LICHEN.—The term lichen, as applied to diseases of the skin, has, until comparatively recently, been loosely given to a variety of cutaneous eruptions, characterized by itching papules of a chronic type. Reminders of this loose nomenclature are found in the terms, still occasionally employed, lichen tropicus (miliaria rubra), lichen simplex (eczema papulosum), lichen urticatus (a variety of erythema exudativum multiforme), and lichen scrofulosorum.

French writers of to-day use the term lichenification to describe a condition of the skin found as a sequel to long-continued inflammations of various sorts. It is characterized by the appearance, particularly at the various joints, of small, flat-topped papules, resembling more or less closely those of lichen planus. It is not a definite disease, runs no characteristic course, and in this country would be considered merely a form of papular eczema.

As now understood, the term lichen includes two diseases only, and the identity of these two has been affirmed by some dermatologists. The first variety, lichen planus, is not extremely rare, but is by no means one of the common diseases of the skin. The second, lichen ruber acuminatus, is one of the most infrequent of the dermatoses. Typical cases of these diseases are markedly different from one another, but atypical cases are sometimes seen, which present characteristics of both.

Lichen Planus.—A typical case of lichen planus begins upon the flexor surfaces of both forearms, or upon the sides of the abdomen, with moderate itching or tingling sensations, followed in a few days by an eruption of small, flat-topped, thickly clustered, highly distinctive papules. They are fairly uniform at first, each being of about the size of the head of a pin. Each is separated from the others by normal skin. But their most striking characteristics are their color and shape. At first dull crimson in hue, they later assume a violet, purple, or lavender tint, which is so different from that of any other eruption that the diagnosis may often be made from it alone. The shape of the papules, too, is highly characteristic. Each has a flat top, with just the suggestion of a dimple near its centre, and perpendicular sides, with angular corners. Another feature of the individual papule which attracts attention is a peculiar waxy sheen, especially noticeable when viewed from one side.

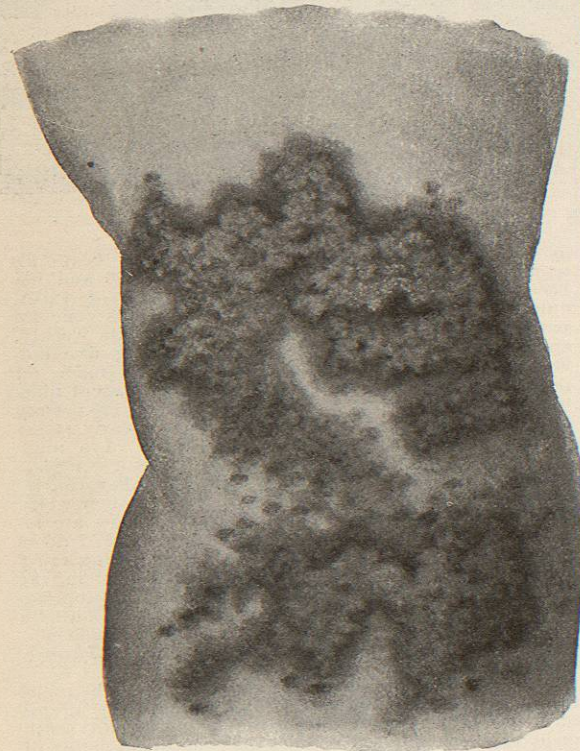

Fig. 3194.—Lichen Planus. (A. R. Robinson.)

The disease does not continue indefinitely to retain its original discrete character, for there is a decided tendency for the papules to grow in size, until some are as large as a bean, and consequently they crowd one another for space. When two papules meet, they coalesce into one, and thus often patches are formed, of most irregular outline, corresponding to the angular edges of the outermost papules. Sometimes finger-like projections from the main patch will extend beyond its border, and almost always some discrete papules of the original type will be seen outlying. The waxy appearance of a patch thus formed is very characteristic, as is the violaceous color. Sooner or later, however, the waxy roof is apt to be replaced by a delicate layer of the whitest scales, glistening and very thin, but there is never the abundant desquamation seen in psoriasis.

Other localities than those mentioned may be first affected, or be attacked later, notably the sides of the neck, the penis, and the lower limbs. The disease is even sometimes found upon mucous membranes, where it generally takes the form of white spots or streaks. The face is usually free from the disease. Young adults are the most frequent sufferers. Sometimes the earliest papules, instead of being as small as the head of a pin, are larger, and rarely the papules are so thickly clustered from the first as to form practically one patch.

