vagina, allowing it to run out immediately rather than to take the trouble of using it while in a recumbent posture.

Applications of various caustic or antiseptic substances to the uterine cavity were formerly much used, and the chloride of zinc and other like substances were applied in solution by means of cotton wrapped on an applicator, or by injecting it into the uterine cavity with a long-spouted syringe. This treatment is still sometimes advised, but it is unsatisfactory and may be dangerous, and, as a general rule, it has fallen into disrepute of late years.

Dilatation of the cervical canal and curetting of the uterine cavity probably constitute the most satisfactory method of treating metritis, the object being to remove the diseased mucous membrane and bring about a regeneration of this tissue, while at the same time the patient gets the good effect of an enforced rest in bed and the best chance is given for uterine involution to take place. Curetting should always be carried out with all proper antiseptic precautions, and the operation is much more easily and satisfactorily performed with the patient under general anæsthesia. As a rule, packing of the uterine cavity after curetting is advised against, and it should be an inflexible rule that such patients remain in bed for at least a week after the operation. Curetting may be performed at any time during the month, but, if it be practicable, the best time is about a week after the end of the menstrual period.

Another recent addition to our means of treating this disease is the local use of superheated steam, the method being known as *atmokausis*. This is carried out by introducing into the uterine cavity a suitably insulated tube connected with the proper form of kettle in which water is boiling. The steam is allowed to come into contact with the tissues for a varying length of time, depending upon the effect to be produced. It is, however, a dangerous method and, unless it is used under skilled directions, much harm may follow.

Finally, in some extreme cases of glandular endometritis in which curetting has given only temporary relief, and in which the patients are almost exsanguinated by the constantly occurring hemorrhages, removal of the uterus is the only means at our command for definitely controlling the symptoms. This should, however, be done only as a last resort when all other forms of treatment have been exhausted without relief to the patient.

Otto G. Ramsay.

METRORRHAGIA.—The ordinary or customary discharge of blood from the womb at the menstrual period is the point of departure, so to speak, from which this term originates. Just where to draw the line is difficult because the term is a relative one. What is ordinary and not excessive for one woman may be extraordinary and excessive for another. Any hemorrhage from the womb, be the quantity large or small, which depletes the woman's vital force may be regarded as metrorrhagia. The term menorrhagia is often used when this excessive loss occurs in connection with the monthly flow.

Metrorrhagia may therefore be regarded as a hemorrhage from the womb, excessive in quantity, occurring at no definite time, of no definite duration, and due to a variety of causes.

Conditions which favor or cause such a hemorrhage are relaxation of the uterine structures, hypertrophy of the uterine mucosa, malignant degeneration of the uterus, repeated congestion of the pelvic circulation, especially if the blood tension is high or the vascular walls are weak or friable.

1. *Relaxation of the Uterine Structures.*—Such a condition may signify merely a relaxed state of the uterine muscle, or relaxation of the mucosa as well. After a prolonged and severe parturition—especially if there has been uterine inertia during parturition, or if the patient has been kept under the influence of an anæsthetic for an unusually long time—the uterus frequently remains relaxed, the great uterine sinuses remain unclosed, and the blood may pour forth in a mighty current. This is commonly termed post-partum hemorrhage. It is a true metrorrhagia. The relaxed and flabby condition is often present in weak and anæmic women or in those who are suffering with serious disease, such as Bright's disease of the kidneys or tuberculosis. In such cases the hemorrhages are frequently profuse and of long duration. They may occur with the monthly period or during the interval and should be regarded with great seriousness, for such women cannot well sustain such losses of the vital fluid.

