporting is due to

the tension or tightness of the warp threads during the process of weaving, and this will not allow the fabric to stretch after weaving. The woven cloth is cut lengthwise so as to hang in the direction of the warp and thereby hold the weight of the fabric, while the movements of the body cause the filling threads to stand the strain. Since the filling threads are usually weaker than the warp threads, we find the filling threads breaking first.

Knitted. For stockings, bathing suits, underwear, etc., there is a demand for a fabric that is close fitting, elastic, light in weight, etc. The knitted fabrics have such characteristics. The woven cloth is inclined to be rigid, firm, lacking elasticity, etc. Compare the old-time bathing suit of taffeta, which is woven, to the splendid suits of today.

In some forms of underwear, the honeycomb or cell weaving is adopted, being designed to absorb perspiration quickly; such fabrics require very careful washing.

Wool Fabrics. Wool materials are cheapened in two ways: by the use of cotton, or of remanufactured wool, often called *shoddy*.

A cloth that contains part cotton in place of all wool may be readily tested by burning the single-twisted separate threads of both warp and filling. The cotton burns readily with little odor, and leaves scarcely any ash; wool burns slowly, leaves much ash, and has the characteristic odor of burned hair or feathers.

Loaded Fabrics. Cotton fabrics of poor quality (low construction — small number of warp and filling threads to the inch) are made to look like better quality cloth by means of special finishing processes, sizing, and pressing. This is done by adding to the cloth a sizing mixture made of starch, gum, glue, and china clay, filling the spaces in a loosely-woven fabric and then pressing it to make it appear more firm. Washing removes the sizing and the cloth becomes coarse and cheap looking.

Cotton materials may be tested for much sizing by washing, or by rubbing the dry cloth between the fingers, or by tearing the cloth and noticing whether much dry powder falls out, or by hold-

ing the cloth to the light and noting if there is any sizing between the threads. If only a normal amount of sizing has been used, no harm is done, because in washing the sizing comes out and the threads swell in ironing, the swollen threads filling the openings. But if a soluble mucilage or sticky material is used, it may withstand several washings before it is removed.

Sizing acts as a protective agency and prevents dirt and stains from penetrating the fibers. On the other hand, it is mostly absorbent and will turn yellow in the action of the atmosphere. There are two kinds of starching, — light and heavy. The light starching is used for table linen, as it enables stains to be removed much more quickly — the tannin in the tea and coffee stains being neutralized by the starch and coloring matter absorbed by it. High and moderate finishes tend to protect fabrics from becoming soiled.

Strain, Friction, and Wear. Clothing is subjected to the following forces while in use and should have sufficient strength (elasticity) to resist them:

1. When cloth or clothing is pulled in the direction of its length, as when we pull the sleeve of a coat, it should have tensile (pulling) strength to resist this force.

2. Clothing is often packed very tightly and so is subject to a force; it should have sufficient compression (crushing) strength to withstand this force.

When a strain of any kind acts on clothing it may be considered a force and may be measured in pounds. In fact, the strength of a fabric is determined in pounds on a testing machine which tears the cloth and registers the number of pounds of pull necessary to tear it.

When a strain or force acts on clothing it produces a change which may be small and cause only a wrinkle, while in other cases it may break the fabric. The different parts of the clothing possess elasticity (the power to return to its original position when stretched and then released) which varies with fibers, twist of yarn, and weave structure. When the elasticity of the clothing is exceeded, the fabric breaks.

Our clothing is made of cloth, in pieces fastened by stitching thread, and while it covers the body, it is subject to strain due to (a) the weight of the cloth itself, (b) the movements of the body — as in sitting — which stretches the cloth, (c) friction or abrasion,

when the lining of the coat rubs against the other parts, or the seat rubs against the cloth when sitting.

Not all articles of clothing have the same strength. Sometimes different parts of the same fabric have different strengths. The strength of the clothing depends upon the nature of the cloth (whether cotton, wool, silk, linen, rayon), length of the fiber, twist and ply of the yarn, and the weave structure as well as the stitching.

Our clothing is liable, in addition, to (a) strains which may cause the cloth, etc., to break, (b) action of perspiration, stains, and washing fluids which weaken the fabric more or less unless great care is exercised, (c) the effects of moths, moulds, or insects which destroy part of the clothing.

