ALOPECIA AND SEBORRHEA *

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Dandruff and loss of hair are two of the minor afflictions of civilized life which are usually sources of constant chagrin to the unfortunate men and women who fall victims to their presence. One or both of these conditions, which even we ourselves experience sooner or later, are brought to our attention as dermatologists so frequently that it seems fitting from time to time to present them as themes for discussion when we meet in the hope that some member here may contribute some small bit of knowledge to a subject which needs so much help from an etiologic and therapeutic standpoint. It is, therefore, because we practitioners are usually so helpless when confronted by a well-established case of alopecia or of seborrhea that I have ventured to summarize my knowledge of these conditions gleaned from the study of 794 examples observed in my personal private practice.

In the following pages I shall deal principally with seborrhea capitis and with alopecia simplex and alopecia furfuracea, but I shall speak superficially on alopecia areata, and alopecia from ringworm, syphilis and overexposure to x-rays.

ALOPECIA

Statistically, I record 679 cases of loss of hair divided clinically as follows:

	Cases	Males	Females
Alopecia simplex ¹	115	37	78
Alopecia furfuracea	443	206	237
Alopecia areata	86	46	40
Alopecia from ringworm.....	16	9	7
Alopecia from syphilis.....	17	11	6
Alopecia from x-rays.....	2	1	1
	679	310	369

From these figures it will be seen that women are more often affected by loss of hair than men, in the relative proportion of 54 and 46, unless it be that women feel this loss more keenly and therefore consult physicians more freely on this account. It is interesting, however, to note the figures of Elliot,² who in his paper of 1892 records about identical percentages, viz. 55 per cent. women and 44 per cent. men. Jackson,³ on the other hand, in 1893 found the proportions reversed and recorded alopecia in 52 per cent. males and 48 per cent. females.

Possible Etiologic Factors in Alopecia Simplex and Alopecia Furfuracea

From a study of my records it will be noted that heredity, dandruff, systemic depression, fever, operations and maltreatment of the scalp have been connected in the patients' minds with the production of the fall of the hair. Under the heading of systemic depression figure overwork, worry, nervous exhaustion and prostration, recent immigration or foreign travel, pregnancies, and chronic diseases or invalidism. The term "maltreatment of the scalp" is based on my own per-

sonal theories as to what is right and what is wrong in the hygiene of the scalp and includes the rough usage of brushes, combs and massage in the presence of dandruff; shampoos less often than once a month or more frequently than once a week; the use of any drugs in any form on the healthy hair or scalp; the continued application of too drying alkaline soaps; the frequent or constant exposure of the uncovered head to the summer sun; the daily sousing of the head in shower-baths or in salt water; and the modern over-treatment of the normal scalp by barbers and hairdressers.

Statistically we find these factors summed up as follows:

	Cases
Heredity: Father's side of the house.....	108
Mother's side of the house.....	51
Not recorded	12
	171
Alopecia present in brothers or sisters.....	72

From these figures it is seen that a hereditary taint exists in 30 per cent. of these individuals. Dandruff was present in 443 patients, a percentage of 79+. Systemic depression was recorded in 120 cases, a percentage of 21+. Fever was noted in 63 individuals, a percentage of 11+. Operations were blamed in 12 persons, a percentage of 2+. Maltreatment was evident in 277 patients, a percentage of nearly 50; and, finally, more than one of the above possible etiologic factors was found in 386 cases, a percentage of approximately 70.

It may be interesting to pause a moment and compare these figures with those of Dr. G. T. Elliot⁴ and of Dr. G. T. Jackson⁵ who based their figures on 344 and 300 cases respectively.

	Heredity	Systemic Causes	Seborrhea
Elliot	1.16*	5.52	91.68
Jackson	38.32		72.66
C. J. White.....	30.64	21.50	79.39

* This percentage relates to alopecia simplex only.

The figures which follow in the rest of this paper are not wholly satisfactory and are comparatively small, as the symptoms had existed so long in many cases that patients were unable to remember the exact date of their beginnings.

Ages When Alopecia Simplex First Appeared

Among those who could be exact there were 25 males and 43 females out of a possible 37 and 78 respectively.

Males: 7 cases began between 16 and 20.
8 cases began between 21 and 25.
6 cases began between 26 and 30.
1 case began at 35.
1 case began at 39.
2 cases began at 46.

It will be seen that this clinically uncomplicated type of loss of hair begins at or before the age of 30 in 84 per cent. of the male cases.

Females: 7 cases began at or before the age of 15.
3 cases began between 16 and 20.
5 cases began between 21 and 25.
4 cases began between 26 and 30.
7 cases began between 31 and 35.
2 cases began between 36 and 40.
6 cases began between 41 and 45.
6 cases began between 46 and 50.
2 cases began between 51 and 55.
1 case began at or before the age of 56.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. By this term is meant the simple loss of hair without other objective symptoms.

