

Gradually other changes occur. The hair falls out. The eyelids become ectropioned and their lashes fall. The nails atrophy.

At first the general health of the patient remains unaffected, but gradually, through the uncomfortable condition of the skin, the occasional fever, the sleeplessness aggravated by severe attacks of itching, the constitution becomes undermined. The patient becomes thin and poorly nourished, then through complications, either in the lungs, or intestines, or kidneys, he is carried off.

It is said that pemphigus foliaceus, after existing for a longer or shorter time as such, may turn to the type of pemphigus chronicus vulgaris (Kaposi).

Diagnosis.—The most important disease to differentiate from pemphigus foliaceus is dermatitis herpetiformis in its generalized exfoliative form. The two diseases are at this stage so closely alike that only a very clear history or a continued observation of a patient enables one to come to a definite conclusion. Severe attacks of itching, the occurrence of the vesicles or bullæ in groups, and only slight interference with the general health should lead one to suspect the disease in question to be dermatitis herpetiformis.

PEMPHIGUS VEGETANS.

In pemphigus vegetans the denuded areas left by the blebs, instead of healing over, sprout peculiar vegetations. This is one of the chief characteristics of this variety of pemphigus, and the one to which it owes its distinctive title of vegetans. It is, however, not the only point of difference between it and ordinary pemphigus. The individual cutaneous lesion is usually smaller and more flabby, the contents are more turbid, and the covering of the bleb is more delicate than in pemphigus vulgaris. The blebs and the subsequent erosions may, however, resemble those of pemphigus vulgaris in every respect up to the time when the vegetations sprout.

The bullæ appear suddenly on an apparently healthy surface, and are generally delicate and soon break, leaving smooth, deep, red excoriations exuding an abundant, foul-smelling serum. The border of both the bleb and its succeeding excoriation remains sharply limited, and there is no infiltration. The vegetations may be present before the bleb breaks, but more frequently they appear in the erosion, at first as a rounded, prominent, dirty white elevation, in the centre of which the vegetations sprout. This process slowly extends out over the entire excoriation and even beyond it. This growth is surrounded by a zone of dark red erosion, which in turn is bounded by a collar of loosened macerated epithelium. The vegetations are closely bunched, their free surface is necrotic, excoriated, and dirty, and they have in their substance many pinhead-sized pustules, giving them a stippled look.

Many of the vegetations are flattened across the top, and, although larger than the broad condylomata of syphilis, look strikingly like them. By individual increase in size neighboring lesions coalesce with one another, forming large patches with serpiginous boundaries of tattered, ragged epithelium. As a rule the lesions on the tongue and mucous membrane of the mouth and lips resemble those seen in pemphigus vulgaris, but they may also become vegetative, although these vegetations do not reach anything like the size or extent of those seen on the skin.

The disease may begin by the appearance of blebs on any part of the skin or mucous membranes, but it is particularly apt first to show itself in the mouth. Spiegler has recently said that of twenty-eight cases of which he had known, eighteen began with lesions in this situation.

It is only in bad cases that all the lesions on the cutaneous surface become vegetative. In certain regions, as in the naso-labial and labio-mental grooves, in the armpits, groins, and navel, and on the belly, the lesions are particularly apt to sprout vegetations.

The constitutional symptoms, such as sleeplessness,

fever, and loss of strength, are present as in pemphigus vulgaris, but are usually more marked.

The *prognosis*, although commonly far worse than in pemphigus vulgaris, is by no means fixed.

In all medicine there is no disease with a more dramatic course than that of pemphigus vegetans. For instance, a man consults a physician in regard to an insignificant erosion in the axilla. A simple treatment is prescribed. He appears shortly again with some vegetations on the erosion. These may be cauterized, and the patient dismissed without any thought of the serious nature of the malady. The lesion, however, does not heal, and new excoriations and blebs appear, especially about the privates, with coincident dirty white patches in the mouth. At the same time the patient gives off a most horrible carrion-like odor. He shortly becomes a miserable, fulsome, horrible object to himself and others; and, to add to his miseries, there is often the moral degradation of being thought to have syphilis. Inanition from refusal of nourishment, fever, exhaustion, marasmus, spinal irritation, and acute edema of the brain succeed one another rapidly, and in a few weeks or months the patient dies.

Where the lesions first appear is a matter of importance in the prognosis, for in those cases in which the lesions begin on the lips, in the mouth, on the scalp, or on the genitals the prognosis is bad.

Not all the blebs in a case of pemphigus vegetans become vegetative, and when only a few of them sprout vegetations the prognosis approaches more that of pemphigus vulgaris—that is to say, it is serious, but not necessarily fatal. On the other hand, the more blebs there are that become vegetative, the more quickly does the disease terminate in death.

Necrosis of the surface of the vegetations is the rule, and the more marked the necrosis the worse the outlook for the patient. If, however, this necrosis does not take place, and the vegetations tend to become covered with horny epithelium, the patients may recover and live for years (Neumann).