Trade Names. One cannot depend on trade names in identifying fabrics. To illustrate: A firm may place on the market a fabric with a special name. If it is popular, other firms will attempt to compete and duplicate. Different names for the same or nearly the same fabric will be added to the market list. Hence trade names cause confusion and cannot be used in identifying fabrics. The only way to identify them is by the composition, structure, and finish.

Manufacturers describe a fabric according to weave and composition or finish and composition. The consumer, on the other hand, is very likely to think of a fabric as he sees or feels it, according to composition and finish. The composition, color, and feel of a fabric may be expressed in such terms as describe crepe de chine, which is soft, very thin, sheer, translucent, and is valuable for lingerie.

Many other people, such as tailors, are very likely to describe a fabric in terms of its use. A serge is used to make suits, therefore it is called a *suiting*. A serge for ladies' suiting is made of softer yarn than a serge for men's suiting and is called a *skirting* or *women's suiting*. We should be familiar with the different methods of describing fabrics.

Points in Buying. 1. Is the fabric or garment guaranteed? That is, does the manufacturer stand back of the article in any way?

2. Has the article of clothing a permanent or special finish that makes it worth more than one that has a temporary finish?

3. Has handwork been used in the construction or manufacture?

4. Are there any raw materials used in the make-up that are of superior or unusual quality?

5. Fabrics differ in their structure (weave) and finish, which has a great deal to do with the ease of cutting the material and making it into a costume. To illustrate: Some fabrics with loose weave (minimum threads to the inch ravel) fray easily, like mohair, pongee, soft serges, and voiles; while the soft fabrics composed of left- and right-twisted threads with a crinkled effect, like georgette crepe, chiffon velvet, mulle, and crepe de chine, slip easily and are hard to handle in the cutting, due to the crinkled effects.

6. Fabrics that are heavily sized, such as buckram, etc., are difficult to sew by hand because the sizing makes it hard to push the needles through.

7. The best fabrics to sew are those that crease easily (stiff, due to close weaving), such as gingham, taffeta, etc.

8. Fabrics with pronounced woven patterns, such as fine stripes and pronounced checks (shepherd's plaid), cause annoyance to the eye in sewing.

9. A loosely woven fabric gives only fair service and does not hold its shape. It also tends to shrink.

10. Pile fabrics do not give good service because pile wears off or presses down and becomes shabby. Mohair pile is rather stiff and unattractive.

11. Brocades are not suitable for stout women, as the prominent designs call attention to the large figure.

12. Stiff and weighty fabrics are not used when styles are for draping and clinging.

13. Variations in the grades of crepe fabrics are due to the size of yarns used. The cheaper grades are made of single, the better of two-thread or ply, and the best of three-thread or ply.

14. In the design of garments of a complex character, the materials should be rather simple. If the garment is cut on

simple lines, then figured materials may be used. Fabrics that were very stylish with certain costumes of one season should not be used for another season's costumes.

15. Heavy materials for costumes should have bold designs and trimmings. On the other hand, finer fabrics should have fine trimmings.

Cleaning Clothing. After the wearing apparel has been selected, we should care for the costume according to its composition, cut, and use. All clothing should be frequently aired and cleaned, as dust, grease, vapors, liquids, and perspiration come in contact with it.

Odors are absorbed by the fabrics of the costumes, and each piece of clothing should be exposed to air as frequently as possible. The clothing should be placed in such a position as to allow a free circulation of air through all parts of it. It is the daily care that counts. When a garment is removed, do not hang it in the closet at once. Give it a chance to air well, after shaking it to remove wrinkles.

Few people realize the harmful effects of dirt or dust on clothing. Dirt often consists of fine particles of sand, which will cut the fibers and thus weaken the fabric. Therefore, garments should be frequently brushed with a good whisk broom. If the fabric has lint or is inclined to be "nappy," a dampened whisk broom will remove the dust. Fuzzy or napped fabrics take the dust more easily than hard-surface fabrics. If the garment is of silk, use a very soft brush or soft cloth. A piece of velvet is an ideal medium for removing dust from silk.

Remove all spots on clothing at once before dirt can be deposited on them.

Silk and woolen garments frequently wrinkle when packed. These wrinkles may be removed by hanging the garment either out of doors on a damp day or in a room filled with steam. To appear at one's best we should keep garments well pressed at all times.

Stockings should be changed at least once a day. This is a

very simple matter, but one of the measures of neatness and economy that is often neglected. To rinse out the soiled stockings before retiring takes very little time or effort.

