

These baths are much frequented and are serviceable for rheumatism, skin, and nervous diseases. There are many fine gardens and several plazas here. In the month of April is held the annual fair (the Feast of San Marcos), which attracts people from all over the republic. This city is on the line of the Mexican Central Railway, and is also connected with Tampico by rail.

**Silao**—elevation 6,053 feet; population, 15,000. This is an attractive town with handsome gardens and some fine churches, possessing a climate very similar to that of Guadalajara. The mean annual temperature is 67.1° F.; the maximum 90° F., and the minimum 39.2° F. According to Hinsdale (*loc. cit.*) there is a sanatorium here under good medical direction.

**Puebla**—elevation 7,106 feet; population 88,000. This large city, one hundred and fifteen miles southeast from the city of Mexico, is beautifully situated in the midst of a well-wooded and fertile district, near the snow-capped mountains, and is said to be one of the cleanest and best-drained cities in Mexico. The streets are broad; there are several plazas, and the cathedral vies in richness and beauty with that in the city of Mexico (Solly). The climatic data are similar to those for the city of Mexico, except that its greater nearness to the snow-covered mountain peaks renders the nights cooler. Seven miles from Puebla is the great and famous pyramid of Cholula.

Many other cities might be mentioned, such as Guanajuato, Leon, Morelia, Patzcuaro, Chihuahua, Monterey, and others, but it would be, in a measure, but a repetition, as the general characteristics of all these Mexican towns are quite similar, and in their climate they differ one from another principally in the difference of the climate of the so-called "temperate" and "cold" zones.

There are also many mineral springs of value in various portions of the country. Some have already been mentioned, others are at Santa Rosalia, a town of about 8,000 inhabitants, where there are sulphur springs with accommodations which are said to be good. Near Mexico City, at Guadalupe, are the Penon baths and wells, which are said to compare favorably with Kissingen, Wiesbaden, Wildbad, and Ems; there is a hotel with modern conveniences and bathhouses "complete in every particular." Four miles distant from Monterey are the Topo Chico hot springs with an excellent bathhouse conducted by an American. At Comaujilla, near Monterey, are others.

The Mexican Central Railway traverses the great central plateau from El Paso in New Mexico to Mexico City, and to Tampico on the Gulf Coast, thus affording easy access to most of the large cities in this region. Other places are reached by the Mexican International, National, and other railways. Excellent excursions with first-class accommodations afford opportunities, during the winter and spring, for making the Mexican tour. One can also reach Mexico by water to Tampico and Vera Cruz, and thence by rail to Mexico City. *Edward O. Otis.*

**MEZEREON.**—MEZEREUM. The barks of several species of *Daphne* are collected and sold under the above names; thus the United States Pharmacopoeia admits "*D. Mezereum* L. and other species"; the British Pharmacopoeia "*D. Mezereum*, *D. Laureola*, and *D. Gnidivum* L." The French Codex restricts the name properly to the first-named species, but also recognizes *D. Gnidivum* L. as *Garou ou Sainbois*. The genus is essentially of European and Asiatic origin, and comprises about forty species of trees and shrubs, with tough, irritating, and acrid bark, and generally evergreen leaves, and pretty, usually fragrant, flowers. Several species are cultivated as ornamental shrubs.

Mezereon bark is collected in winter, and imported in rolls or bundles; often it is pressed irregularly into bales. It is prepared for the market in the form of long, very tough strips which curl inward on drying. Externally, it is smooth, grayish, or reddish-brown with transverse scars and minute blackish dots. Underneath the corky layer it is bright green. Internally, it is whitish and silky. The corky and bast layers are easily separable;

odor slight (when dry), taste very acrid. The fresh bark is actively irritant to the skin, and may be used as a vesicant. The dried bark moistened, or a decoction made from it, has the same qualities. Owing to this irritating quality it is made abroad into liniments and ointments.

**COMPOSITION.**—*Mezereum resin*, a yellowish-brown, shining, non-crystalline substance of sharp, burning taste, and very irritating action upon the nasal mucous membranes and skin, is the irritating constituent. *Daphnin* is a crystalline, bitter, neutral glucoside, not important.

**ACTION AND USE.**—Of the irritating character of the bark, due to the above-named resin, and its application in blistering fomentations, liniments, etc., perhaps enough has been said. It is not so desirable for use, in this country at least, as several better known and more reliable rubefacients—ginger, for instance, or cantharides. Internally it has been given in chronic rheumatism, in syphilis, "scrofula," etc., with no definite reason and no advantage. In overdoses it is a gastro-intestinal irritant poison.