The treatment which I have found most effective for the first class of cases is the tamponade of the uterus in the presence of the hemorrhage. Other measures need not be discussed, for with me, at least, they have proved distinctly inferior to the tampon. My plan is to draw the uterus down to the vulva with a volsella firmly fixed in the anterior lip of the cervix, and then to carry successive portions of a long strip of aseptic gauze, two inches wide, quite to the fundus, with long narrow dressing forceps, until the cavity is fairly well filled, at the same time compressing the uterus with the left hand through the abdominal wall. In my hands this has several times proved efficient after other measures had failed. The same treatment is equally suitable for the profuse hemorrhage which often follows abortion. For the second class of cases one must first improve the general condition with iron, strychnine, and an abundance of food. In the intervals between the bleedings one may apply Churchill's tincture of iodine, or the nitrate of silver, four drachms to the ounce of water, to the endometrium every other day, and should such treatment be ineffective after a few weeks of trial, one may dilate the uterus and curette the endometrium. It may not be possible or desirable to scrape away much of the uterine mucosa, but the effect of the operation will be to stimulate the organ to contraction. The operation should be repeated if a single scraping proves insufficient. Some of the cases of profuse hemorrhage during the menopause are successfully treated by this method. The uterus is then tamponed, but not too firmly, the tampon being retained for two days.

2. *Hypertrophy of the Uterine Mucosa.*—The metrorrhagia which results from this cause may consist either of a continual dripping which requires the constant use of a napkin, or of a more or less profuse flowing which ceases only when the patient is exhausted or when the uterus is filled with a clot. The hypertrophied tissue is usually of rapid growth, contains an abundance of vessels, and breaks down readily. After it has broken down it is quickly renewed only to break down again and be accompanied by another hemorrhage. Such a condition frequently follows parturition at term, or abortion, especially if the entire product of conception were not expelled or removed. It also results from gonorrhœa which may have invaded the endometrium, from the presence of fibromyomata within the uterine muscle, especially when their development is toward the endometrium rather than toward the peritoneum, and it not infrequently is one of the phenomena which accompany the menopause. The treatment in all these conditions is the same, for the pathological significance is the same in all. To attempt to relieve the hemorrhage by the internal use of drugs is futile and an unreasonable waste of time. Even the use of astringent or caustic applications to the endometrium is of doubtful value, and in most cases will only prove disappointing and unsuccessful. The only excuse for such treatment would be the unwillingness of the patient to submit at once to the operative method. This consists in the careful and sufficient dilatation of the uterine canal and the removal, with a sharp curette, of the entire hypertrophied mucous membrane. The uterine cavity is then tamponed with aseptic gauze which may usually be retained for two days. In almost all cases the result of this operation will be the immediate cessation of the hemorrhage, and very frequently the cure will be a permanent one. If, however, the cause of the bleeding is a fibromyoma the bleeding will probably recur, and it may be necessary to remove the tumor to produce a permanent result. A repetition of the operation is also frequently required in connection with the menopause.

3. *Malignant Degeneration of the Uterus.*—Any form of malignant degeneration of the uterus is likely to be accompanied by metrorrhagia. In the case of sarcoma the bleeding is not so frequent and may not be so profuse as in that of carcinoma. Whether carcinoma be limited to the cervix or to the corpus, or involve both parts of the organ, hemorrhage will invariably occur. It may occur as a result of great emotion or excitement; it often occurs after coitus. The slightest disturbance of the friable tissue of the cancerous uterus causes bleeding which may be very difficult to arrest. If the diseased tissue is not disturbed in any way there will be a periodical disintegration and breaking down of such tissue, accompanied by profuse hemorrhage. The hemorrhage usually comes with a gush and continues until the patient is exhausted, until a sufficiently large clot is formed, or until it is arrested by mechanical means. The treatment of such hemorrhages is of course only palliative, in so far as the disease which causes them is concerned. For the immediate arrest of the bleeding, pledgets of cotton wool saturated with a solution of alum or of persulphate of iron should be carefully introduced, one after the other, into the vagina, until that cavity is firmly packed. This packing may be left undisturbed for twenty-four hours, and then, if the bleeding recurs when it is removed, the same procedure should be repeated. As soon as possible it is desirable that the diseased tissue should all be scraped away with the sharp curette and a tampon introduced like that which has been described. Such an operation is usually followed by relief from hemorrhage, perhaps for weeks or even months.