The hat and dress should be carefully brushed as soon as they are removed, and put away where they can be found, fresh and ready to wear in a moment of haste. There may be a seam that shows signs of weakness or a button or snap that seems unsteady as a garment is being brushed. That is the time to fix it.

Wrinkles. The coat is the outer garment for the street, and its most important style effects are: (1) shape, (2) smoothness of fabric, (3) evenness of pile or nap effect. The constant use of properly-shaped coat-hangers will do much to retain the shape. The same is true of trousers and dresses. When not in use they should be suspended from hangers.

There is a tendency for a man to place his hands in his pockets when walking, and also to carry bundles under the arm of the overcoat. Both practices are bad because hands in the pockets will strain the fabric and bundles ruin the shape of the coat. Carrying parcels in the pockets will do the same. When carrying the under-arm bag, books, or parcels, they should be carried under each arm alternately so as to distribute the wear.

If a dress becomes wet through rain, remove it as soon as possible, and after steaming it should not be worn again until thoroughly dry; otherwise the dress will become badly wrinkled and lose its shape.

Wrinkles may be removed from dresses of crepe, velvet, or soft woolen fabrics, by allowing them to hang in a steam-filled room for thirty minutes or longer. Do not allow crepes or woolens to become so damp that they will shrink.

Since most materials used for clothing become soiled and stained, it is necessary that one be able to clean them. The processes for making them look like new are called washing and ironing (sometimes called laundering), dry cleaning, and pressing.

Dress protectors under the arms and across the back are

necessary to check the ravages of perspiration. Sponging the lining of a dress with cleansing fluid, occasionally, will keep it from becoming soiled.

Before explaining the process of cleaning clothing it may be necessary to explain the action of chemicals and solvents (liquids that dissolve substances) so that the steps in the laundry and dry cleaning operations may be perfectly clear. The principal substances used are (a) water, (b) soap, (c) acids, and (d) alkalis. Then again, it is necessary for us to know the characteristics of the cloth and the action of different processes, such as dry cleaning, washing, etc., on the fabric. From a technical point of view these characteristics may be classified as (a) physical, (b) chemical, and (c) biological. The physical changes are those that concern the appearance, etc., of the cloth. The chemical characteristics are those that concern the reaction of the fabrics to soaps, acids, and alkalis. The biological characteristics are those that concern the action of plants, germs (molds), insects, and moths on the cloth. Some fabrics are absorbent, some are unaffected by heat and moisture, others swell, shrink, or harden when exposed to heat.

Action of Water. Clothing and the fabrics from which clothing is made constantly come in contact with water and substances that may frequently cause damage. We should know the action and characteristics of water and the other substances in order to preserve clothing from serious harm.

Water is so common that we think of it as harmless. There are two kinds of water — soft and hard. Soft water is rain water and is found in most water systems. The water found in wells often contains lime and magnesium compounds dissolved from the stones in the earth and is called hard water. Soft water is harmless, but hard water may injure certain fabrics. Soft water can be told from hard water by attempting to create suds by the action of soap. Suds are readily formed in soft but not in hard water.

For laundry work, the softer the water the more desirable it is, not only because it is a better solvent, but also because it more

readily forms suds with soap. Water may be softened temporarily by boiling, or by the addition of washing soda. One pound of soda should be completely dissolved in a quart of water and two table-spoons of this solution used for each gallon of moderately hard water. Clothes should never be put into water in which there is undissolved soda, for the soda will make holes in them.

Borax and ammonia are more expensive agents for softening water. Borax is only mildly alkaline, but in addition to softening water it tends to whiten clothes. It may be used with colored clothes and woolens, when neither washing soda nor lye should be used, and it can also be used in rinsing water. Ammonia is volatile and evaporates readily, and is likely to be less effective in long soaking or boiling processes, but, like borax, may be used in rinsing water.

Besides having water soft, it must be clean. If the water is muddy, straining through heavy material will help to clear it. If the water contains iron, as is often the case, it is a great handicap in laundry work.

In order to understand the cause of decay of clothing in laundering it is necessary to know the different types of substances found in the water used.

Solution. When a substance like salt dissolves in water, the salt is said to be in solution, and the water is called the solvent of the salt. Not all substances, are dissolved by water; for example, fats and oils will not dissolve in water, but will dissolve in alcohol or ether; alcohol and ether are said to be solvents of a fat.