**ADMINISTRATION.**—Pieces of the bark soaked in vinegar are sometimes used as slow blisters. For internal use the dose of the bark is, say, 0.5 gm. or a little more; it is very seldom given alone. Our official preparations are: Compound Decoction, and Compound Extract of Sarsaparilla, and the Fluid Extract of Mezereon. An extract also was formerly official, but was dropped because its use became obsolete in this country. *W. P. Bolles.*

**MICROCIDIN.**—An antiseptic preparation introduced by Dr. Berlioz, of Grenoble, which is prepared by adding to fused naphthol-beta half its weight of caustic soda and allowing the mixture to cool. It should contain seventy-five per cent. of naphthalate of soda, the remainder consisting of mixed naphthol and phenol compounds. It is a whitish powder, soluble in three times its weight of water, yielding a brownish solution. It is a powerful antiseptic, very slightly toxic, is not caustic, and does not injure instruments or clothes. It is said to be ten times more powerful than phenol, and twenty times more powerful than boric acid. A solution of three parts to the thousand is used as a lotion and to prepare dressings. A solution of the same strength may be used for irrigating the bladder, uterus, and suppurating cavities.

It may be employed as an internal remedy in doses as high as thirty grains a day. It does not produce any irritating effect. The urine is rendered strongly antiputrescent, its action being similar to that of salol, but less irritating to the kidneys. *Beaumont Small.*

**MICRO-ORGANISMS: TECHNOLOGY.** See THE APPENDIX.

**MIDDLETOWN MINERAL SPRINGS.**—Rutland County, Vermont.

**POST-OFFICE.**—Middletown Springs. Hotel. **ACCESS.**—Via Delaware and Hudson Railroad to Poultney; thence a short drive by stage to springs. The location is fourteen miles from Rutland (where tally-ho stage also meets train during the season) and seventy-five miles north of Troy, N. Y. This charming resort is located 3,000 feet above tide-water, on the westerly slope of the Green Mountains. Both nature and art have done much to render it a delightful summer resting-place. The high elevation is a guarantee of pure, wholesome air and absence from many of the common insect pests. The Hotel Montvert is said to be the largest building of this kind in the State, having accommodations for three hundred and fifty guests. The appointments are of a high order of excellence. Large and airy rooms, breezy halls, and broad piazzas contribute to the comfort of the guests. There are also a handsome billiard room and a bowling alley. From the piazza a fine view can be had of many of the well-known Green Mountain peaks. Connected with the hotel is a beautiful park of fifty acres, artistically laid

out in lawns and walks, with enticing shady nooks on every hand. Ample provision is made for the wants of children, young people, and lovers of croquet, tennis, and other outdoor games. The surface of the ground in the neighborhood is formed of hard limestone rock natural to the country, which gives the roads a macadamized smoothness. This fact renders the country very attractive to bicyclists. The roads are lined with shade trees, and wayside springs are found at frequent intervals. There are also ample resources for fishermen and the lovers of horseflesh and amateur photography. The springs are situated on the hotel grounds, near the north bank of the Poultney River. Around the springs is a beautiful grove of shade trees, with pleasant walks, garden chairs, and settees. The springs have been used by white men since 1811, and, according to tradition, for an untold prior period by the aborigines. An analysis was made some years ago by Peter Collier, at that time analytical chemist of the University of Vermont:

ONE UNITED STATES GALLON CONTAINS:

Solids.	Grains.
Calcium sulphate	0.12
Calcium carbonate	2.80
Magnesium carbonate	1.05
Iron carbonate	1.11
Manganese	.98
Aluminum	.07
Potassium chloride	1.08
Sodium chloride	.18
Sodium carbonate	2.68
Total	10.07

This water is highly recommended in cases of gout, rheumatism, anæmia, dyspepsia, and general debility. The water of the "Montvert" Spring supplied to the guests of the hotel is not, strictly speaking, a mineral water. An analysis by Professor Doremus, of New York, showed the presence of a trace of iron. It is slightly acidulous and very palatable, and possesses the qualities of an excellent table water. It is bottled and sold by druggists and grocers. *James K. Crook.*