2. Elliot, G. T.: Sixteenth Annual Meeting of Am. Derm. Assn.; see report, p. 81.

3. Jackson, G. T.: Loss of Hair, a Clinical Study Formed in 300 Private Cases, Tr. Am. Dermat. Assn., 1900, p. 50.

4. Elliot, G. T.: Alopecia and Its Most Frequent Cause, Dermatitis Seborrheica, Tr. Am. Dermat. Assn., 1895, p. 95.

Of the seven early cases five followed acute febrile disturbances. Between the ages of 15 and 30, however, we find that 33 per cent. of these women developed their simple alopecia, contrasted with a respective percentage of 84 in men, whereas between the ages of 31 and 50 we note a percentage of 58, figures which force us to the conclusion that alopecia simplex develops much later in women than in men.

Ages When Dandruff and Alopecia Appeared in Alopecia Furfuracea

DANDRUFF

Males, 91 cases.

3 cases	began between 9 and 10
8 cases	began between 11 and 15
31 cases	began between 16 and 20
25 cases	began between 21 and 25
14 cases	began between 26 and 30
8 cases	began between 31 and 35
1 case	began at 37 and 1 at 43

Females, 75 cases.

3 cases	began between 7 and 10
12 cases	began between 11 and 15
10 cases	began between 16 and 20
13 cases	began between 21 and 25
11 cases	began between 26 and 30
12 cases	began between 31 and 35
7 cases	began between 36 and 40
3 cases	began between 42 and 45
4 cases	began between 46 and 50

Contrasting these two columns of statistics we are struck by two facts, viz., that men are more prone to remember the exact date when their dandruff began than is the case with women and that in these men and women seborrhea capitis appeared at an earlier period in the former sex than in the latter. Thus between the years 16 and 25 we find 61 per cent. of males developing their dandruff while in females at a similar epoch we find but 32 per cent.

ALOPECIA

Males, 127 cases.

6 cases	began between 10 and 15
30 cases	began between 16 and 20
55 cases	began between 21 and 25
14 cases	began between 26 and 30
14 cases	began between 31 and 35
2 cases	began between 36 and 40
3 cases	began between 41 and 45
2 cases	began between 46 and 50
1 case	began at 60

Females, 129 cases.

7 cases	began between 12 and 15
24 cases	began between 16 and 20
21 cases	began between 21 and 25
25 cases	began between 26 and 30
25 cases	began between 31 and 35
16 cases	began between 36 and 40
5 cases	began between 41 and 45
1 each	at 46, 51, 54, 61, 63 and 68

In these columns it is seen that men and women are apparently equally impressed by the exact age at which their hair begins to fall but that between the ages of 16 and 25 alopecia develops in 67 per cent. of the men affected against 34 per cent. in the women.

Thus from these foregoing contrasting figures we learn that men are attacked much earlier than the opposite sex by alopecia furfuracea whereas women, as a whole become the victims of alopecia, either simple or furfuraceous, more often than men, in fact, in the proportion of 56 to 43.

Varieties, Distribution, and Subjective Symptoms of Dandruff and Loss of Hair in Alopecia Furfuracea

DANDRUFF		ALOPECIA	
	Cases.		Cases.
Slight in	127	Slight in	67
Abundant in	199	Marked in	130
Localized in	83	General in	30
Yellow-brown in	56	Principally on forehead	
Oily in	78	in	119
Dry in	53	Principally on top of head in	79
Granular in	23	Principally on sides in	13
Adherent in	38	Principally at tonsure in	38
Loose and large in	39	Hair dry in	37
Accompanied by pruritus in	97	Hair greasy in	15
Accompanied by burning in	3	Hair split in	49
Accompanied by hyperidrosis in	30	Hair short in	34
		Hair coarse in	8
		Hair fine in	21

These figures require no elucidation. It is evident from their study that in alopecia furfuracea we may expect to encounter more often well-marked examples of seborrhea and of loss of hair than the reverse; that dandruff is usually general in distribution, while alopecia is generally localized; that dandruff is frequently accompanied by subjective symptoms and is often associated very strikingly with many changes in the texture of the hair as well as in its loss.

The Treatment of Alopecia Furfuracea

I fear that we must all agree that our therapeutic results in this disease are very disheartening. I tell all my patients who have noted this condition for more than a few months, and especially those whose forebears have been similarly affected, that a permanent cure is hardly to be hoped for, but that by long and continued perseverance on their part they may keep their scalps clean and delay the inevitable baldness for years.