When a solvent like water has dissolved all that it can hold, it is said to be saturated, or a concentrated or strong solution. The addition of more water to the solvent weakens or dilutes the solution. Strong solutions are more active and destructive than weak solutions. A strong solution of mineral acid will destroy wool, but a weak solution will not. Hence, it is always important to know the strength of the solution one is using.

Solvents frequently evaporate; that is, the liquid dissolving the substance disappears as a vapor at ordinary temperature. The substance does not disappear, but simply the solvent. Hence a weak (often called dilute) solution of acid on a fabric or costume, gradually becomes stronger, due to the evaporation of the solvent.

Kinds of Soap. When a strong alkali, like potash, is mixed with some fats or oils, a substance called a *soap* is formed. This substance is used in washing, etc. There are many kinds of soap — laundry soap, toilet soap, neutral soap, etc.

Laundry soap has an excess of alkali in it, hence it is injurious to use laundry soap on the animal fibers — wool and silk. It is not harmful to cotton and linen.

Neutral soap does not contain any free alkali, hence may be used on wool and silk.

Look at the soap used in laundering and notice that it is either yellow or white, the yellow color being generally due to the presence of rosin. A little rosin helps in producing suds, but an excess, such as is likely to be found in very dark brown soaps, is objectionable because it serves no useful purpose in laundering and forms a sticky scum which may adhere to the clothes. Much rosin can be easily detected, for it gives the soap a pungent odor and a sticky quality.

Soaps may be classed as strong, medium, or mild. A strong soap will have a marked effect on the hands, causing them to shrivel and have the appearance known as “washerwoman’s hands.” It will also cause a cracking of skin on the palm, called “washerwoman’s itch.” It has a biting taste when touched with the tongue. Strong soaps usually contain a decided excess of soda or other alkaline salt but very rarely an excess of lye. While soaps of this class may not harm white cottons and linens, they cannot be used safely with silk, wool, or colored fabrics. Medium soaps contain a smaller excess of soda or other alkaline salt, and very rarely a slight excess of lye.

A mild soap contains no free soda or free lye, and is the best for general purposes if only one kind is used in the laundry. If a stronger effect is desired, washing soda may be added to the water instead of using a stronger soap. If soda is used, clothes must not be boiled with it, for heat intensifies its action. Even a dilute solution may shrink and discolor wool, may fade colored fabrics, and will yellow white silk.

Dirt is removed more quickly and with less danger to silk, wool, and all colored and delicate fabrics if the soap is well dissolved in the water rather than rubbed on. Chipped or flaked soaps dissolve easily in hot water without special heating and are convenient for use in the boiler, the washing machine, or for occasional fine laundering. Cake soap can be rubbed into chips on a household grater, or, if very dry, put through a food chopper.

Commercial Laundry. In cities clothes are sent to commercial laundries, where they may be given one of three classes of service: "rough dry," "wet wash," and "finished work."

Usually all clothing is washed by machinery; as a rule, only special laundries accept pieces to be washed by hand. In some laundries all the ironing also is done by machines especially constructed for the garments which they are to iron. This, of course, makes the work much cheaper. Usually the "flat work" is machine-ironed, and if the quantity warrants, this is rated by the dozen at lower cost than for clothes that are priced by the piece. Most so-called "hand" laundries send out the washing to be done by power machinery and merely do the ironing themselves.

Sending clothes to "rough-dry" laundries means that all the work of washing is taken out of the house, since the clothes are returned after drying. Commercial laundries can do the washing at little cost, but the clothes are likely to be wrinkled and in poor shape for ironing.

"Wet-wash" work is still cheaper, because the clothes are not dried but have as much water as possible extracted by wringing in a centrifugal machine. When returned they must be dried before ironing.

The first operation in washing clothes is soaking them in water.

Soaking. Soaking clothes overnight or even for a shorter time is a valuable operation because it loosens dirt, saves time, and lessens wear. Clothes may be soaked by covering them with cold or luke-

warm water, or by wetting, soaping, rolling, and putting them into a small amount of water. Putting very dirty clothes to soak with cleaner ones may add greatly to the labor of washing the latter. If the water is hard, soaking of any kind is unsatisfactory because of the scum that settles on the clothes. Soap will help to prevent the scum from forming.