Lichen planus is usually, but not always, a symmetrical disease. It generally itches, and sometimes this symptom is a most annoying feature. Rarely, however, is the itching severe enough to cause the patient to lacerate his skin by scratching, as is the case with eczema.

The disease is a chronic one, but has an inherent tendency to recover in the course of a year or two. As it approaches a cure, the color of the patches becomes darker, the elevation is less marked, and eventually only a brown stain is left, which disappears slowly.

Upon the lower limbs, and occasionally elsewhere, one sometimes sees the phenomenon of the patches losing their distinctive characteristics and becoming verrucous.

Etiology.—The causes of this disease are shrouded in mystery. Usually it is seen in youth or middle age. Its symmetrical character, and its occasional linear arrangement, suggest a nervous origin. Digestive and uterine disturbances have, in individual cases, been assigned as causes. In the majority of cases, however, no cause can be determined.

Pathological Anatomy.—The pathological conditions found upon microscopical examination of individual papules may be summarized as a cellular infiltration into the corium, generally about a sweat duct, followed later by a marked thickening of the rete.

Diagnosis.—Lichen planus is liable to be confounded with eczema, psoriasis, or syphilis. From eczema it is distinguished by its sharp outline and angular configuration, by its color and the waxy appearance of its roof, and more especially by a study of the outlying papules. From psoriasis it differs in showing no tendency to clear up in the centre, in its location upon flexor instead of extensor surfaces, in its comparatively slight scaling, and in its color. From a superficial tubercular syphilide, which might be suggested by the general arrangement and color of a patch of lichen planus, the latter disease is to be distinguished by its failure to leave scars or to clear up in the centre, by its unresponsiveness to specific treatment, and by the absence of other signs of syphilis.

Treatment.—The treatment of lichen planus is very

unsatisfactory, since we do not know its cause. Any error of health, especially any nervous derangement, must receive especial attention. Digestive disturbances and sexual disorders should be set right. But these suggestions are equally applicable to the treatment of all diseases of the skin. In the beginning of lichen planus, when the disease is acute, alkaline diuretics, and soothing applications, such as lotio nigra, calamine lotion, and Lassar's paste, will modify its intensity. In chronic cases, arsenic, pushed to the limit of tolerance, and aided by stimulating applications, such as green soap, tar (10 to 20 per cent.), carbolic acid (5 per cent.), and bichloride of mercury (0.1 per cent.), will hasten the disappearance of the eruption.

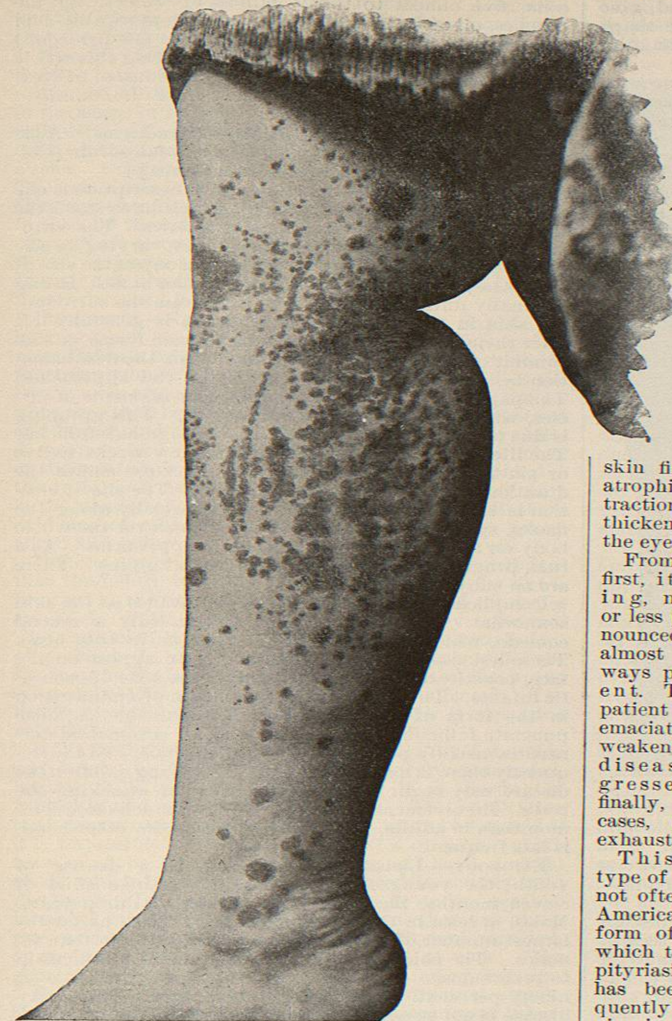

Fig. 3195.—Lichen Planus. (A. R. Robinson.)