4. *Repeated Congestion of the Pelvic Circulation.* Hemorrhage from this cause is of frequent occurrence, and there may or may not be any apparent hypertrophy of the uterine mucosa. It may be the result of excessive sexual indulgence, of great emotion or excitement, of sudden removal to a great altitude where the atmospheric pressure is decidedly lower than the pressure within the blood-vessels, or of unusual blood tension from a variety of causes at the time of the monthly flow. I have frequently seen this variety of metrorrhagia in prostitutes and I believe that it is very common with them, especially if they are also suffering with disease of the tubes and ovaries, to which they are very susceptible. Hysterical women or women who experience great calamities or catastrophes are sometimes sufferers from this form of hemorrhage. Women who remove their residence from the sea level to an altitude of six thousand feet or more are frequently troubled with metrorrhagia until they become accustomed to their new surroundings, even though they may be in ordinary health in all other respects. Those who suffer from this cause at the time of the monthly flow may not present any lesion which is discoverable as a cause. Metrorrhagia sometimes occurs upon the approach of the menopause. The condition will usually yield quite readily to treatment. It is hardly necessary to say that if the cause is excessive coitus such excess should cease. Those who reside in high altitudes should change their residence if the bleeding does not cease after a few months. The hysterical and emotional must learn self-control, and if the blood tension is excessive a course of treatment with the bromides must be entered upon. In some cases it may be desirable to make applications of iodine or carbolic acid or persulphate of iron to the endometrium, and if this does not avail it will be necessary to dilate the uterine canal and curette the endometrium. For the immediate treatment of the hemorrhage the tamponade of the vagina after the manner which has been described will usually prove effective.

Andrew F. Currier.

MEXICO.—This great southern portion of North America, extending over seventeen degrees of latitude and thirty of longitude, is comprehended between the United States and Central America on the north and south, and the Pacific Ocean and the Gulf of Mexico on the east and west. It is 1,950 miles long and 750 wide in the widest part, and 140 in the narrowest. It has an area of 767,005 square miles, and almost equals Great Britain and Ireland, France, Germany, and Austria-Hungary together. Mexico is a republic (largely modelled on that of the United States) containing twenty-seven states and one federal district. Its population is 13,545,462. It consists principally of an immense tableland or plateau, averaging 8,000 feet in height at the southern portion in the states of Mexico and Puebla, and thence northward it falls in height to 3,600 feet at El Paso Del Norte. The boundaries of this plateau are formed by the Sierra Madre—an almost unbroken chain—on the west; and on the east, parallel to the Gulf Coast and from ten to one hundred miles from it, by the Sierras of the east, forming more a series of groups than a connected range. There are also short cross ridges which break up the surface, the principal one being the Cordillera de Anahuac. Outside of these mountain boundaries the land slopes to the Gulf and to the Pacific, quite gradually on the east, while on the Pacific side the Cordillera runs on the whole very near the coast, leaving a very narrow strip of land between the same and the sea. "All climates," as Hann remarks, "are represented in Mexico—the hot, damp climate of the tropics, as well as the hot dry desert climate of the lowlands. The temperate climate of the medium elevations, and the climate of the region of eternal snows on the highest mountain peaks." This relief of the land—its varying elevation—rather than the latitude, determines the diversity of the climate.