Washing. The purpose of the washing operation is to force soapy water through the fabric so as to dissolve or remove the dirt. Since the solvent or dissolving action of hot water is greater than cold water, the clothes are washed in clean wash water as hot as the hands can bear, with enough soap added to produce a lasting suds. The soapy water is forced through the fabric. Whenever the water becomes dirty, it should be replaced by clean water. If the clothes are washed by hand, it is better to turn them during the process and wash from both sides. Special attention should be given to hems and other parts that are much soiled.

The rubbing on a washboard should be gentle. The aim is to force water through the fabric; therefore soiled places should not be rubbed when they are more or less dry, but should be kept wet by frequent dipping, after each rub, if possible. A small brush will be a great help in washing such heavy garments as corsets and overalls.

Notice the washing powders used at home and see how they act in washing. Most washing powders are a mixture of soap and washing soda, although some contain even stronger chemicals. This will explain why clothes fade, why silks turn yellow, and why woollens "harden" when too much washing powder is used.

Boiling. One purpose of boiling is to sterilize the clothes by sufficient heat to kill the germs. While boiling helps in cleaning soiled clothes, it is not the sole purpose, for with good outdoor drying facilities, boiling may be omitted. Only white cottons and linens may be boiled. Most clothes need only about five minutes actual boiling; too long boiling should be avoided because it tends to yellow the cloth.

Kerosene, turpentine, or shaved paraffin to act as a solvent may be added if the clothes are very dirty or yellowed. It may be a good plan to boil every week the clothes that get very dirty, and the others only every three or four weeks.

Rinsing. After boiling, or washing and boiling, clothes should be thoroughly rinsed in hot, clear water. If not thoroughly rinsed, the clothes may become grayish, or the soap left in them may act on the bluing to form rust spots, or the soap and starch, if the latter is not pure, may yellow them. Moreover, traces of soap or washing soda may weaken the fiber of the material when heated in ironing.

Proper washing, particularly rinsing, is absolutely necessary, and important for the preservation of fabrics. Few people realize the importance of this operation.

Bleaching. Clothes that are very yellow from long standing or from poor washing and drying may require bleaching. They may be soaked for several hours in water containing borax in the proportion of one-fourth cup to one gallon of water; if this is not effective, the clothes should be wrung loosely and spread on the grass to dry in the sun, or in cold weather allowed to freeze. Then the garments should be washed thoroughly in plenty of soap and water, or in ammonia water. Only cottons and linens may be bleached with Javelle water, as it dissolves wool, turns silk yellow, and weakens the fibers of cottons and linens if they are boiled in it.

Javelle water may be purchased or made. It is simply a solution of washing soda and bleaching powder (chloride of lime).

Bluing. Many present-day housewives have abandoned the custom of bluing the clothes when washing. Bluing, however, is a great aid to good laundering, for it keeps the clothes from turning yellow, as they have a tendency to do with age or through the use of inferior soaps.

There is a vast difference in kinds of bluing. Some have an acid base and are quite apt to injure the fabric if incorrectly used.

Bluing should not be used in soapy water, and the blue rinsing water should be thoroughly splashed with the hands to make sure the bluing is well and evenly distributed.

A large quantity of water should be used for bluing, and the clothes should be put in singly and loosely to allow every part of the garment to be exposed to the bluing water. Shake the clothes out well after bluing.

Hanging and Drying. Wet clothes are dried by exposure out of doors in the sun. In addition, the air sweetens and bleaches them. Garments should be shaken, turned wrong side out if this has not

been done before, hung on the straight of the goods, and fastened by the bands when possible. Clothes that have been properly hung are much more easily ironed than those that have been stretched out of shape by careless hanging. Starched clothes should be brought indoors as soon as dry, because with long hanging they lose their stiffness.

Starching Clothes. When a fabric is washed, particularly cotton (fancies), it is desirable to know how to launder it so that after ironing the fabric will have the same appearance as when new. The degree of pliability, stiffness, and gloss of cotton fabrics is due to the sizing, especially the starches. There are many varieties of starch, such as corn, wheat, rice, and blended starches. These blended starches are combinations of two or of all the others, with perhaps some borax and paraffin included. This is usually what the purchaser gets when she asks for "laundry starch." The quality of starch which adapts it for use as a dressing is its viscosity — its stickiness or tenacity. Of the three starches, corn has the greatest viscosity, but more pliability, and rice has the least viscosity.

