The view has been long held, especially in France, that alopecia areata is a communicable disease of parasitic origin, but the definite proof has not hitherto been furnished. Sabouraud, as a result of his investigations into ringworm, became convinced that, since it is impossible for any parasiticide to penetrate to the root of the hair from the structural formation of the follicle, to cure it some means of producing a temporary casting of the hair would require to be discovered. This, it occurred to him, might be accomplished, were the agent giving rise to alopecia areata found out. For the last two years he has investigated this point on 300 cases, working backwards from the stage of reproduction of new hair to that of commencement, with the appearance of club-shaped stumps. It became evident that the disease is not one of the hair, but of the integument; and all the organisms discovered in the areas of renovation or total baldness were simple saprophytic ones. All the morbid conditions indicate a pre-existent intoxication, the cause of which had disappeared. In the earliest stages, however, he found that one out of every two or three follicles at the margin showed an ampulliform dilatation at its upper part, which he calls the utricle. This, when first perceptible, is roofed by a dome having a minute window in its centre. In this cavity alone the micro-organism is to be found. So long as the aperture remains closed the microbacillus exists in a pure state, but when it opens it disappears, and saprophytic fungi enter. The bacillus is one of the smallest known, and is in innumerable numbers. It is, according to him, constant in the early stage of the benign form. In total alopecia of this type, there seem to be two stages, in one of which the bald skin is oily and shining, and a second in which it is dry and rather scaly, and in which there is a tendency to restoration of hair. If, in the seborrhoeic stage, the contents of the follicles are expressed by massage, the same organisms found in the utricle are recognisable in immense numbers; less numerous in the drier stage, and not to be found when healthy lanugo hairs begin to clothe the surface. Sabouraud hesitates to pronounce the microbe he has discovered as the causal element, for one both identical in appearance and in reaction to stains has been found habitually in the comedo and in seborrhoea of the oily type. The success of epilating a ring of hairs in the early stage as a means of protective demarcation against extension is explained, if Sabouraud's discovery should be verified.—Ann. de dermat. et de syph., Paris, March, April, May, June, 1896.

The Limited Hyperkeratoses.

An admirable contribution dealing with this subject was presented by Dubreuilh to the London International Congress of Dermatology. The
study of keratoses in the widest sense includes the half of dermatology; the number even of the limited ones is considerable.

(a) Simple keratomata of traumatic origin.—This first group comprises the callosity and the corn, which are the immediate result of repeated pressure and friction, shown by their disappearance when the exciting cause is removed. The callosity is made up of an exaggerated production of horny tissue, normal in structure, compressing the subjacent parts. The living layers of the epidermis suffer little modification, and the dermis exhibits no notable alteration. The corn is a callosity complicated by the localised exaggeration of the process in the centre of the lesion. There results the formation of a horny cone, which insinuates itself like a wedge, reducing the deeper layers of the epidermis to three or four rows of flattened cells, causing the papillae situated at its apex to disappear, atrophying the dermis, and leading even to deep-seated changes such as the production of a serous bursa. In this group keratinisation is more rapid, but proceeds naturally; the lesion remains purely epidermic, and the dermic alterations are trivial and entirely passive.

(b) Limited hyperkeratoses of congenital origin; keratoid nævus.—The nævus is a benign and limited alteration of the skin of congenital origin, and in nature hyperplastic. This definition includes all the facts, but the congenital origin must be admitted as a postulate for many of the lesions, as these do not in some cases manifest themselves till adult life. The different types of nævi vary among themselves—(1) by the age at which they appear; (2) by their distribution, the lesions being single or multiple, scattered or systematised; (3) by their anatomical structure. This last is generally characterised by the hyperplasia of one or several of the normal elements of the skin, with more or less pronounced metatypism. The keratoid nævus is a special example of this general thesis. It may be pure, or the subjacent dermis may show other alterations of the same kind. In general it is constituted by a hypertrophy of all the layers of the epidermis, and in particular of the corneous layer, forming more or less marked projections; the papillae are often also markedly developed. The systematised and unilateral or bilateral and symmetrical keratoid nævi include the greater number of the cases described under the name of ichthyosis hystrix, and some observations published as cutaneous horns may be looked on as discrete keratoid nævi. These cases of multiple juvenile horns are distinguished from senile horns by their simpler structure; by their occurring in considerable numbers; by a distribution showing none of the specialties of localisation of senile ones; by the age, nearly all in young girls; by the manner of onset, the lesions appearing in course of the first year, and being sometimes preceded by a red macule, a mode of commencement common to very varied nævi.