The medical aphorism which tells us that therapeutic non-success may be judged by the multiplicity of the drugs recommended in a given disease is well emphasized in the present instance.

My armamentarium has included the following medicaments:

Washes, containing 70 per cent. alcohol, quinin, cantharides, capsicum, pilocarpin, chloral hydrate, tartaric and salicylic acids, phenol, formaldehyd, trikresol, anthrasol, and croton and turpentine oils.

Ointments, containing sulphur, salicylic acid, zinc oxid, resorein, oil of cade, ichthyol, succus limonis, yellow oxid and ammoniated chlorid of mercury, orthoform and baborate of soda.

Soaps, containing betanaphthol and glycerin.

Internal medication, including iron, nux vomica, magnesium sulphate, dilute sulphuric acid, betanaphthol, malt, cod-liver oil, phenyl salicylate, ichthyol, salicin, thyroid extract and phosphate of soda.

Massage.

Despite this long list I practically confine myself to four prescriptions which I append:

1. R.	gm. or c.c.	
Acid. salicyl		
Sulph. precip. aa	2	or 3ss
Petrolatum	32	3i
M. S.—Ointment. Apply at night. Shampoo with a simple soap the following day.		
2. R.	gm. or c.c.	
Pilocarpin nitrat.	06	gr. i
Quinin sulph.	6	or gr. x
Tr. canthar.		
Tr. capsic. aa	10	3iii
Alcohol, 70 per cent. ad	250	fl. 3viii
M. S.—Wash for scalp. Apply in the morning.		

3. R.	gm. or c.c.	
Acid tannic	2/26	gr. xxxv
Chloral hydrate	1/66	gr. xxvii
Acid tartaric	2	gr. xxx
Ol. ricini	1	or m. xv
Alcohol, 70 per cent.	200	fl. 3vi
M. S.—Wash for scalp. Apply in the morning.		
4. R.	gm. or c.c.	
Hydrarg. chlorid. corrosiv.	24	gr. iv
Euresol	8	or 3ii
Sp. formicarum	30	3i
Ol. ricini	4-12	3i-iii
Alcohol, 70 per cent. ad.	250	3viii
M. S.—Wash for scalp (poison). Apply two teaspoonfuls in the morning.		

The last of these four I hold easily first in its successful results. I associate its formula with Dr. G. T. Elliot, and it has proved a veritable godsend to me in treating many of these almost impossible cases. The essential feature in its composition is, I believe, euresol—the mono-acetate of resorcin. The smell of this salt is a very unfortunate factor, however, but one which the manufacturers have not been able to eradicate without markedly diminishing the value of the drug. The chloralhydrate wash I place second in efficacy.

Perhaps the most striking feature of these four prescriptions seems to be the absence of pure resorcin from their composition. I am free to confess that I never have been able to reduce its strength sufficiently to render it anything but an irritant to the scalp.

Results of Treatment Summarized by Age

MALES, 200 CASES					
Very good, 10 cases		Slight, 58 cases			
At	19	2 cases	Between 15 and 20, 10 cases		
Between 20 and 25,	4 cases	Between 21 and 25, 20 cases			
Between 26 and 30,	3 cases	Between 26 and 30, 13 cases			
At	31	1 case	Between 31 and 35, 6 cases		
Between 41 and 45,	3 cases	Between 36 and 40, 2 cases			
Between 46 and 50,	2 cases	Between 41 and 50, 4 cases			
At	58	1 case	Between 53 and 63, 3 cases		
Good, 80 cases		Poor, 37 cases			
At	13 and 14,	2 cases	At	18 and 19,	2 cases
Between 16 and 20,	10 cases		Between 21 and 25,	14 cases	
Between 21 and 25,	16 cases		Between 26 and 30,	8 cases	
Between 26 and 30,	23 cases		Between 31 and 35,	7 cases	
Between 31 and 35,	13 cases		Between 36 and 40,	4 cases	
Between 36 and 40,	9 cases		Between 42 and 46,	2 cases	
Between 41 and 45,	3 cases				
At 49, 56, 65 and 75,	1 case		Bad, 9 cases		
			Between 20 and 26,	4 cases	
			At	32	2 cases
			At 38, 42 and 53,	1 case	
FEMALES, 194 CASES					
Very good, 17 cases			Good, 93 cases		
At	13	1 case	Between 11 and 14,	4 cases	
Between 26 and 30,	4 cases		Between 16 and 20,	7 cases	
Between 31 and 35,	5 cases		Between 21 and 25,	10 cases	
At	38	2 cases	Between 26 and 30,	15 cases	
Between 47 and 50,	3 cases		Between 31 and 35,	16 cases	
Between 56 and 60,	2 cases		Between 36 and 40,	12 cases	
			Between 41 and 45,	7 cases	
Slight, 53 cases			Between 46 and 50,	4 cases	
Between 5 and 9,	2 cases		Between 51 and 55,	3 cases	
Between 13 and 15,	4 cases		Between 57 and 60,	3 cases	
Between 16 and 20,	2 cases		At 63, 80, 83 each,	1 case	
Between 21 and 25,	11 cases				
Between 26 and 30,	11 cases		Poor, 25 cases		
Between 31 and 35,	7 cases		Between 11 and 15,	2 cases	
Between 36 and 40,	4 cases		Between 16 and 20,	2 cases	
Between 41 and 45,	3 cases		Between 21 and 25,	3 cases	
Between 46 and 50,	5 cases		Between 26 and 30,	6 cases	
Between 51 and 55,	2 cases		Between 31 and 35,	4 cases	
At	70	2 cases	Between 36 and 40,	2 cases	
			At 50, 56, 60	2 cases	
Bad, 6 cases					
At	15	1 case			
Between 30 and 37,	2 cases				
Between 43 and 48,	3 cases				