Thick starch is used for uniforms, collars, and cuffs. A medium starch is used for lingerie. A light starch is used for curtains and very fine pieces. Borax, alum, and paraffin will improve the starch so that better color, gloss, and pliability will be obtained on the fabric. Tints may be obtained by the addition of bluing or other dyestuffs. Gum arabic and dextrine, that is, starches modified into a gum, are very good substitutes for starch, especially for delicate fabrics such as organdies.

Special Precautions. Some thorough housewives still soak articles in salt or vinegar solutions to set the color, but this is unnecessary labor. Modern dye methods are now so perfected that cotton dyes are absolutely permanent, and with ordinary care in laundering there is no danger of the colors running or fading.

In washing colored cottons or linens the water should be luke-warm and a mild soap used. Thorough rinsing in several waters is essential, and they should be dried in the shade. After sprinkling they should be tightly rolled so that the moisture will spread evenly.

A very hot iron may change the color, so use a moderately hot iron. Even then some colors will change until the moisture from the air restores the original tone.

Steam scald makes clothes white. Use good white soap flakes to wash the clothes, then give them scalding hot rinses and hang them quite wet in the direct sunlight, and you will get almost the same results as the laundry does;— the hotter the water, the whiter the clothes will be. Give them two or three hot water rinses before putting them into the cold rinse. Remember that the water must be very hot and there must be plenty of it to secure perfect results.

Silks and Wools. Wool and silk, being more delicate than cotton and linen, require more careful treatment. The use of very hot water must be avoided, as it turns both wool and silk yellow, shrinks wool, and weakens silk and injures its finish. These materials will not stand much rubbing, as this felts the wool fibers and results in a shrinking or thickening of the material, while it breaks delicate silk fabrics. Both wool and silk are dissolved by strong alkalis and are injured even by washing soda or strongly alkaline soap. The only alkalis which should be used in laundering or removing stains from wool and silk are the milder ones like borax or dilute solutions of ammonia.

Wool and silk are yellowed or destroyed by even a weak alkaline solution. Even if the fiber is not affected by the alkali, the color may be changed or destroyed. It is important, therefore, to neutralize alkali spots due to soap or soap powder immediately after use. Use any of the following agents:

1. Water. Rinse thoroughly. Frequently this is sufficient in the case of such alkalis as washing soda and ammonia.

2. A mild acid. Apply the acid with a cloth until the fabric changes back to its original color, or until the stain is slightly acid as shown by its reaction to litmus paper or by the odor or taste. Then rinse the fabric thoroughly in water. In the case of colored goods it is helpful to rub the stain dry, using a piece of the same material as the stained fabric, if possible.

Woolens. Friction, hot water, and soap will cause the scales in wool fibers to interlock and shrink. Therefore, care must be exercised in washing woolens. Experience shows that warm water with a moderate amount of soap in it will wash the winter woolens with the least amount of shrinkage.

Woolen clothing should not be pre-soaked and should be washed as quickly as possible. Turning the garments inside out and brushing them, especially along seams and pockets, removes the loose dirt and makes the washing easier. The water in which they are washed should be lukewarm, not hot. A good suds should be made before the clothing is put into the water, and the sudsy water should be squeezed through the clothes. Spots which are very soiled may have a little of the soap solution applied directly to them, but the garments should not be rubbed or twisted during the process.

If the garments are very soiled they may need a second washing in fresh, soapy water before being rinsed. All the water, whether for washing or rinsing, should be at the same temperature. A wringer is best for getting the water out of wools, but if one is not available the garments should be squeezed and not twisted or wrung.

Woven wool garments should be stretched, shaped, and hung up to dry as straight as possible. Skirts and trousers may be hung by the band with hangers or safety pins, and blankets and other flat pieces should be hung over a line and pulled until the edges are even and straight. All woolens should be dried in a moderate temperature, not out of doors in winter, as freezing also makes them shrink.

The shrinking of woolens can be controlled by careful laundering. Shrinkage is caused by changes of temperature while wet, therefore all waters should be of the same temperature. Woolens should be washed in a lukewarm soap solution and the several rinsing waters should be slightly soapy to keep the fabric soft and fluffy.

1. Wool will become stiff and harsh as well as shrunken if an alkali soap is used.

2. Improper handling is another cause of shrinking. Woolens must not be twisted or wrung. The water should be gently pressed out with the hands. If squeezed or wrung the wet fibers will interlock and this naturally causes shrinkage.

3. Too rapid drying causes shrinkage. Wool garments should be carefully pulled into shape and not exposed to great heat in drying. It is best to iron them under a damp cloth, and they should not be ironed perfectly dry, for wool in its natural state contains some moisture. Hang them up to dry sufficiently before wearing.