(c) Papillary hyperkeratoses.—These lesions, regarded by the older authors as papillomata, by Auspitz and Unna as acanthomata, are really both. The papillary layer is the vascular substratum of the epidermis, it is the interstitial tissue of an organ of which the epidermis is the parenchyma. They cannot therefore be separated, and it is natural to admit that in the majority of pathological processes both are simultaneously affected, though it may happen, as in the common wart, that, conformably to special circumstances and in particular the situation,
epidermic or papillary alterations predominate. We must not regard the dermic papillæ, especially such as form part of the pathological tumours, as differentiated and pre-existent organs. They are projections of the papillary layer corresponding to the interstices of the epidermic cones, but which can grow independently. The papillæ are then the result of the epidermic lesion; they can appear under this influence on surfaces which normally are poor in or unprovided with them, as cicatrices. Nevertheless they may subsequently so develop as to acquire a predominant importance. The group of papillary hyperkeratooses includes the verruca plana juvenilis, the verruca vulgaris, and exhibits a very close relationship with the condyloma acuminata or vegetations of the mucous membranes.

1. The verruca plana juvenilis.—This has a well-marked clinical individuality; it localises itself on the face, whence it may extend over the scalp, the dorsum or palm of the hand, and in all these parts it presents an aspect very different from the verruca vulgaris. It often happens that an individual who has several flat warts on one hand develops a generalised eruption on both hands and on the face. In such a case the entire eruption is exclusively composed of flat warts. The anatomical distinction is less exact, nevertheless there are constant differences.

2. Verruca vulgaris presents considerable differences of aspect, according to the region affected; that on the back of the hand may be regarded as the mean type. On the palm and still more on the sole, it is but little prominent; as a result of pressure, embedded in the dermis it burrows so as almost entirely to disappear; the inclosure is completed by a prominent collar of hyperkeratosis, which surrounds without forming part of the lesion. On the face, on the contrary, the verruca vulgaris is wholly prominent, forming a short brush of long papillæ, discrete and individually inclosed in a horny sheath. The verruca vulgaris commences by a budding of the epidermis towards the dermis. By their increase in diameter these buds press back the adjoining parts, so that the papillæ and interpapillary epidermic cones become slender and oblique; by their increase in length they determine the passive elongation of the papillæ. This elongation is not indefinite, for the free surface of the wart wears away by friction, and the papillary vessels become thromosed in segments when they attain a certain length. This is the cause of the black points observed on the surface of older warts. The stretching of the papillæ is particularly well marked when the wart shows a cellular alteration, which Dubreuilh has observed in half his cases, and which is analogous or identical with that described by Unna in horns as “medullisation.” It ends by replacing the normal corneous substance by a spongy tissue, somewhat like rush pith.

(d) Precancerous keratooses.—There is a whole group of hyperkeratosic lesions, approximating to epithelioma by their histological characters, and which have a natural tendency to terminate in epithelial cancer. This termination is not a necessary one, it is even rare for some, yet it is sufficiently frequent to lead us to regard these lesions as the seeds of cancer.

1. Cutaneous horns.—The ordinary horn and the filiform one, or fibrokeratoma, which is one in miniature and occasionally a commencing
one, may be classed together, as Unna has done. These are produced, like the verruca vulgaris, by the growth downwards of the epidermis, with passive elongation of the papillae, which, having attained a certain length, become thrombosed in segments, but they differ from it by many anatomical, etiological, and clinical characters. The epidermic buds exhibit extreme irregularity and a metatypism of the prickle cells, which, added to the cellular infiltration of the subjacent dermis, imparts to the base of a horn a striking resemblance to epithelioma. The horn is an ailment of adult life, habitually consecutive to some other lesion which we are accustomed to see giving rise to an epithelioma—as a scar, a wen on the scalp, a patch of keratosis senilis, etc. In short, sometimes a horn assumes a malignant type, and becomes transformed into epithelial cancer.