These figures are comparatively small because many patients came but once and hence cannot be included in these lists.

From these figures it is seen that the prognosis in women is better than in men in the proportion of 56 per cent. to 48 per cent. These percentages are based on the "very good" and the "good" results in both sexes; and in addition we see that there were fewer "poor" and "bad" results in women than in the men in the proportion of 16 per cent. to 23 per cent. Therefore, we may encourage our feminine patients decidedly more than we can our masculine.

SEBORRHEA

Included in this study of 794 cases were found 117 individuals who were the subjects of dandruff alone. It is rather a disconcerting fact to find so many examples of seborrhea capitis without resulting loss of hair, especially as this condition had existed for many years in many of these people—disconcerting because in this paper it has been inferred, at least, that dandruff is the most frequent cause of alopecia. Nevertheless, when the data are put into cold figures it will be found that these inferences are perhaps not wholly wrong. In the list there are 115 cases of alopecia simplex or a total number of 232 individuals in whom dandruff has played no part in the production of loss of hair. On the other hand, there is a total of 443 men, women, and children, a ratio of nearly two to one, in whom dandruff and loss of hair were present and in whom, by the figures in the great majority of instances, the seborrhea had preceded the alopecia for varying lengths of time.

To return to our cases of seborrhea simplex. Of the 117 examples 54 were males and 63 females, a ratio of 46 to 54—a distinct feminine preponderance and curiously enough corresponding absolutely exactly to our percentages of alopecia from various causes recorded in the early part of this communication (see above).

Age When Seborrhea Began

Males, 32 cases		Females, 20 cases	
At 1, 11, 14 each, 1 case		At 1, 7 each, 1 case	
Between 16 and 20, 8 cases		Between 10 and 15, 7 cases	
Between 21 and 25, 2 cases		Between 16 and 20, 10 cases	
Between 26 and 30, 10 cases		Between 21 and 25, 5 cases	
Between 36 and 40, 4 cases		Between 26 and 30, 4 cases	
Between 53 and 60, 4 cases		At 41	1 case
At 65	1 case		

These are rather small figures from which to draw conclusions but one is struck by the fact that dandruff comes on in childhood or in early adult life—71 per cent. in men and 96 per cent. in women exhibiting this symptom at or before the age of 30.

Incidence of Seborrheic Symptoms Other Than Dandruff

For some years it has been my custom to regard seborrhea as merely the cutaneous evidence of some internal disorder and to look on acne vulgaris, acne rosacea, eczema seborrheicum and Fordyce's disease of the lips as similar expressions of the same general disturbance. So, from a study of these records, I find that in the 443 cases of alopecia furfuracea there were 57 individuals (a percentage of 12, consisting of 31 males, and 20 females) who exhibited one or more of these allied eruptions; while in the 117 examples of seborrhea simplex there were 29 men and 38 women (a total of 67, or a percentage of 57) with similar efflorescences.

DYSPEPSIA

As to the nature of the fundamental disorder which, some think, lies at the bottom of these seborrheic symptoms we are decidedly at sea. Many of us, however, are wont to accuse digestive disturbances as possible sources of trouble and in this series of cases clinical evidences of dyspepsia have been found in the following percentages: in alopecia simplex 3; in alopecia furfuracea 8; and in seborrhea simplex 17. Surely, these are small crumbs of comfort to the believers in the digestive origin of these disorders.