Both wool and mixtures of cotton or silk and wool need the same care in laundering to keep them soft and full size.

If knitted garments are frequently and thoroughly brushed they will not soil so quickly. Since knitted fabrics are made of soft-spun yarns which give them great elasticity, extreme care must be taken in washing and drying so that they will not stretch or shrink out of shape. When laundering them the best results are obtained if they are washed in a net or cheese-cloth bag. This prevents their stretching out of shape. To dry them lay on a flat surface after gently pulling them into the original shape.

Union fabrics must be treated very carefully, as if they were composed of all weak fiber. Thus, a wool and cotton garment requires the treatment of an all-wool garment; otherwise, an unequal shrinkage will take place.

Pressing. Good pressing is an art, and bad pressing is worse than none. To press well, one must learn to use an iron skillfully and to make good use of steam. No hard and fast rule about the amount of steam required can be given, but, in general, the heavier the material is the more steam and the hotter iron needed. For heavy material, a thick pressing cloth is necessary to carry sufficient moisture and steam to the garment being pressed. For thinner material, such as silks of all kinds, less steam and thinner pressing cloths are required. Nor should the iron be so hot for thin as for thick material. There is no material, unless it is chiffon, that cannot be steamed slightly. By steaming slightly is meant wetting a thin piece of cloth, wringing it as dry as possible, then drying it even more by patting it with the hot iron until it is just damp, before using it on the material to be pressed. This thin, damp cloth will give just a small amount of steam and may be used on almost any silk material.

The iron should be hot enough to snap sharply, especially if a damp cloth is to be used.

Do not use the finger tips to sprinkle water on any kind of material. Always use a cloth. Only in this way can you be sure of an even amount of moisture and a flat, well-pressed seam.

Pressing removes all forms of wrinkles. Since the smooth, hot iron may cause a luster on the fabric, it is customary to press on the wrong side or use a cloth covering slightly damped. In order that pleats may be properly pressed into shape they should be basted in place before pressing.

Removal of Shine. Since the "shine" on hard and soft worsted fabrics is due to the smoothness caused by friction, any process that will destroy this smoothness will remove the shine. Since alkalis will modify wool, a treatment may be applied as follows:

Cover the right side of the material with a cloth wrung out of ammonia water (4 or 5 drops of ammonia to 1 quart of water), press with a medium-hot iron until the cloth is partly dry, and then brush the wool vigorously with a stiff brush.

Stains. While washing will remove most of the ordinary dirt, extra care must be exercised in removing stains. For the removal of stains we must know: (a) the composition or kind of stain, (b) the kind and composition of the material stained, (c) the length of time the stain has been on the fabric.

The method of treatment adopted depends as much upon the nature, color, weave, finish, and weight of the fabric as upon the stain. Because cotton and linen are vegetable, they are destroyed by strong acids and attacked to some extent even by weaker ones. Concentrated acids, therefore, should never be used in removing stains from these fabrics, and when dilute acids are used they should be neutralized afterwards with a suitable alkali or removed by thorough rinsing; otherwise the acid will become concentrated by the water in solution evaporating or drying and destroy the fibers.

Generally speaking, alkalis do not attack cotton or linen fabrics to the extent that acids do. However, long-continued or repeated exposure to alkalis, especially in hot solution, weakens the fibers and consequently the cloth. The damage to fabrics resulting from the careless use of strong alkaline soaps, washing powders, washing soda, or lye may not appear great, but considerable damage is done.

Stains include grease spots, juices of vegetables and fruits, splashes from beverages (tea, coffee, etc.), on table linen; heavy grease, gravy, etc., on kitchen cloths; perspiration stains and blood on body linen. Sugar and resins make awkward stains as they are sticky and soluble under ordinary conditions. Roughened fibers of wool and cotton are likely to pick and retain the soiling matter more easily than the smoother silk and linen. Absorbent fibers will take up more perspiration and moisture and retain them, while the stains on the harder linen and ramie are easily removed.

Moist heat causes wool to shrink, and owing to the serration of fibers, it becomes interlocked and matted. We find this effect produced by perspiration on underwear. Moreover, perspiration contains alkaline salts, and these quickly attack animal substance, making it hairy and drying up the natural cell oil. Often woollens stained with perspiration are so matted and heavy that they are difficult to clean.

