

## *The Story of Hair*

have dried up all the moisture that penetrated the vegetation during the night, and all through the hot part of the day the rod-like twigs are straight again. You may have observed the action of the clothes line which hangs loosely and slack until it is saturated by a rainfall or until wet clothes are hung over it. Then, within a few minutes, the line becomes taut and, should it break under strain, twists itself into knots.

Thus our hair depends upon humidity to make it curl and wave naturally. Therefore, only porous hair shafts can curl naturally. This they will do only to the degree in which they are porous and can absorb humidity. Logically, the stouter the individual threads of a given hair kind are, the stronger will be the action of humidity thereon because the cells of a stout hair will take up more moisture than those of a fine hair. Hence it may be seen that the "flowing wavy" hair of our race, wherever we still find it, will not wave or curl of itself but only under the influence of humidity and then only to the degree in which it is porous.

## CHAPTER XVIII

### STIMULATION AND DEFEAT OF NATURAL CURLING HAIR

NATURALLY curling hair can be stimulated or defeated by external influences. For instance, it is defeated by the person who dyes her hair and thus injects into the shaft-cells a foreign substance which not only stiffens the filament but reduces—or altogether destroys—the porosity of the hair. Dyed hair, therefore, generally loses its natural curling characteristic. Heated tongs, such as many women use for waving hair, also have an adverse effect on the natural curliness. In this case the hair filaments are pressed between the two heated prongs of the instrument. This pressure, together with the drying effect of heat on the fat-filling of the hair, ultimately manifests its wicked influence. The clever hair-dresser, experienced in waving hair which has some though insufficient natural curliness, reduces this peril to some extent by using only

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moderately heated curling tongs and imparts the wave by gentle manipulation rather than by the force usually employed to wave straight hair. Even bleaching, by which hair is made porous, interferes with natural curliness. This might seem in contradiction to the general theory were it not for the fact that, in bleaching, much of the flexibility is taken away from the hair due to the removal of the fat-filling by action of the bleach.

On the other hand, there are instances which provide us with another aspect of this matter. In our household we employed a charwoman of middle age who was the possessor of a fairly long but perfectly straight head of hair. She fell ill and was compelled to remain in bed for several months during which time her physician ordered that her hair should not be washed, combed or brushed. Convalescence found it in such a state that it took her daughter days to disentangle its snarls. A few months later I had occasion to examine her hair and discovered that a much different texture had developed during the time she was in bed.

The "new" texture which covered a length of about two inches was softer and the individual

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hairs wider in diameter than the "old" texture, and possessed of a distinct natural wave. On subsequent examinations this softer texture always stood out distinctly as it moved away from the scalp, gradually losing itself, after four or five years, in the thin ends of the lengthy hair. Such cases are quite numerous among the poorer classes and every professional hairdresser can point to one or two patrons whose hair became curly during illness. The growth of curly hair during such periods has been explained as the result of fever which heated the growing hair. However, the real reason that such hair grows curly is sheer neglect. In the charwoman's case, the hair grew during all those months of sickness without interference by comb or brush. It was even relieved of its own weight, and by not being washed retained its fat-filling to the maximum. The pressure of the head against the ever-emanating hair cells tended to broaden them, where formerly the traction of brush and comb lengthened them and for this reason the hair grew stouter. The individual threads grew wider in diameter and looser in structure. Indeed we find a looser, that is to say, more porous,

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hair growth among those nations where compliance with the most rudimentary requirements of scalp hygiene is neglected. It is from those districts that the hair merchant buys his natural curly hair.

The curliness of the male infant's hair survives that of the female's in a larger degree because in early childhood the male's individual hairs are somewhat thicker than the female's and probably also because the male gets his hair cut shorter and thus requires less pull in the daily combing and brushing. Soft baby hair will often curl until its weight gets so heavy that the fine hairs no longer react.

Although adults at the present day present a majority of straight-haired individuals, a collection of samples which I took from young children in 1910 proves that nature's intention leans toward the growth of curling, that is to say, porous hair. Of 2,000 samples investigated, eighty per cent showed sufficient reaction in a humidity test to class them as naturally curly. Yet only a small proportion of the children from whom these specimens were obtained will benefit by their gift when grown up. The

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losers will be the children of the more affluent families. A variety of circumstances will assist in the defeat of nature's intention. The infant of the cultured mother is subjected to a hygienic formula, the thoroughness of which truly deserves a better result. Twice-a-day bathing during which the scalp is splashed with soap and water impoverishes the hair and produces a fine shrunken texture which soon becomes tense and hard to the touch. Nothing is more harmful to the healthy appearance of hair and to its curliness than the frequent application of fat-solvents. Yet the modern mother performs this mal-practice on the child to the fullest extent. This is less the case in families whose mother is busy with other things and who, therefore, has not the time to pay much attention to normal hygienic customs.

Based on these various observations, I recommended in 1913 a treatment for babies' hair from the viewpoint of retaining its natural curliness. Since that time it has been extensively used with excellent results. The treatment does not require that the child's head be washed, but employs a dry method of cleansing. An in-

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fant's hair should neither be brushed nor combed unless it becomes matted. Scales, as often noted on infants, will not form if dry cleaning methods are employed. These scales result mostly from the use of soap which mixes with the sebaceous fat and the shedding skin. It is for this reason that physicians forbid the use of soap and water in cases of eczema. If a child still has curly hair at the age of four, she is quite sure to retain it for the rest of her life unless conditions as above referred to cause it to deteriorate gradually.

## CHAPTER XIX

### THE PERMANENT WAVE

SECONDARY only to its hygienic hair requirements is modern society's demand for dyeing and waving. The waving of hair was formerly accomplished by various means, and if we can take evidence which recent excavations afford, it has been in practice as long as history gives record of human existence. Up to the time of the discovery of the modern principle of permanent waving, the modes of hair waving: heat or force, the former applied by heated tongs and the latter by winding the hair tightly over some small object, had not been changed.

Every woman to-day knows what a permanent wave is. She knows that it is a process of curling straight hair so that it resists all the usual attacks made on artificial curliness by weather changes. The same agents which defeat artificial curliness imparted to human hair by other methods, improve the curliness which follows a