**MIDWAY WARM SPRINGS.**—Wahsatch County, Utah. **POST-OFFICE.**—Midway. Accommodations for fifty visitors.

**ACCESS.**—From Salt Lake City via Utah Central Railroad to Park City, and thence by stage to springs. The location of these springs is in a valley about eight miles square, surrounded by mountains. The altitude of the resort is about 5,500 feet above the sea level. The temperature of the region varies from 85° F. in summer to 25° F. during the winter months. We are informed by Mr. Thomas Monks, who owns one of the largest springs, that the water deposits a large proportion of its solid contents as it flows. The constant accumulation of this deposit, which is calcic in character, has led to the formation, around the springs, of natural basins which are known as "pots" among the settlers. Some of these pots or basins have attained a great height, the one owned by Mr. Monks having an altitude of 90 feet and a diameter of 200 feet across the top. Some of these natural reservoirs have become entirely dry, while others have standing water in them, with no apparent outlet. The pots are about thirty in number. The flowing springs yield from three hundred to twelve hundred gallons per hour. The water ranges in temperature in the different springs from 85° to 112° F. An analysis of one of the springs by Dr. A. Meacham, of Salt Lake City, showed the following mineral ingredients:

ONE UNITED STATES GALLON CONTAINS:

Solids.	Grains.
Sodium chloride	19.81
Sodium carbonate	1.54
Calcium carbonate	58.18
Magnesium carbonate	5.32
Iron carbonate	1.05
Magnesium sulphate	3.57
Calcium sulphate	6.83
Sodium sulphate	3.15
Aluminum sulphate	.56

Solids.	Grains.
Silica	2.73
Potassium compounds	Traces.
Nitrogen	Traces.
Total	102.74

Carbonic acid gas, considerable quantities.

This analysis shows a fairly strong alkaline-saline water. It should possess the properties of a mild saline cathartic and diuretic when taken internally. It also contains sufficient iron to give it some tonic influence. The springs are resorted to by the settlers to some extent, but no studies of their therapeutical action seem to have been made. *James K. Crook.*

**MIGRAINE.** See *Headache.*

**MIGRAININE** is a proprietary remedy stated by Overlach to contain nine parts of antipyrin and one of caffeine, and found by Hoffmann to yield 89.4 per cent. antipyrin, 8.2 per cent. caffeine, and 0.56 per cent. citric acid. Another analysis gives antipyrin 85 per cent., caffeine 9 per cent., and citric acid 6 per cent. (Coblentz). The dose is given as 1.1 gm. (gr. xvij.). *W. A. Bastedo.*

**MILIARIA.**—(M. alba; M. rubra; M. vesiculosa; Lichen tropicus, Prickly heat.) This is an acute inflammatory affection of the skin located about the sweat glands and their orifices, characterized by the formation of papules or of vesicles, or of both lesions together, ranging in size from a pinpoint to a millet or mustard seed, the color varying with the stage of the eruption, thus giving rise to the several names which have been given it, as M. alba, M. rubra, etc. It was called M. papulosa or vesiculosa according to the feature that was predominant in that particular instance.

The disease is more prevalent in the summer, and it attacks both sexes and all ages; we nevertheless see frequent cases during the winter months, especially in children who usually wear an excessive amount of woollen clothing. In the tropics the disease occurs during the whole year with equal frequency, and in all classes of people, independently of the clothing they wear. In such cases it would seem that heat alone is not the only cause which gives rise to the disease, but that some other factor is also involved, as, for example, the ingestion of highly seasoned or spicy food, or the use of alcoholics.

Crocker states that the disease may sometimes be unilateral in infants, and he attributes this to the fact that children are habitually held in the same position by the mother or nurse, as in nursing. This also explains why the disease is more often seen on the backs of infants, as they usually lie on their backs.

The onset of the disease is generally without premonitory symptoms; in adults we often have a history of profuse sweating with more or less itching or burning; in infants and children, for obvious reasons, we seldom get the same history of sweating, either because on the one hand they are not able to tell us or else because the mother or nurse is not sufficiently observant to notice the fact of its occurrence. The disease does not seem to have a predilection for any particular part of the body, save in the instances above mentioned, but it may attack any portion of it, as the back, chest, abdomen, face, etc. Frequently it is observed for the first time at an examination for a totally different ailment, and it is so well known that sometimes the patients come to us with the diagnosis of prickly heat, ready made, either by themselves or, in the case of children, by their immediate relatives.