It is not an absolute rule that a pemphigus vegetans should remain as such throughout its entire course. In general, the vegetations cease appearing as a fatal termination approaches, and Kaposi has demonstrated a patient in whom pemphigus vegetans healed, but the disease returned some time afterward as a pemphigus cachecticus.

As above shown, the estimate of the course which a given case should take may be modified by a number of considerations, such as the severity of the constitutional disturbance, the localities where the lesions first appear, and the abundance and the dirty necrotic condition of the vegetations. The beneficial effects of treatment have also helped to modify the unmitigatedly bad opinion previously entertained of the course of pemphigus vegetans. Under drying disinfecting powders the prognosis has improved, and Köbner, Mueller, Kaposi, and Mracek have reported cases showing at least temporary relief or cure.

The resemblance of pemphigus vegetans to syphilis is striking. The white patches in the mouth resemble absolutely the mucous patches of syphilis, and the vegetations, especially the button-like ones, differ in no respect, except in their larger size, from the broad condylomata that were at one time supposed to be found only in syphilis. These symptoms, together with the situation of the patches, especially those in the groins, in the folds between the thighs and the scrotum, and in the anal fold, all go to form a picture that is in the highest degree deceptive. There are differences, however, which aid in distinguishing the two diseases. For instance, the growths in pemphigus are always surrounded by the tatters of the blebs, while in the confluent condylomata of syphilis the patches are bounded by sharp infiltrated borders. Furthermore, the condylomata in syphilis always occur at an early stage of the disease and are accompanied by other symptoms of syphilis. In syphilis the growths when left to themselves tend to subside, while in pemphigus the longer the disease lasts the more

the growths increase; and while they grow, the general condition of the patient becomes worse and worse. Furthermore, pemphigus vegetans is a disease of adult life, and the presence of blebs is unknown in the course of syphilis of adults.

Post-bullous vegetations are not absolutely pathognomonic of pemphigus vegetans, as in rare instances they occur in several other affections, such as in dermatitis herpetiformis, impetigo contagiosa, and in the iodine (Hallopeau) and bromine (Wallhauser) eruptions. Post-bullous vegetations also occur in impetigo herpetiformis, but impetigo herpetiformis is by many observers now considered a clinical variety of pemphigus vegetans.

Treatment.—The outlook for the cure of any given case of pemphigus, through either internal or external medication, is not good, yet much may be done to alleviate the symptoms and to stay the progress of the disease.

Arsenic.—So many have praised the effect of arsenic in pemphigus that it should be the first drug to receive a trial. The favorite way of giving it is as Fowler's solution, in increasing doses, beginning with six drops, and, as some advise, running up to twenty or thirty drops a day. Very high doses of arsenic are of questionable benefit as they depress. If such high doses are used it is entirely for their specific effect, and as soon as they are found valueless they should be stopped. On the other hand, small doses, on account of their tonic effect, may be continued for a long time.

Strychnine.—Neisser has recommended strychnine. Its only effect seems to be that of a powerful tonic, useful in combating the great exhaustion, which is so frequently a marked feature of the disease.

Quinine.—Mosler has reported an apparent cure after taking 40 gm. of muriate of quinine in five weeks (Jarisch). In most cases, however, it acts simply as a bitter tonic.

Acids.—Dilute sulphuric acid, acetic acid, and citric acid have been recommended, but no specific action can be attributed to them. They probably act as tonics.

Opium.—Opium besides being a soporific is said by Malcolm Morris to be one of the best curative agents we possess.

Chloral hydrate is an excellent drug for the sleeplessness which is a marked symptom in some cases of pemphigus.

Ordinarily the simplest measures may be employed to relieve the local conditions. Frequently a mild antiseptic powder, made, for instance, of equal parts of boracic acid, starch, and oxide of zinc, is all that is required. If the tension of the blebs is uncomfortable they may be opened, and the above powder may be used to soak up the secretions, and to prevent the excoriations sticking to the bedclothes. If there are much heat and inflammation, or if pus is retained under the crusts, mild antiseptic lotions or salves may be the best topical applications. Lotions will be mentioned after speaking of baths. A red oxide of mercury salve is excellent: \mathcal{R} Hydrarg. ox. rub., \mathfrak{z} ss.; lanolini, vaselin. alb., \mathfrak{aa} \mathfrak{z} ss. M. S.: Apply on cloths.

Carbonate of lead, employed as a salve, is also good: \mathcal{R} Plumbi carbonat., \mathfrak{z} i.; lanolini, vaselin. alb., \mathfrak{aa} \mathfrak{z} ss.

Baths.—The continuous bath, when it can be obtained, is of the greatest comfort in severe cases. It relieves the tension and pain, softens the crusts, mitigates the fever, and induces sleep. With its help a patient may be carried through an eruptive attack that would otherwise have killed him. Hebra's water-bed is excellent for the purpose. (Fig. 3792.) It consists of a box or bath lined with zinc, with a plug and overflow pipe at its foot, and the feed pipe with hot and cold water mixed, entering at the head of the bath near its bottom. The temperature should be maintained at about 36° or 37° C.