Three different climatic zones are distinguished. *First*, the *warm*—*Tierra Caliente*—up to about 3,000 feet. This is considered a hot, damp, unwholesome region as a whole, especially the low marshy Gulf coast, where various diseases are prevalent—malaria, yellow fever, dysentery, and others. The temperature varies from 77° to 82° F.; it seldom falls below 60° and often rises to 100° or more. In the coast valleys, however, at an altitude of from 500 to 3,000 feet, the climatic conditions are improved, and malaria is much less prevalent. These valleys "blossom" throughout the year and are well sheltered by the mountains, so that neither extreme heat nor uncomfortable cold prevails. At Vera Cruz, one of the principal ports on the Gulf, yellow fever is exceedingly prevalent, and Wells refers to the great mortality of American consuls there ("Mexico," David A. Wells). *Second*, the temperate zone—*Tierra Templada*—embracing territory from 3,000 to 5,000 or 6,000 feet in altitude. The climate in this region is that of continual spring, the mean annual temperature being 62° to 70° F., varying but a few degrees during the season. This zone embraces all the higher terraces and portions of the central plateau. "The zone of temperate lands, oceanic slopes," says Romero ("Geographical and Statistical Notes on Mexico," M. Romero, 1898), "enjoys an everlasting spring, being exposed neither to severe winter nor to intolerable summer heats; in every glen flows a rippling stream; every human abode is embowered in leafy vegetation, and here the native plants are intermingled with those of Europe and Africa. Each traveller in his turn describes the valley in which he has tarried longest as the loveliest in the world; nowhere else do the snowy crests or smoking volcanic cones rise in more imposing grandeur above the surrounding sea of verdure all carpeted with the brightest flowers." Chihuahua, elevation about 4,500 feet, may be taken as a type of the climate of the central plateau lying in this zone. The coldest months are from November to February, and the hottest from May to August. The summer climate is very agreeable and the air cool and bracing. According to Hinsdale ("A System of Physiological Therapeutics, Climatology, Health Resorts," vol. iv., book ii., p. 219), yellow fever, dysentery, and diarrhœa are frequent causes of death in this zone, while, on the contrary, it is stated in the article on Mexico in the Encyclopedia Britannica, that endemic fevers cease altogether at an elevation of 2,700 and 2,800 feet. *Third*, the *cold* zone—*Tierra Fria*—embracing territory of an elevation of from 5,000 or 6,000 to 8,000 and 9,000 feet.

This zone includes all the higher regions of the central plateau, and Zacatecas is the gateway to it from the north. In this zone (cold) are situated some of the most important cities of Mexico, such as Aguas Calientes, San Luis Potosi, Leon, Lagos, Silio, Queretaro, Guadalajara, and Mexico City. The mean average annual temperature is from 59° to 63° F., and the rainfall is about five times less than in the temperate zone. It is in this cold zone that the most favorable climatic conditions exist for the open-air treatment of tuberculosis, if one were sure of obtaining good accommodations, good food, and efficient medical service. "In this higher plateau, the climate," says Squires (*Medical Record*, 1897, vol. lii., p. 782), "is an ideal one both winter and summer, and is rendered even and temperate by the shelter afforded by the mountains from the winds and storms. December and January are the coldest months, but the thermometer rarely reaches freezing. The days are delightful, and every day is clear and bright, and flowers are in bloom." "If possible," continues Squires, "the summer climate on this plateau is superior to that of winter; rain begins in June and continues until October. (South of latitude 28° N. there are but two seasons, the rainy and dry.) It rarely rains, however, more than two or three hours a day, in the afternoon. At this season the vegetation is luxuriant. The nights are always cool." Squires thus describes a day during the rainy season:

"One is awakened in the morning by the sunshine pouring into his room. The birds in the patio of the hotel as well as those in the gardens are singing. The fragrance of the moist ground and flowers comes into the open window with the sunshine, and aside from the clear moist air one would not realize that it had rained the day before and that it was a morning in the height of the rainy season. It seems too beautiful to remain longer in the house, and one is soon up and out into the bright sunlight. The sky is cloudless except for a little bunch of clouds near the horizon, and as the day wears on this grows larger, until by three or four o'clock in the afternoon the sun is hidden and the rain commences. Shower follows shower for two or three hours, and then the clouds disappear, and by seven in the evening the streets are dry, the moon shines out, and then the population of the town comes to take a walk and sit on the plaza, and listen to the music. One can stay there until midnight if he chooses without fear of cold or catarrh."

The following table gives some of the principal climatic data of various points in this region as well as of Monterey in the warm zone, and of Jalapa and Oaxaca in the temperate:

Meteorological Observations (Annual Averages). (Taken in Various Cities of Mexico During Several Years.)