Following the profuse sweat or concurrently with it, a papular or vesicular eruption appears in the vicinity of the sweat glands; the papules or vesicles are discrete, more or less numerous; in size they may be from that of a pinpoint to that of a millet or a mustard seed; in character they are acuminate; the color varies with the prevalence of the type: if papular it is bright red, if the vesicles predominate the red color will be more or less mitigated by the color of the fluid within the vesicles;

this alkaline fluid is at first perfectly clear, but later on it assumes a milky color, hence the name *M. alba*. When the predominant lesion is papular, as in the typical type of the disease, it has often been called lichen tropicus. This variety in the terms used has been the cause of great confusion.

The vesicles always remain discrete, having no tendency to rupture; sometimes the burning and itching are so intense that the sufferers scratch and tear their skins in the vain effort to obtain relief; these self-inflicted lesions at times become infected by the dirty nails of the patients, and when the sufferers come under observation the accidental features are apt to make the diagnosis difficult. If properly treated or if not unduly irritated, the disease ought to be of short duration, but sometimes it is lengthened by the successive appearance of several new crops of the lesions.

The pathology of the disease has been disputed: it consists of hyperemia of the vessels of the sweat glands and a leucocytic infiltration about the sweat glands and their ducts; the latter are dilated and filled with a clear or an opaque fluid rich in cellular elements. Unna suggests the possibility of a micro-organism as a factor in this disease, but it has not been demonstrated.

**DIAGNOSIS.**—Outside of those cases in which traumatism due to scratching or other irritation and subsequent infection has occurred, or when it appears in connection with some other disease, the diagnosis of this trouble ought to offer no difficulties. The one disease most liable to be confounded with it is eczema; the differential points are as follows: In miliaria the vesicles and papules are discrete, the vesicles are smaller, there is no tendency to rupture, they do not weep, no crust forms over them, the inflammation is not so deep-seated nor is it so intense, and it is more sudden in its appearance; if to the above we add the previous sweating, a history of exposure to heat, natural or artificial, and the amount and kind of clothing worn, the diagnosis ought to be made without trouble. It should, however, always be borne in mind that eczema of a secondary nature may supervene in this condition, as a result of scratching or other irritation; furthermore, eczema may also follow this disease independently of mechanical injury—for example, in the very stout, wherever two surfaces are in apposition, as between the buttocks, in the axillæ, etc.

The prognosis is always good; the disease lasts between eight and ten days, or less, when properly treated; relapses are common, unless the original cause of the disease be removed.

**TREATMENT.**—First, if possible, endeavor to remove the original cause. Cold or cool water baths are useful. The bowels should be kept open by the use of saline laxatives, or mild diuretics, like the citrate, acetate, or nitrate of potassium. Locally, any one of the innumerable dusting powders on the market is useful; lotions are also very useful, viz., those containing alcohol, vinegar, lead water, carbolic acid, menthol, or sulphate of copper, any one of which will help toward the cure of the disease.

N. J. Ponce de Léon.

**MILIARIA RUBRA.** See *Lichen*.

**MILITARY HYGIENE.**—This paper is confined to the application of hygiene to the troops of the United States. It is necessarily limited to a dogmatic expression of the practical essentials with little discussion of the principles involved, and it treats only of those matters which affect the soldier as such. Until recently the United States army has consisted of a small body, about twenty-five thousand, of well-selected and well-instructed men distributed among somewhat crowded garrisons throughout the country. The organization has been such that the enlisted force may be more than doubled for active operations, without increase in the number of officers. The peace minimum has been much enlarged by the legislation of 1901, but the principle by which the rank and file may be increased remains the same. In time of war there is added a new army of volunteers, whose

men are often accepted without proper scrutiny. The preservation of these men from disease is the chief concern of the medical officer, mis-called the surgeon. The medical officer's first duty is rigorously to examine his command, if it has been newly raised, and inexorably to eliminate all men unfit for full military duty. Upon the medical officer who examines recruits for enlistment lies a heavy responsibility, for it practically rests with him to determine the physical efficiency of the command. Unfortunately in time of war, when the necessity for effective men is the greatest, this selection is apt to be devolved upon untrained civilians who have neither the special knowledge that fits them as judges nor the position that enables them in doubtful cases to withstand the constant importunities of still less informed recruiting officers. The careful examination of recruits is not practical hygiene, but the successful application of hygiene requires carefully selected men to secure the best results. (See *Recruiting Service, Army*.) When a command has once been mustered in, the discharge of men not unequivocally disqualified is difficult; nevertheless every newly raised regiment or detachment should be held in a detention camp for careful weeding out of the imperfect. The effectiveness of a force depends upon its vigor rather than its size. The presence of the sick and the feeble is depressing and embarrassing. Only robust men should be allowed to bear arms, and discharges for pre-existing disabilities should clearly set forth their civil origin, to protect the state from fraudulent pension claims. Such pruning is important because some apparently slight blemishes develop under exposure, and all defects afford occasion to claim exemption from unpleasant duty. The temporarily weak and invalid should also be excluded by examination from any serious march or expedition, due allowance being made for malingering. Abundant work can always be found at the base for those incidentally unfit for vigorous marching, whose presence with it would only impede a column. Experience invariably confirms the importance of such selection, and that it is better to maintain a small sound command than a large one of doubtful vigor.