Regions Affected in Alopecia Areata and in Ringworm

ALOPECIA AREATA, 86 CASES

Scalp, 71 cases		Ringworm, 9 cases	
Occipital,	36 cases = 50 %	Occiput,	5 cases = 55 %
Parietal,	11 cases = 15 %	Top of head,	2 cases = 22 %
Top of head,	8 cases = 11 %	Sides,	1 case = 11 %
Frontal,	5 cases = 7 %	Beard,	1 case = 11 %
General,	11 cases = 15 %	Face, 21 cases	
		Beard,	13 cases = 62 %
		Upper lip,	5 cases = 24 %
		Eyebrows,	3 cases = 14 %

No comment is necessary on these figures; they are very small but they speak for themselves. In scrutinizing my cases of alopecia areata I was struck by the marked incidence of an accompanying dandruff. This statement of course coincides with Sabouraud's dictum that pathologically and bacteriologically seborrhea always precedes or accompanies alopecia areata. Another fact impressed on my mind in the study of these cases is that one attack of alopecia areata very often leads to one or more successive outbreaks.

SUMMARY

This then brings me to the end of these numerous columns of figures and deductions, which in conclusion I may summarize as follows:

1. Alopecia accompanied by dandruff is the commonest type of loss of hair.
2. Women are more prone to alopecia than men, in the proportion of 54 to 46.
3. The possible and principal causal factors of alopecia are heredity in 30 per cent., dandruff in 79 per cent., systemic depression in 20 per cent., fever in 11 per cent., and maltreatment of the scalp in 50 per cent.
4. Alopecia simplex develops before the age of 30 in 84 per cent. of the men, but in only 33 per cent. of the women.
5. Dandruff behaves in a similar manner and before the age of 25 attacks 61 per cent. of its future male victims but only 32 per cent. of its female.
6. The loss of hair in alopecia furfuracea comports itself with these previous two findings, appearing before the age of 25 in 67 per cent. of the men, but only in 34 per cent. of the women.
7. Summarizing paragraphs 2, 4, 5, and 6, we find that men are attacked earlier than women with alopecia and with seborrhea but that eventually women rather than men fall victims to these conditions.
8. When dandruff is present it is apt to be abundant rather than slight, oily rather than dry, and to be accompanied by itching.
9. With alopecia we find well-marked cases rather than mild ones, located in the great majority of the cases in the frontal and temporal regions and accompanied by hair which is apt to be dry, split, short and fine.

10. The drugs most successful in the treatment of dandruff and loss of hair are euresol, bichlorid of mercury, tannic acid and chloral hydrate.

11. The final results of treatment in these affections are almost disheartening, but judged from a temporary point of view, we may expect good or very good response in 48 per cent. of men and in 56 per cent. of women.

12. Seborrhea may exist for years without entailing any appreciable loss of hair; nevertheless, dandruff does seem to be followed or accompanied by alopecia twice as often as not.

13. Seborrhea simplex is a disease of childhood or early adult life, developing before the age of 30 in 71 per cent. of men and 96 per cent. of women.

14. Other seborrheas of the skin such as acne vulgaris, acne rosacea, eczema seborrheicum and Fordyce's disease, may accompany loss of hair and dandruff. Their percentages of concomitance, however, vary, and consist of 12 per cent. in alopecia furfuracea and 57 per cent. in seborrhea simplex.

15. Dyspepsia, on the other hand, exists in surprisingly small percentages in these cases, being present in only 3 per cent. in alopecia simplex, 8 per cent. in alopecia furfuracea, and 17 per cent. in seborrhea simplex.

16. From the preceding two paragraphs we may induce that seborrhea simplex is a truer form of dandruff than that accompanying loss of hair.

17. In alopecia areata and in ringworm of the scalp, the region most affected is the occipital.

18. In alopecia areata dandruff is a frequent accompaniment and we also find that one attack of the disease is apt to be followed by one or more later outbreaks.

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ABSTRACT OF DISCUSSION

DR. WILLIAM O. ROOP, Dayton: I indorse Dr. White's statement in regard to the value of euresol in treatment of these diseases of the scalp. I have frequently included it in my application in the treatment of these seborrheic conditions, and it has given me better results than some of the older remedies.

I have been consulted during the past year in several cases of alopecia areata, and in all I was particularly struck by the accompanying seborrhea; and while the recognized treatment has always been of a stimulating character, I felt that inasmuch as the etiology of alopecia areata is somewhat in dispute, that perhaps the same treatment as for seborrhea, and of a less stimulating character than that usually employed, might be successful. With that idea in view, I used a simple ointment of sulphur and resorcin, rubbing it into the patches at night, and in a number of instances I have been rewarded by a rapid return of hair in these bald areas. In other cases I have used treatment of a more stimulating character, such as applications of chrysarobin, phenol and the high-frequency current, but I was surprised to observe that my results were more rapid and satisfactory from use of the milder methods. This would suggest that alopecia areata may be of seborrheic origin since the two affections are so frequently concurrent and both yield to the same treatment.