From M. Romero, prepared by the Meteorological Observatory of the City of Mexico.

Localities.	North latitude.	Height above sea level. Feet.	Temperature.			Relative humidity. Per cent.	Average clouds.	Wind.		Rainfall. Inches.
			Maximum.	Minimum.	Mean.			Prevailing direction.	Velocity.	
Mexico	19.26	7,472	88.8° F.	29.0° F.	60.0° F.	60	5.0	N. W.	0.8	23.9
Zacatecas	22.46	8,174	71.2	43.0	55.7	48	3.2	S. E.	2.6	32.0
Guadalajara	20.41	5,131	95.9	23.9	67.4	53	No. of cloudy days, 124.	N. E.	2.4	33.6
Monterey	25.4	1,610	91.7	53.0	69.8	60	Days of rain, 94.	S. E.	....	24.5
Saltillo	25.25	5,307	93.2	27.0	62.2	61	4.4	N.	1.4	20.5
Durango	24.2	6,500	88.0	20.0	62.0	..	....	.....	....	21.5
Aguas Calientes	21.53	6,086	84.3	37.0	63.4	53	....	N.	....	21.1
San Luis Potosi	22.9	6,190	93.0	28.8	63.3	60	4.4	E.	1.3	15.1
Silao	20.56	6,053	90.0	39.2	67.1	..	Days of rain, 99.	W.	....	13.5
Puebla	19.03	7,106	89.4	30.0	60.2	63	4.7	N. E.	1.9	36.1
Queretaro	20.45	6,000	91.5	33.8	64.5	59	4.1	E.	.6	23.5
Jalapa *	19.32	4,712	92.3	42.9	65.3	..	Days of rain, 202			
Oaxaca	16.57	5,062	91.2	43.2	69.0	80				

* Within the belt of one hundred inches annual rainfall.

The whole of the great central tableland—the great plateau of Anahuac—possesses an unsurpassed all-the-year-round climate; it has elevation, abundant sunshine, low humidity, small precipitation, and an equable, mild temperature with comparatively small variation throughout the year. There are also absence of snow, and protection from wind and dust. Naturally, then, such a climate should be well adapted for the open-air treatment of suitable cases of pulmonary tuberculosis, if one were sure of proper accommodations and food and efficient medical service. When these are assured, this region would seem destined to become a great and popular health resort. Perhaps, however, its greatest value will be in offering a permanent residence to those who are phthisically inclined, or who for any reason cannot comfortably endure the rigorous climate of the North with its indoor life. The opportunities for business or life on the land appear to be increasing with the development of the country under President Diaz.

According to Squires (*loc. cit.*) asthmatics find relief in this climate, and those affected with Bright's disease, without cardiac complications, experience some relief from the disease. It is favorable also for neurasthenia and insomnia. Those suffering from organic heart disease should not visit this or any other elevated region. The invalid should exercise here the precaution necessary in approaching all elevated regions, namely, to make the ascent gradually and refrain from violent exercise for some days until the circulation recovers its equilibrium.

The vegetation of Mexico is extraordinary as regards both its variety and its luxuriance. Tropical, semi-tropical, and the temperate-zone products are found at the varying elevations. In the so-called "paradise" of Mexico, the temperate-zone region, especially on the terrace facing the gulf, "a wealth of semi-tropical vegetation" is found. "No country in the world shows so many variations in the aspect of plant life as Mexico" ("The Universal Encyclopædia"). "The tropical flora invades many parts of the terrace lands and even of the plateaus to heights of 4,000 and 5,000 feet." To enumerate some of the plants and fruits—there are the orange, lemon, olive, mango, pomegranate, pineapple, banana, ginger, coffee plant, cotton, sugar cane, india-rubber tree, cocoa, almond, rice, vine, maize, wheat, tobacco, yucca, an endless variety of the cactus family, the palm, the maguey from which pulque is made, the cypress, oak, pine, fir, and cedar, and an infinite variety of plants and flowers. There are one hundred and fourteen different species of building timber and cabinet wood, and fifty-nine classified species of medicinal plants.