The enlisted men are provided with clothing, food, shelter, and occupation; and their whole duty is discharged by prompt obedience to their military superiors, upon whom rests the serious responsibility of their care. This care is practical hygiene and in every respect, excepting that which involves the direct shock of arms, the medical and line officers share it. The one should instruct, the other enforce the instructions. In the nature of military administration there can be but one commanding officer at a time, but all commanders are morally bound to follow the advice of an intelligent staff as to the health of the troops, where military considerations do not compel the temporary subordination of sanitation to active operations.

In treating of the soldier, infantry is taken as the type, the special conditions of cavalry and artillery not affecting the general conclusions.

**CLOTHING.**—The primary object of all clothing is to secure the comfort of the wearer by protecting him against wet, by conserving the heat of the body when the external temperature is low, by shielding against solar heat, and by preventing suffering from heat generated by exercise. Its secondary object, in a military point of view, is to increase the soldier's legitimate pride in his calling and to recognize him easily, but to keep him inconspicuous to the enemy.

**General Character.**—Soldiers should be dressed as nearly alike as possible, and attractive dress adds to self-respect; but a soldier's business is war and his working clothes should be adapted to it. For convenience of administration the clothing should be uniform by arm and the field dress of State troops, who at any time may be called into active service, should be identical with that of the Federal troops so that it may readily be supplied from the common store. The men are liable to suffer when damaged clothing cannot easily be replaced, which is apt to be the case when it is of special cut or has other

peculiarities. For parade and the purposes of display the ornateness of a uniform need only be limited by taste and expense, and its snugness of fit by the duty required.

**Color.**—The color of the outer garments should be neutral. For sentimental reasons blue, which is not a desirable military color, has long characterized the United States uniform, and it is only now (July, 1902), that olive-drab is about to be substituted in the field. Cadet-gray, dust-brown, and the so-called butternut dye used by the Confederates in the Civil War, are much more serviceable than blue, and gray was advocated for the United States troops as long ago as 1868. Upon the neutral tints any distinguishing facings are adaptable for ornament. In action colors draw fire in proportion as they are conspicuous, red being the most deadly and white the next; the scale continuing black, dark blue, light blue, butternut, dust-gray. As exposed to long range guns, there should be nothing to break the uniformity of color. The khaki (dusty) uniform in vogue is admirable, especially for arid countries. Color out of the sun's rays is not a factor of heat, but under direct exposure to the sun black absorbs most and is the warmest, blue is the next, and so down the scheme to white, which is the coolest. The absorption of odors depends partly upon the color, where black takes up the most, blue next, and white the least, and partly upon the hygroscopic character of the material.

**Material.**—The ordinary and most serviceable material for use in all but tropical and sub-tropical climates is woollen cloth. In very hot regions it should be cotton duck; the finer textures of cotton, as sheeting, which are suitable for civil life, are too light for military use. It must always be remembered that clothing does not create warmth except as it absorbs solar heat from the direct rays, which is a matter of color and not of texture, and that it is regarded as hot or cool in proportion as it retains bodily heat or permits its escape. Woollen cloth is durable, hygroscopic, and an excellent non-conductor of heat. It absorbs water within its fibres (hygroscopically), and between them (by interposition), and the hygroscopic absorption by wool in relation to cotton or linen is double in proportion to weight and quadruple as to surface. The sensation of warmth that follows putting on dry woollen clothing when the body is rapidly cooling by evaporation from the surface after excessive exercise, depends upon the condensation of the vapor and the consequent evolution of heat, which had become latent when the water of the body passed off as insensible perspiration. Woollen clothing rarely becomes saturated with perspiration, and when it does much of the water may be wrung out and condensation and absorption will continue. The non-conductivity of dry wool and its comparative impenetrability by wind make it acceptable in cold and oppressive in warm climates. Closely woven cloth is preferable to that of loose texture as more easily parting with dust, but where the temperature is moderate, serge, which admits the passage of air more freely than heavier cloth, has the advantage of lightness as well as the good qualities of the lesser woollens. Shoddy, which is old, worked-over wool and cloth sometimes mixed with fresh wool, is an adulteration most easily detected by the ease with which it is torn. From the qualities described wool, and especially dark wool, is unreasonable and hurtful as apparel in extreme southern stations where the air for long periods together is above the normal temperature of the body and slowly enervates the system. The constant disadvantage of wool is its hardening and shrinking when imperfectly washed, whereby it loses its faculty of absorbing perspiration and also becomes uncomfortable. This is best overcome by using a smoothly knitted merino, two-thirds wool and one-third cotton. Soiled woollens are best washed by soaking and stirring in hot soap-suds, transferring to cold water to remove the soap, and finally hanging to dry in their natural position without at any time wringing or hard rubbing. This is practically impossible in the field, and very difficult for a soldier anywhere. Excess of alkali in soap injures the wool by acting on the