DR. FRANK C. KNOWLES, Philadelphia: In anticipation that Dr. White would dwell on the subject of alopecia areata, I have reviewed the dispensary reports of four hospitals, the Pennsylvania, University of Pennsylvania, Howard, and Children's, with which I am connected. During the last five years I have seen 105 cases of this disease, twelve of this number being of the universal type. Alopecia areata of dental origin has recently been reported by several writers; Jacquet has written most extensively on this phase of the subject.

Rousseau-Decelle (*Bull. et mém. de la Soc. méd. des hôp.*, 1909, p. 62) has described several cases. Jourdanet (*Bull. de la Soc. française de dermat. et de syph.*, April, 1910), detailed an alopecia areata of the nape of his own neck following caries of a wisdom tooth. Traumatism seemed to have been etiologic in a few of my cases. In my collection of photographs are five pictures of a case of universal alopecia, in a boy of sixteen. The various stages and relapses of the disease, extending over a period of three and one-half years, are plainly shown. The last photograph, which was taken in May, 1910, shows complete restoration of all the hair.

DR. J. M. KING, Nashville: Dr. Whitfield, of King's College, London, who has the reputation of being a very careful and competent observer, has found some defect of vision in nearly all his patients with alopecia areata. I remember that whenever such a patient consulted him, he always had the vision tested. In treatment, the prescription that I have used, in alopecia of the seborrheal type has been made up of bichlorid of mercury, resorcin, chloral hydrate, tincture of cantharides, glacial acetic acid and alcohol. I first saw this used in St. George's Hospital, London, and I found that it acted very well indeed in a number of cases. I have not tried euresol, as this mixture has served me well in conjunction with sulphur ointment, used once every week or two weeks, the night before the application of green soap shampoo.

DR. ALFRED SCHALEK, Omaha: I was surprised to hear that seborrhea was an incurable disease, as my experience has not borne that out. I believe that it is curable in the majority of cases if the treatment is sufficiently prolonged. In one case of alopecia areata in which I applied the high-frequency current, the coincident seborrhea of a severe type from which the patient was also suffering largely disappeared, and from that time on I have used the high-frequency current in these cases with good results.

DR. J. B. KESSLER, Iowa City: The statement made by Dr. White that alopecia was more common in females than in males rather took me by surprise. My experience has been the reverse. In the hospital with which I am connected there are about 45 nurses in the training-school; after they have been in the hospital six or eight months many of them complain that they are losing their hair. Last summer, in connection with some of my colleagues, I took up this matter to see if the cause of this loss of hair could be determined. We investigated the cooking and the quality and quantity of the food, which was up to the average and sufficiently nourishing, and the only possible etiologic factor we could find was a lack of exercise in the open air. These nurses were on continuous duty for twelve hours and then returned to the Nurses' Home to sleep and study. It seems to me that this is the most prolific cause of alopecia in this class of people. I believe that women, as a rule, take better care of their hair than men, and when the hair becomes affected they are apt to follow the physician's directions more faithfully than men.

I have had some experience with euresol, and while it is very efficient, it is also very expensive, \$1.00 an ounce making the price almost prohibitive. I have found, usually, in these forms of alopecia, that ointments are better in the beginning than solutions, and that the latter are more effective when they are preceded by the use of ointments. A favorite application of mine—although its odor is objectionable—is the oil of cade and sulphur. I first learned the value of this mixture while I was in Boston, working under the elder Dr. White. Euresol was brought to my attention through the kindness of Dr. Charles J. White; my results with this remedy, as well as those of my son, have been very satisfactory. I keep up the application for about a month, when the dandruff can be easily removed and the scalp will remain free from it for a reasonable length of time. There are some cases, however, and I have one under my observation at the present time, in which all methods of treatment are more or less unsatisfactory.

DR. ISADORE DYER, New Orleans: I want to sound one note in the danger of the use of the hair brush. I have preached for many years that no patient with dandruff will