A short description will now be given of some of the more important places of resort in the plateau.

City of Mexico: (elevation 7,472 feet; population 347,000), situated upon the Anahuac Plateau, in the western portion of a great valley, surrounded on all sides by high mountains, with the two snow-capped volcanoes—Popocatepetl and Ixtachihuatl—rising up like watch towers over the valley, wrapped about with an extraordinarily clear atmosphere, and enroofed with a marvellously blue sky, stands the capital of the great republic of Mexico amidst imposing scenery, full of historic interest and suggestion. If the traveller has never done so before, he should not leave this memorable city without reading Prescott's fascinating and graphic description of that wellnigh incredible feat, the conquest of Mexico by Cortez, of which the capture of this city was the culmination. Round about the city are six lakes, two of which are sweet waters and the others salt. The near presence of these bodies of water is not particularly favorable from a health point of view, and has made the problem of adequate drainage difficult. The city itself is imposing in its extent and regularity; in its public buildings, churches, and cathedral, its public squares and avenues, and in its scientific and literary establishments. Water is brought into the city by two stone aqueducts leading to a great number of fountains from which the water is distributed in earthen jars by water carriers. The whole valley in which the city is situated is now drained by a tunnel (six miles long, extending through the mountains) and a canal, the total length of the two combined being nearly thirty-seven miles. With this canal and tunnel the city is being connected by a new and complete sewerage system. "When this is completed"—as it nearly is—"the city of Mexico will be one of the cleanest, healthiest, and prettiest cities in the world" (Hon. John W. Foster, the *National Geographic Magazine*, January, 1902). The climate is temperate and delightful. The mean annual temperature is 60° F., the maximum 88.8° F., and the minimum 29° F.

The temperature of Mexico City for July is as follows:

Monthly mean in shade	62.96° F.
Monthly mean in sun	63.14
Maximum in shade	77.18
Maximum in sun	88.34
Minimum in shade	53.60
Minimum in open air	46.40
Total range in shade	23.58
Total range in open air	41.94

The nights and mornings are cool and agreeable the year through, although occasionally in January and February the thermometer sinks to the freezing point in the mornings. The warmest months are April and May, and the coldest December and January. The rainy season lasts from May to October; there are one hundred and thirty-nine rainy days, and the annual precipitation is 23.9 inches. The mean annual relative humidity is 60 per cent.; it is the least in spring, 49 per cent., and the greatest in September, 72 per cent. Heretofore Mexico has not been a healthy city owing to the lack of proper drainage and the habits of the poor classes. Intestinal diseases are the most common and fatal; typhus fever, rheumatic fever, tuberculosis, and smallpox among the Indians, are also prevalent. Malaria is common, and, in the higher elevations in general, pneumonia is a much dreaded disease, and a very large per cent. of the cases are quickly fatal. According to Galloway, nasal catarrh is very prevalent among the Americans ("Experience of an American Physician in Mexico," D. H. Galloway, *Journal American Medical Association*, 1895, vol. xxiv., p. 119).

From Mexico City many attractive excursions can be made to the Castle of Chapultepec, Guadalupe Hidalgo, Toluca, and other points of interest. There are a number of good hotels and restaurants in the city, and an extensive system of tramcars. French, English, and Spanish are spoken in the hotels and shops.

Guadalajara, 5,131 feet above the level of the sea, has a population of 83,934 inhabitants. It is called the "Pearl of the Occident," and is said to be one of the best lighted and cleanest cities of Mexico. Here is a fine cathedral, the largest theatre in the republic, a famous hospicio, and many fine parks and gardens. According to Solly ("Medical Climatology") Guadalajara is well supplied with restaurants and hotels, and the drainage and sanitary conditions are superior to those of most Mexican towns.