Lichen Ruber Acuminatus.—The second disease mentioned above, lichen ruber acuminatus, was first described by Hebra as a necessarily fatal affection. Further observation has established the fact that a milder form exists, which, while exceedingly chronic, may result in recovery.

A typical case begins with a profuse eruption of pin-head-sized papules, scattered quite generally over the entire body. Each papule is firm, and capped with a little epidermic plug of horny consistency, so that when the finger is passed over a surface thus affected the patch feels like a nutmeg grater. Each papule is pink or red in hue, and all are of about the same size. In some localities, such as the flexures of the joints, the abdomen, the sides of the neck, and the middle of the back, the papules are more thickly aggregated than elsewhere. The individual papules do not grow larger, but the eruption of similar papules continues, until in some places they are so crowded together as to give the impression of one broad lesion. When this condition is reached, the skin is much thickened, and, in places where there is much motion, as in the flexures of the joints, deep and painful fissures may form. Over such a patch, a peculiar desquamation finally occurs, thin, snow-white scales being gradually cast off and replaced by others.

Not all portions of the body undergo this characteristic change, for in some places the thickening of the integument is the main feature, and the desquamation is not very noticeable. Upon the face and hands, the thickened skin finally seems to undergo absorption, leaving an atrophic condition behind, with a tendency toward contraction. Upon the palms and soles, the skin is greatly thickened. The integument now resembles parchment, the eyelids may be everted, the fingers bent like claws.

From the first, itching, more or less pronounced, is almost always present. The patient becomes emaciated and weakened as the disease progresses, and finally, in most cases, dies of exhaustion.

This severe type of lichen ruber is not often observed in America, but a milder form of the disease, which the French call pityriasis rubra pilaris, has been not infrequently seen. It begins in the same way as the severe form, but when it has reached the stage of agglomeration into patches, many of the individual papules located outside the main lesions become absorbed. Then the general surface presents a reddened, slightly scaly appearance, resembling that of chronic eczema, and this is especially noticeable upon the face and hands. Upon the trunk or limbs are one or several of the

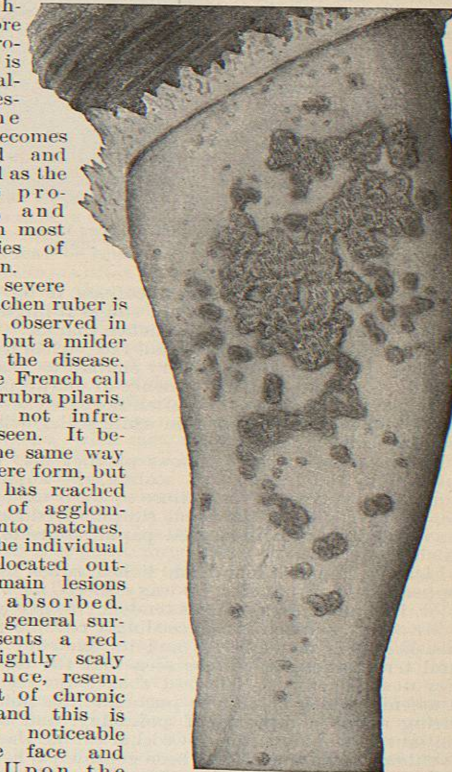

Fig. 3196.—Lichen Planus. (A. R. Robinson.)

patches described above, thickened, rough, sharply outlined, and covered by papery, snow-white scales. The scales may eventually be cast off, and then the natural lines and furrows of the skin, vastly exaggerated, give the patch a markedly rugous appearance. The shape of these patches is sometimes grotesque, bands, angular lines, and stellar radiations projecting out from the main area.