recover until the hair brush is discarded. There are only two ways of sterilizing it: One is by boiling and the second is by burning it. In the propagation of dandruff, the barber-shop is probably the chief offender, and I believe that an inspection of the usual ancient hair brush found in the wash-room of the country hotel or in any public place will demonstrate the destruction of the bristles of the brush itself by the micro-organism. The men who are interested in the work of this Section, as well as all dermatologists, should carry on this crusade against the hair brush as I have long done in my own city. I have frequently seen patients in whom the recurrence of dandruff invariably followed a visit to the barber shop. While on a visit aboard, after I had been free from dandruff for many years, I visited a barber shop and warned the barber not to use the brush. Just as he was completing his work, however, he forgot my instructions and gave one stroke with the hair brush. Five days later I again began to treat my scalp for dandruff. I cannot concede that the particular form of seborrhea which we call dandruff is incurable. I instruct male patients to wash their scalp every day; the female patients every other day, or at least twice a week. An experience extending over a number of years, has justified my faith in the use of resorcin, 2 to 5 per cent. solutions. Euresol has no advantage over this, in my own experience. In fair-haired patients, or those who have hair tinged with gray, the resorcin must be modified or some substitute employed. By neglecting this precaution, I have once or twice in my early experience inflicted on my patients hair which in color resembled the plumage of a canary bird. Chloral hydrate serves in these cases; it is an excellent stimulant to the scalp and an efficient antiseptic. I have never seen a case of alopecia areata which I believed to be parasitic, or in which I was not able to demonstrate a neurotic basis. I remember one case in which these bald patches recurred for nearly a year; the patient's occupation was that of a driver of a fire engine, and when he gave that up, his hair promptly and permanently returned.

In the treatment of this condition, I regard the high-frequency current as more satisfactory than any other.

DR. M. L. HEDINGSFELD, Cincinnati: The basis of our present treatment of alopecia rest on the experiments of Lassar and Bishop, which were carried on 30 to 40 years ago on mice, rabbits and other animals. For fifteen or 20 years the results of this work were unquestioned: when they were controverted by Blaschko, who maintained that alopecia was not a parasitic condition. Blaschko carried out a series of experiments similar to those of Lassar and Bishop, and his results were absolutely negative. Treatment of this condition at the present time is based largely on the theory that it is of parasitic origin. Personally, I concur in the belief that premature baldness is not a parasitic condition. I think that too much manipulation of the scalp by rubbing and massaging is injurious both in men and in women. Premature baldness is accompanied by four cardinal symptoms, i. e., itching, dandruff, a dry or oily condition of the scalp, and, lastly, loss of hair. Dandruff is only a precursor of the loss of hair, and in order to prevent the occurrence of the latter, we must control the itching, the dandruff and the abnormal condition of the scalp. Treatment must be directed against these special conditions. Resorcin, if too strong or too frequently applied, will produce an oily condition of the scalp. An oily scalp may be rendered less oily, or even dry, by substituting colloidal sulphur or nascent sulphur, after the formula of Radcliffe Crocker for the resorcin.

DR. WILLIAM FRICK, Kansas City: In the alopecia accompanying syphilis the loss of hair is not always limited to the scalp. I recently saw a case in which the alopecia of the scalp was not complete, but there was a complete loss of the eyebrows and eyelashes.

DR. WILLIAM A. PUSEY, Chicago: One factor in regard to alopecia has not been mentioned and is worthy of consideration, particularly with the present fashion, and that is, excessive exposure of the scalp to sunlight. We are all familiar with the middle-aged man riding horseback or playing golf bareheaded in the forlorn hope of bringing his hair back. For many years I have regarded this excessive expos-

ure to sunlight as an exciting factor in the production of alopecia. I have noticed that many of these patients apply for treatment in the autumn, after they had gone bare-headed throughout the summer, and I was also led to this idea through the analogy of the effect of the sun's rays with those of the α -rays. We know that with highly actinic energy we can produce baldness, and I am inclined to believe that free exposure to sunlight will have the same effect. This is probably only one of many factors, and in my opinion alopecia is a condition of complicated etiology; it is not a well-grounded view that all alopecias or nearly all are parasitic.

I have never been able to convince myself of the value of many of the remedies that have been mentioned in the treatment of this condition. This is true of resorcin, with which I have had a very unsatisfactory personal experience. I know of only two remedies that have a definite value in the treatment of alopecia, namely, tar and sulphur. I have used alcohol in various combinations, and it is my impression that about as much good is accomplished by alcohol alone as when it is combined with other remedies.