The climate is fine, partaking of the characteristics of all this plateau. The mean annual temperature is 67° F. with a maximum of 95.9° F. and a minimum of 23.9° F. In winter there is an average of twenty-five cloudy days. Forty miles south of Guadalajara is Lake Chapala, 6,000 feet above the sea. It is fifty miles long and eighteen wide, and is the largest lake in the republic. Fifteen miles east of the city are the Falls of Juanacatlan, called the "Mexican Niagara." The excursion to San Pedro, a favorite and wealthy suburb of the city, is very attractive, as are many other excursions round about the city.

Queretaro—elevation 6,060 feet—contains about 47,000 inhabitants and is beautifully situated in a fertile valley with the mountains in the distant background. It is said to be one of the most beautiful cities in Mexico. The streets are narrow and crooked but generally neat and clean. There are many attractive old churches, numerous public fountains, and handsome plazas. A stone aqueduct, five miles long and of attractive architecture, brings water into the city. Two miles out of the city is the spot where the Archduke Maximilian was shot in 1867. The climate of Queretaro is much like that of Guadalajara, the annual average temperature being 64.5° F.; the maximum 91.5°, and minimum 33.8°. In 1894 the seasonal temperature was as follows: winter, 59° F.; spring, 69°; summer, 68°; autumn, 62°. The monthly mean for January was 60°, and for May (the warmest month), 72°; for July, 67° (Solly).

San Luis Potosi—elevation 6,190 feet, population about 75,000—an enterprising business city called "the Chicago of Mexico." It is situated in a fertile region surrounded by mountains. The climate is very much like that of Queretara, the mean annual temperature being 63.3° F. San Luis Potosi is in a region of rich silver mines, and has the largest smelting plant in Mexico. The drainage is said to be poor, but the streets are clean. There are a government palace, a cathedral, plazas, and an attractive alameda.

Saltillo—elevation 5,307 feet, population 20,000. This city possesses an excellent all-the-year-round climate. The mean annual temperature is from 62° to 64° F.; the maximum 93.2° F., and the minimum 27° F. The number of rainy days is sixty-six yearly. There is a good water supply from the mountains. In the parks flourish, throughout the year, the lemon and orange trees, the oleander, rose, violet, geranium, and other plants of a semi-tropical nature. The climate of this place is said to be favorable for persons suffering from malaria, or from nervous maladies, and for weakly individuals. Saltillo possesses warm sulphur springs, and there are two hotels.

Durango—elevation 6,500 feet, population about 30,000—is situated in the plain of San Antonio, and possesses a mild, dry climate, with a mean winter temperature of about 50° F., and an annual mean temperature of 62° F. There is an abundant supply of pure water, but no good system of drainage. The streets are well shaded, and the plazas are attractive, with flowers in bloom the whole year. According to Hinsdale ("A System of Physiological Therapeutics," vol. iv., book ii., Climatology, p. 322) it is an excellent place for the *tuberculous*, but there is but one hotel in the town and the prices there are excessive.

Zacatecas—elevation 8,174 feet; population 50,000. This is a mining town of ancient date, picturesquely situated in a mountain ravine, and is one of the highest points in Mexico. On account of its great elevation the climate is cool, very dry, and stimulating. The mean annual temperature is 55.7° F.; the maximum 71.2° F., and the minimum 43° F.; the average relative humidity is 48 per cent. Tuberculosis is said to be very rare there.

Aguas Calientes—6,086 feet above sea level, a city of 30,000 or more inhabitants—has a fine climate the year round, and, according to Squires, the hotels are exceptionally good. The hot baths are a great attraction, and there are well-appointed bathhouses with arrangements for shower baths, and large swimming tanks.

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 Pharmacopœia admits "*D. Mezereum* L. and other species"; the British Pharmacopœia "*D. Mezereum*, *D. Laureola*, and *D. Gnidium* L." The French Codex restricts the name properly to the first-named species, but also recognizes *D. Gnidium* 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 crytalline, 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.—Viâ 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 or 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
Manganesium	.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 viâ 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
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;