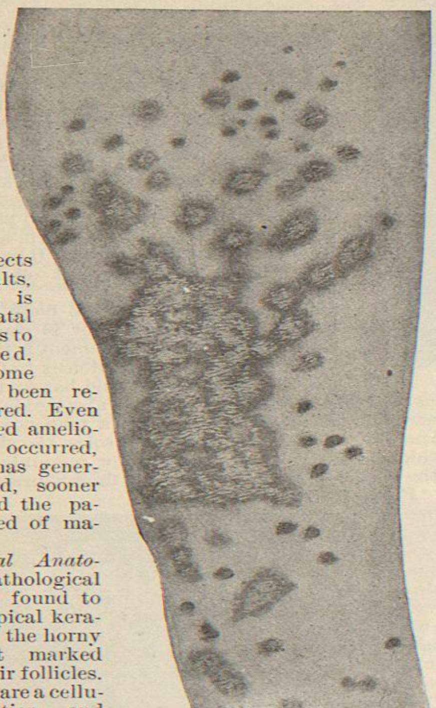

Fig. 3197.—Lichen Planus. (A. R. Robinson.)

Etiology.—The causation of lichen ruber, as of lichen planus, is unknown. It usually affects young adults, but no age is exempt. A fatal termination is to be expected, though some cases have been reported as cured. Even where marked amelioration has occurred, the disease has generally relapsed, sooner or later, and the patient has died of marasmus.

Pathological Anatomy.—The pathological condition is found to be a paratypical keratinization of the horny layer, most marked about the hair follicles. Later, there are a cellular infiltration and thickening of the rete.

Diagnosis.—The disease is sufficiently characteristic to prevent its being confounded with other affections, if its history is borne in mind. Yet in certain stages it might be mistaken for eczema, psoriasis, or lichen planus.

The condition of the hands and face, when the disease has lasted a long time, is very similar to that seen in chronic eczema. But the presence of horny papules on other parts of the body, and often the existence of thickened patches covered with thin white scales, will suggest the diagnosis.

From psoriasis the squamous patches may be differentiated by the less marked scaling, the absence of an annular arrangement, the failure to clear up in the centre, the avoidance of the usual sites of predilection, and the recognition of horn-capped papules outside the main patches.

Lichen planus differs from lichen ruber in its flat-topped, angular papules, its waxy sheen, its violaceous color, its limited area, and its tendency to get well.

Treatment.—When the exceedingly chronic nature of this disease is remembered, and its tendency toward a fatal termination, it will be seen that the treatment is very unsatisfactory. The best chance for recovery lies in arsenic, which should be pushed to the point of producing slight symptoms of poisoning, and should be continued for a long time. Crocker thinks that pityriasis rubra pilaris, which has been considered in this article as synonymous with the milder forms of lichen ruber acuminatus, should never be treated with arsenic, but does well under pilocarpine. Tonics, and a mode of life calculated to improve the general condition, are indispensable adjuncts to the treatment. Externally, for the generalized eruption, alkaline baths (such as bicarbonate of soda, five ounces to thirty gallons of water); for the patches, oil of Cade (10 to 20 per cent.), pyrogallic acid (10 per cent.), and ammoniated mercury (10 per cent.) are advised. The illustrations accompanying this article are from the collection of Prof. A. R. Robinson, of New York.

R. A. McDonnell.

LICHEN SCROFULOSORUM.—(Synonyms: Acne cachecticorum (Hebra, Kaposi), acne scrofulosorum [Colcott Fox], folliculitis scrofulosorum [Unna].)

Symptomatology.—Hebra's original description is one of the few classics in dermatology which have stood the test of time. It runs somewhat as follows. The eruption consists of small, acuminate papules, varying in size from a point which is barely visible to an object the size of a pin's head. They are a bright red in color at first, fading gradually until they differ very little from the surrounding skin in tint. Slight pigmentation is generally left after their disappearance. A minute scale forms on the summit of each papule during involution, the desquamation becoming more prominent as the end approaches. The papules occur in groups, circles, or segments of circles, with little tendency to coalescence. This grouping is due to their localization about the lanugo hair follicles. The life of each papule varies from a few weeks to five or six months, but the tendency to relapse makes the duration of the disease most uncertain. The site of election is the lower part of the trunk, especially along the flanks, spreading from them in rare cases over the whole body on to the neck, the thighs, and upper arms. As a rule, progress is arrested at the axillæ and groins. There are no subjective symptoms.