2. Keratoma senile.—This very common ailment belongs to the better type of the precancerous keratoses. It constitutes the fatty epidermic crusts seen on the face of old people, and gives rise also to the hard blackish horny masses, resembling oak bark, on the back of their hands. In both situations this keratosis is accompanied by marked senile atrophy, by brown spotted or mottled pigmentation, by white macules, decolorised or even semicicatricial, and by vascular dilatations; it only attacks uncovered parts, and these chiefly in those whose occupation exposes them to the weather, as agricultural labourers; its malignant degeneration is so frequent as to render it the most common starting-point of cancer of the face, a circumstance which allies it to the "cancer of the sailor's skin" of Unna. There is a real analogy between keratoma senile and xeroderma pigmentosum. The patch of keratoma senile consists, at the commencement, of simple thickening of the corneous layer, forming irregular projections, friable in nature and exhibiting abnormal keratinisation. In a more advanced stage the dermis is infiltrated with leucocytes and plasma cells. The epidermis sends downwards large and short processes, whose terminal cells are broken up by the migratory cells proceeding from the dermis, and become vitreous, or manifest all the changes described as coccidia in psorospermosis follicularis, or epithelioma; in other cases there are fine epithelial threads forming a network of anastomoses. These and a degree of fissuring of the prickle layer find their analogy in Darier's disease.

3. Xeroderma pigmentosum.

4. Warty keratosis of arsenical origin.—This must be distinguished from the diffuse keratoderma of the palms and soles, due to the same cause. It is the customary mode of commencement of arsenical cancer, to which very probably the cases published of the cancerous degeneration of a patch of psoriasis belong.

5 and 6. Chimney-sweeper's cancer and the cancer of workmen employed in refining petroleum start alike by the production of warty hyperkeratosis, due to prolonged contact with special irritating substances. Each of these morbid types has its own clinical individuality, but both should be placed in the group of precancerous keratoses.

7. A last group is formed by the leuokkeratoses. Although they only attack mucous membranes, yet they are true keratoses, for there is found in them the abnormal production of natural horny tissue, resting
on a granular layer similar to that of the epidermis. Their malignant transformation, which is fairly frequent, gives them full right to be placed among the pre-cancerous keratoses.

(e) Hyperkeratoses of dermic origin.—In all the conditions passed under review the epidermis was the prime mover of the lesion, and dermic alterations were absent, consecutive, or contemporaneous; but there are cases where a lesion limited to the dermis determines secondarily a hyperkeratosis equally restricted.

1. In angio-keratoma the disease starts by an angioma of very superficial character, which may constitute the entire ailment, but which may also provoke the formation of a small very resistent horny growth. The same phenomenon often occurs on the surface of a lymphangioma.

2. A chronic inflammation of the dermis may be followed by the same results, and it is thus that a callous border made up of horny tissue may be seen round an old sore, a fistula, or a perforating plantar ulcer. Inflammations of infectious origin act similarly; thus arise the hyperkeratoses in lupus verrucosus and in some forms of syphilitic eruptions.—Ann. de dermat. et de syph, Paris, Oct. 1896.

DISEASES OF CHILDREN

UNDER THE CHARGE OF

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Tetany in Children:

The recent researches into the origin and causes of tetany have created considerable confusion regarding the nature and symptoms of this disease. The view adopted by Kassowitch, and other German and Austrian writers, that tetany is simply one of the manifestations of rickets, does not afford a satisfactory explanation of the many cases of tetany in which no trace of rickets can be discovered. On the other hand, Escherich, who believes that the detection of laryngismus stridulus in a child is sufficient to justify the diagnosis of tetany, has considerably strengthened the view upheld by many writers of the French school, who describe such cases as latent tetany, a condition which they affirm has no connection with tetany, in the true acceptation of the term. In a recent paper by Oddo (Rèv. de méd., Paris, June–October 1896), he advances the view that the chief cause of the nervous manifestations is an absorption of toxic material from the gastro-intestinal contents. In refuting this theory, Kassowitch points out that dyspepsia is one of the commonest of children's ailments, whilst tetany is exceedingly rare; and R. Fischl, at the Frankfort Congress of Naturalists (Therap. Wochenschr., 1896, Bd. xl.) draws attention to the fact that, whilst during