Dr. J. GRINDON, St. Louis: It is a popular notion that frequent washing injures the scalp, but practically, I have observed that those who are the most inveterate and constant in the practice of washing the scalp keep their hair as long as anybody else, and I always tell my patients that they can wash their heads as often as they please. Nor can I understand how the application of soap and water to the surface of the scalp can have any bad effect on the growth of the hair. In regard to medication in these cases, I have had very good results from the use of resorcin, and I agree with Dr. Kessler that solutions are usually more effective when they are preceded by the use of ointments. One of my favorite prescriptions is composed of petrolatum, salicylic acid and sulphur. I tell my patients that this application is disagreeable, but that it will probably not be necessary to continue it for longer than a month. After this I use resorcin, usually a 2 per cent. solution, either alone or in combination. In cases of well-established seborrheal alopecia I tell my patients that I do not believe that I shall ever be able to give them an actual permanent cure, but that I hope to bring about a symptomatic cure, providing they keep up the treatment indefinitely. As long as they live they will be obliged to pay some attention to the scalp in order to avoid a recurrence. So far as the effect on the scalp of exposure to the rays of the sun is concerned, I must agree with Dr. Pusey on theoretical grounds. The comparative frequency with which cases of loss of hair are observed in the autumn I attribute not to the effect of the sun's rays, but rather to the fact that there is natural loss of hair at that period of the year, whether one plays golf bareheaded or not. The α -ray, in small doses, causes a growth of hair, while large doses produce a loss, and the actinic rays from the sun in such doses as we get them, probably stimulate the growth of hair. Our ancestors, who wore no clothing at all, had hair all over their bodies.

Dr. J. B. KESSLER, Iowa City: I have in mind a case of universal alopecia in a boy of 18 in whom the condition has now lasted about 2 years. With the exception of two or three little stubs, his body and scalp are completely bare. He has been examined by a neurologist and his blood has been examined with entirely negative results. I have been unable to find the cause of the alopecia or a remedy for it.

Dr. FRANCES ROWLEY, Galveston: Has anyone studied this matter with reference to the diet of the patient? Has the nitrogenous metabolism been investigated, or would these patients receive any benefit by increasing the sulphur?

Dr. C. J. WHITE, Boston: The diversity of opinions expressed well illustrates the fact that we really do not know anything about this subject scientifically. We have our pet theories, and we reason largely by analogy. I agree with Dr. Pusey in regard to the effect on the hair of over-exposure to sunlight. I believe that the scalp and hair are supposed to have a certain amount of grease, and if we expose the scalp to the sun, we remove the greasy element and the hair becomes bleached. For the same reason, constant washing of

the head or over-treatment of the scalp is equally disadvantageous. This history of too much sun or too much washing I have frequently obtained from persons who were prematurely bald.

My colleagues and I in Boston have never derived much benefit from the use of resorcin in this disease. If it is applied strong enough to do any good, it inflames the scalp. As to a possible deficiency of sulphur in the economy, to which Dr. Rowley referred, I do not know whether any scientific work has been done in that direction, but I have given that drug internally in one of its several forms without resulting benefit.

I tell my patients to use a hair brush as little as possible unless it is a clean one, and instruct them to sterilize it by placing it in the sun for a few hours at least once a week. I agree with Dr. Dyer that the hair brush is a very common cause of the persistence of dandruff. In treatment in general, I have tried all the various ointments, and in my hands they did not work so well as the two lotions that I have described. I believe that women are affected with alopecia oftener than men, but there are cases in which men feel more keenly than women the loss of their hair. As to the various etiologic factors of alopecia areata referred to by Dr. Knowles, I do not think we know the true cause of the affection, but I believe that in some specific organism plus the stimulus of a nervous breakdown or sudden shock or the debilitating effect of slow sepsis from carious teeth we have a reasonable theory of the origin of this disease.

THE EXTERNAL PREPARATIONS OF THE U. S. P. AND THE NATIONAL FORMULARY *

C. S. N. HALLBERG, Pharm.D., M.D.
CHICAGO

THE U. S. PHARMACOPEIA

The external preparations of the U. S. P. comprise some 55 articles representing the following classes:

Unguenta	Linimenta
Cerata	Collodia
Suppositoria	Cataplasmae
Oleata	Chartae

Previous to the last revision these preparations were designed from a purely pharmacal standpoint: that is, the selection of the vehicle—the forming substance—was governed primarily by pharmaceutical considerations, so as to insure stable and otherwise superficially satisfactory preparations.

Having immediate charge of these preparations in the last revision, it was our good fortune to receive suggestions from many medical specialists, ophthalmologists, gynecologists and dermatologists, such as Dr. W. L. Baum of this Section, and the formulas for these preparations were for the first time revised on a therapeutic basis. Since they have proved uniformly satisfactory pharmaceutically, it might be well here briefly to consider these preparations according to their classification and therapeutic groupings, in order to determine whether practice has demonstrated the correctness of the theoretic considerations on which they were severally formulated, and it is hoped that the fullest discussion and criticism may obtain among those who use these preparations.

* The author of this paper, being now engaged in the revision of the U. S. P. and the N. F., desires physicians to report to him any criticism on these preparations, particularly the newer ones taken from the British Codex, and also any additions that might be sufficiently valuable or extensively used to warrant admission to either the U. S. P. or the N. F. Address C. S. N. Hallberg, 74 E. Twelfth Street, Chicago, Ill.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.