Complications may change the appearance of the skin somewhat. The papules show occasionally a central comedo, which may become pustular, as in true acne. These lesions, which have been known to appear on the face, constitute what has been called the acne of cachectic infants. The skin may show evidence of malnutrition in the form of branny scaling between the papules, punctate follicular hemorrhage, and an eczematoid dermatitis, usually pustular, about the genitals. Not infrequently there is an acroasphyxia. In young children the disease may occur on the limbs without attacking the body. Involvement of the extremities is much more common than in adults, but pustulation, on the other hand, is less frequent.

Etiology.—Lichen scrofulosorum is a disease of youth; the youngest recorded case was in a child of eleven months, the oldest in a person of thirty years. Males, at least in German lands which furnish by far the largest number of cases, are more subject to it than females. The chief point in its etiology is the relationship to tuberculosis. According to Austrian statistics, over ninety per cent. occur in the tuberculous. Pulmonary disease is not so common a complication as the condition called scrofulosis, evidenced chiefly by lymphadenitis, bone disease, and tuberculous ulcerations of the skin (scrofuloderma). At times no such lesion is discoverable and there is no family history of tuberculosis.

Of recent years much has been written of this and kindred affections, such as erythema induratum scrofulosorum, and the controversy over their etiology has been more or less bitter, not to say personal. One party holds that the appearance of the papules is caused by circulating toxins; the other, that the tubercle bacillus is directly responsible. No one has the hardihood to deny the connection with tuberculosis. Out of a large number of animal inoculations with the tissue, only three have been reported as successful. Jacobi (Congress of German Dermatological Societies, 1892, p. 69) is the only writer who has found the tubercle bacillus in the lesion; Darier, Michelson, and Sack have failed after diligent search. Pelizarri thinks, in spite of his single success in inoculation, that the positive findings indicate only a contamination in a soil prepared by the toxins. Hallopeau

in 1892 announced that injection of tuberculin produced a perifollicular lesion resembling the lichen, and Schweninger and Buzzi (*Monatshefte f. prakt. Derm.*, vol. xi., 1890, p. 581) have confirmed his observation. Jadassohn and the Vienna school, Kaposi at the head, are convinced that the disease is non-bacillary.

Histopathology.—The lesion is a perifollicular, productive tuberculosis. The cutis shows an irregular formation of miliary tubercle, consisting of exuded elements in the shape of lymphocytes and plasma cells, epithelioid cells derived from fibroblasts and endothelium, and giant cells of the Langhans type with peripherally arranged nuclei. Coagulation necrosis and caseation are common. The new tissue is non-vascular. There may be made out, at times, even in areas of caseation, a delicate reticulum formed of the remains of the elastic fibres. Epithelial changes are secondary. The epidermis loses its interpapillary projections and becomes flattened. It may be slightly thickened and the horny layer may be lost or be partly detached in the form of a scale.

Diagnosis.—Kaposi characteristically put this matter in a nutshell when he said that the diagnostic points were Hebra's original description and its occurrence in the tuberculous. Papular eczema is not limited to the trunk, as is often the case in lichen; in children the lesions are apt to become vesicular; they are of a deeper red and larger, and itching is intense. Follicular syphiloderms may be localized in much the same way as lichen of the scrofulous, but the papules are larger and involve the cutis more deeply. The common type occurs early in the course of syphilis, and careful search will show evidence of other "secondaries"—lymphadenitis, generalized and indurated, mucous patches, alopecia, etc.

Punctate psoriasis is much more generally distributed than the lichen, it occurs on the face and head, its tint is fiery red at the time of its first appearance, and the scales are thick, white, glistening, and moderately adherent. The papules of lichen do not enlarge; the guttate lesions of psoriasis do. In lichen or keratosis pilaris, while the site may be the same, the extensor surfaces of the upper arms and thighs are almost certain to be affected. The hair is surrounded by a horny plug, which is separated with difficulty.