natural oil. A little kerosene assists to remove the dirt.

There is a widespread opinion that flannel next the skin renders the wearer less susceptible to the malarial poison. It probably does partly protect against the stings of possible disease-bearers, as compared with thinner and less perfect dress, and by conserving bodily heat renders the person more resistant to general disease.

For special purposes leather, canvas, oiled cloth, and india rubber are used. Properly tanned leather, with or without the hair or wool, is impervious to air and is very warm, but except in rainless climates it is fit only for boots or shoes. The special virtue of canvas is that it sheds water. It is heavy and is an excellent non-conductor of heat, and lined with wool is admirable against external cold. A light and loose canvas overdress, thoroughly washed and soaked with raw oil and slowly dried in the sun, known as a "slicker," sheds rain admirably and is especially useful for mounted men, but it has not yet been officially recognized. India rubber completely protects against rain, but its impermeability to air allows it to be used only occasionally. It becomes inelastic in cold climates and is too distensible and self-adherent in the tropics. It ultimately decays by the absorption of oxygen. Its greatest value is as an underlying sheet to protect against ground moisture, or when thrown over a shelter tent, or over the man himself on the march, to shield him from heavy rain.

A simple method of rendering clothing waterproof has been devised recently and independently by Capt. E. L. Munson, Medical Department, United States Army, and Dr. Pierre Kolb, of Lyons, France. It consists in immersing the fabric for about five minutes in a solution of 25 to 30 gm. of pure lanolin to 1,000 c.c. of benzine, when it becomes saturated. Any excess of solution is removed by wringing and the garment is then hung up smoothly or spread out flat in the open air and the sun, and the remaining fluid is allowed to evaporate, leaving the lanolin in the fibres of the fabric. Articles thus treated are not wetted through by exposure to heavy rain for at least three hours, although water may be forced through them mechanically by pressure exceeding one inch. As ventilation is not impaired, these fabrics may be worn without feeling the uncomfortable and depressing heat of wet clothes and without bearing the additional weight of absorbed water. The military advantages are the retention of their shape by hats and caps, general protection against wet, and the elimination of a rubber poncho or blanket as an additional article.

Animal materials are more satisfactorily treated in this way than vegetable fabrics, although the latter may be led to shed water. Boiling water or strongly alkaline soap destroys this quality of a garment, but it may be renewed by again immersing it in the water-proof bath.

Wool fat deprived of its potash salts and aromatic constituents is as efficacious as lanolin and is cheaper. The lanolin of commerce contains twenty-five per cent. by weight of water mechanically incorporated, which must be removed or the solution will be milky and the result unsatisfactory.

**Grades.**—For health and comfort clothing should vary in warmth and in material with the climate and with the service. Formerly a uniform fairly well adapted for the middle zone of the United States was the only one for all places and for every duty. By degrees this narrow uniformity has been modified, and the very severe weather of the more intolerably cold posts of the northwest and that of the tropics are being recognized. Varieties of clothing are relatively expensive to keep in stock and troublesome to issue, but the improved health and comfort of the wearers justify the effort. There should be different grades in both outer and under clothing, and when the climate requires it the materials themselves also should vary as has very recently been authorized.

**Uniform.**—The United States soldier is expected to wear a cap, a felt service hat, or a cork helmet, a coat and trousers of one of four patterns, or breeches, a shirt, an undershirt, drawers, stockings, shoes, and gloves,