Milk stains contain protein and fat and should first be sponged or rinsed in cold or lukewarm water, then washed with hot water and soap. For the grease use gasoline or carbon tetrachloride. For unwashable fabrics sponge with the grease solvent and allow the stain to dry, then sponge carefully with water. Stubborn milk stains will yield to a mixture of one part turpentine with two parts essence of lemon. Rub gently with a soft cloth until the stain disappears.

Dry Cleaning. Dry cleaning is used to remove stains from woollens, silks, etc. The steps for dry cleaning are as follows:

(a) Proper sorting of soiled articles is important, as separate treatment is demanded for various colors, textures, and types of articles. This is the first step in successful cleaning.

(b) The next is "washing." It is not generally known that in a dry-cleaning plant washing in soap and water is the only advisable treatment for many articles. A reliable dry-cleaner will not subject articles to wet washing if he is doubtful of the result, unless he obtains the consent of the owner of the article.

(c) The "dry washing" process requires equipment similar to that in a wash-room of a commercial laundry. The large cylindrical washers have an inside perforated revolving cylinder type of washing machine used in many home laundries. The cleaning fluid is gasoline, naphtha, or a similar grease solvent. A soap which is soluble in these is also used.

The clothes are placed in the inside cylinder, a supply of clear cleaning fluid flows into the outer cylinder, and the machine runs for a given period. The black fluid discharged from the washer is a convincing proof of the cleaning accomplished. This process is repeated several times, finally without soap, using only the solvent.

(d) The clothes now go to a large centrifugal extractor to have the remaining solvent removed, and are then passed on to a drying

“tumbler,” in which, as the clothes tumble about, a current of heated air blows away all traces of the odor of the cleaner.

Some articles cannot be cleaned in the washer. These are cleaned on specially constructed tables and dried in ventilated rooms.

(e) Now comes an important part of the cleaning process. It brings us to the “spotting boards,” the most fascinating corner of the whole plant. The dry washing removes only soil and stains soluble in gasoline or naphtha and held in the fabric by a greasy film or deposit. Many stains are not touched by this cleaning, and each of these needs very careful attention.

(f) The articles then go to the pressing room and have a final inspection.

Repairs. Clothing should be frequently examined to see if any portion is defective, due to tear, breakage of yarn, or to friction. It is easier to repair small breaks than large ones.

Textile Sewing and Mending. Moth holes, tears, and missing threads frequently damage cloth. These defects may be remedied in the following way:

- (1) Remove any loose threads from the defects.
- (2) Take similar yarn from the selvedge or cloth.
- (3) Weave the yarn in the warp as shown in the design on page 201 so as to take the place of the missing yarn.
- (4) Weave the yarn in the filling in the same way.
- (5) Cut off the loose ends and press the cloth.

Fabrics will last longer if they are looked over regularly, brushed, cleaned, “aired,” mended, pressed (if clothing), and placed on a hanger.

QUESTIONS

1. Why is the purchase and conservation of clothing important?
2. What are the points to remember when we buy clothing?
3. What is the advantage of conservative clothing?
4. What are the different methods of describing the same fabric?
5. How would you judge a fabric?
6. What has (a) length of fiber, (b) elasticity of weave, (c) absorbing power, (d) finish, to do with the use of the fabric?

7. How may inferior fabrics be substituted for normal ones?
8. What are the forces a fabric is subject to when it has been made into a costume?
9. Name some of the points to bear in mind in buying a costume.
10. What are the advantages and disadvantages of trade marks?
11. What care should be taken of clothing?
12. How will different qualities of crepe differ in structure and durability?
13. What is the modern theory of the hygiene of clothing?
14. What points should be considered in the use of clothing?
15. What should be the characteristics (style and artistic) of outer clothing? How may it be kept in that condition?
16. What is the purpose of pressing?
17. What are the characteristics of clothing?
18. Why is water important in cleaning clothes?
19. What is meant by saying (a) substance is organic, (b) lime is inorganic, (c) ammonia is alkaline, (d) perspiration under the arm is alkaline, (e) ether is a solvent for grease?
20. (a) What is a soap? (b) What is the purpose of a soap? (c) Name and describe the different kinds of soaps?
21. How may clothing be cleaned?
22. Name and describe the different steps in cleaning clothes — cottons and linens.
23. Why must the operations for washing clothing be adapted to the kind of material in the clothing?
24. Explain the purpose of starching and ironing clothing.