Treatment.—Cod-liver oil, externally by inunction and internally, is the only remedy now recommended, because it is perfectly efficacious. It is thoroughly rubbed in and covered with oiled silk. The application is of course objectionable on account of the odor, and if it is impossible to secure the patient's consent, substitutes must be tried. The emulsions all have a slight smell, which becomes more pronounced in contact with the body. In case the repugnance is unconquerable, sweet oil, lanolin, or vaseline may be used in its place, pure or combined with one per cent. of thymol, menthol, or tar in the form of pix liquida or oil of cade. The general health requires close attention in every instance.

Prognosis is good as regards the individual attack. Otherwise the outlook is that of the intercurrent tuberculosis which is not influenced by the cutaneous outbreak. If the tuberculosis continues, there is always danger of relapse.

James C. Johnston.

LIFE INSURANCE EXAMINATIONS.—Life insurance examinations are made by physicians to determine the fitness of applicants for insurance. The purpose of the procedure is to estimate the expectation of life. It consists in obtaining a complete personal and family record and a knowledge of the present physical and mental condition of the subject. Formerly a certain number of impaired lives, roughly estimated at fifteen per cent., were declined and denied the benefits of insurance. Recently a few companies, revolutionizing the medical aspect of insurance by the ingenious co-operation of the actuary and medical departments, have devised plans for insuring these lives on a sub-standard basis, thus offering forms of insurance to all, or nearly all, in accordance with the expectation of life, and after a careful consideration of the age, occupation, history, and extent of impairment.

The Examiner and His Duties.—The mortality in insurance depends so largely upon the moral character and sound medical judgment of the examiner that the selection of one qualified to discharge these obligations should be most carefully made. He need not be the physician with the largest practice in the community and should not be selected through favoritism. A well-trained hospital graduate, conscientious and willing, will often give the greatest satisfaction. A pleasing personality, promptness as regards keeping of appointments and response to correspondence from the home office, interest, frank expression of opinion, courage of conviction, a kindly feeling toward agents, and a courteous, business-like approach and handling of applicants are requisites to success in the field of life insurance. With the introduction of sub-standard writing the examiner is no longer obliged to decline risks for insurance. In reporting impaired or sub-standard risks the duty of the examiner is merely to state clearly the facts, give full details of family or personal history, and explicitly the extent of the applicant's personal impairment; for the responsibility devolves upon the home office for classification or declination. The qualifications of standard risks—that is, normal lives—are as rigid as ever, and examiners are advised, when they consider an applicant a standard risk to state so clearly, avoiding unnecessary restrictions or otherwise interfering with the home-office estimation. If one will fancy himself in the home office trying to fathom incomplete and unscientific statements, he will readily see how much business may be lost to companies through these causes and from necessary delays in correspondence.

The Applicant.—Experience alone will teach the examiner to appreciate the great difference between the applicant for life insurance and the patient. The latter, when consulting a physician, will willingly, patiently, and honestly disclose everything pertaining to his illness, laying bare all the facts known to him, so that he may be benefited by proper treatment and advice. In the case of an applicant, on the other hand, the physician is often treated with indifference or insult, he is looked upon with antagonism, as an ally of a great corporation, and in many instances the applicant will resort to fraud, to hiding facts, and otherwise making misstatements. The relation between the applicant for insurance and the examiner being then merely one of business, if the applicant can be brought to appreciate this relation many obstacles and difficulties may be removed from the path of the examiner. Applicants often determine not to take out insurance, even after they have signed an application blank and an appointment card. In such a case a few courteous introductory remarks and the expression of interest on the part of the examiner will often induce them to change their minds and submit to examination. Again, applicants will often refuse to sign an application blank until after the home office has expressed an opinion as to their eligibility, but they may be induced to sign by the examiner, who, with tact, may often accomplish what the agent, with all his well-known persistency and persuasion, has failed to do.

Appointments.—Appointments for examination are, as a rule, made by the agent at the request of the applicant and in accordance with his own convenience. The keeping of these is of great importance in large cities where competition is keen and where the business of the applicant will not allow the giving of much time to an insurance examination. The examiner may save himself a great deal of time and trouble by learning, after some experience, when he may or may not call upon applicants at times other than the appointed hours. Positive appointments must be kept in the cases of policemen, firemen, trainmen, bankers, brokers, builders, and those engaged in other exacting businesses. The examiner need not adhere so closely to the request of storekeepers, grocers, bakers, housewives, janitors, and others who have many hours daily during which they may be examined. He will also appreciate the fact that clerks, machinists, carpenters, tradesmen generally, and labor-