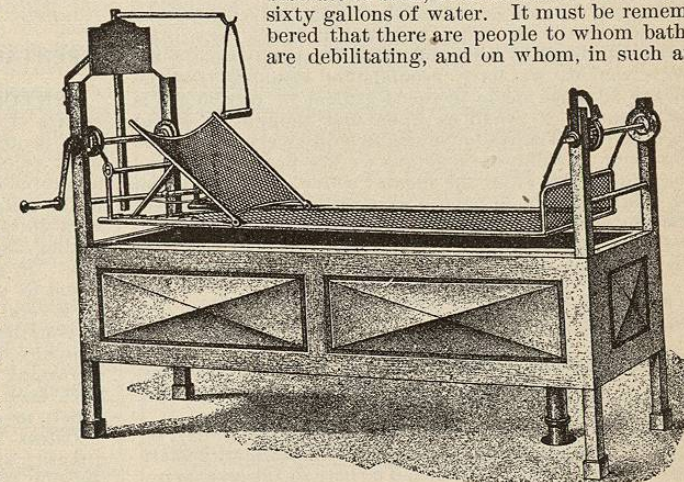


Fig. 3792.—Hebra's Contrivance for Administering a Continuous Bath. (From Jarisch's "Hautkrankheiten," in "Nothnagel's System.")

The patient rests on a wire netting over which are thrown woollen blankets. This wire netting may be raised and lowered as wished. After the patient is lowered into the water the bath may be covered over with blankets for the purpose of retaining the warmth.

When such a bed is not obtainable, the patient may be put in a bath for several hours a day. Soothing or antiseptic medicaments may be added to the bath, as for instance one or two drachms of permanganate of potassium, or a couple of tumblerfuls of boracic acid powder, or bichlorate of soda, or bicarbonate of soda, to sixty gallons of water. It must be remembered that there are people to whom baths are debilitating, and on whom, in such an

asthenic disease as pemphigus, their use would be particularly disastrous. In such cases we must content ourselves with compresses either wrung out of simple water or wet with medicated lotions. These compresses may be covered in either with oil silk or with rubber tissue. Hutchinson's lotion is an excellent one for allaying inflammation, irritation, and itching. It consists of: \mathcal{R} Liq. plumb. subacetatis, \mathfrak{z} ss.; liq. carbonis detergentis, \mathfrak{z} iiss. M. S.: A teaspoonful in a pint of water, to be used as a lotion.

Other solutions to be used on compresses are those of acetate of aluminum, saturated solution of boracic acid, and liquor plumbi subacetatis. Carron oil, made with equal parts of lime water and olive oil, with the addition of four per cent. of boracic acid, is one of the best applications in pemphigus, and is especially useful in the dry scaly condition in pemphigus foliaceus.

Treatment of Pemphigus Vegetans.—Unna introduced a treatment of pemphigus vegetans which consisted of painting the lesions with tincture of iodine. This treatment is so painful that the patient must be anesthetized, and on awaking must receive full injections of morphine. Köbner first cured away the vegetations or burnt them down with the thermo-cautery; then afterward he treated any vegetations that appeared with tincture of iodine.

Jarisch said he saw the lesions in a typical case of pemphigus vegetans clear up with wonderful celerity under a paste consisting of: \mathcal{R} Sulphur. præcip., zinc. ox., amyli, \mathfrak{aa} 10.00; vaselin. flav., 30.00. M. S.: Spread on linen and apply or rub into patches, and dust with some indifferent powder, such as oxide of zinc and starch.

In pemphigus vegetans, however, these measures for controlling the vegetations, no matter how successful locally, have no effect on the course of the disease. The general symptoms of sleeplessness and exhaustion go on unchecked. In fact it is the rule for the vegetations spontaneously to cease appearing as the fatal termination approaches.

Neumann found solutions of salicylic acid applied on

cotton an excellent deodorant for the foul odor present in pemphigus vegetans. A powder made of equal parts of talc and salicylic acid may also be used.

In looking over the literature of the drugs and applications used in pemphigus, one cannot fail to note everywhere a tone of helplessness, with perhaps a slight brightening up when the continuous bath is mentioned. The good effect of all the internal remedies may, in almost all instances, be reduced to their tonic or sedative action, and of the external remedies to their soothing effects, their power to diminish tension and burning, or to control the evil odors and the undue activities of the pyogenic bacteria. The treatment, it is true, is still far from our ideal of what effective treatment should be. Nevertheless, we have grounds for claiming that the actual advance made in the treatment of pemphigus is by no means so small as upon first thought it would seem to be. Thanks to Neumann's discovery of the true nature of pemphigus vegetans we are now able to save many a patient from the mental worry and humiliation of being thought to have a syphilitic disease, and from the physical suffering which he would have to undergo before it could be demonstrated by treatment that this diagnosis was incorrect. *Dougllass W. Montgomery.*

PENIS, DISEASES OF. See *Sexual Organs, Male, Diseases and Injuries of.*

PENNYROYAL, AMERICAN OR MOCK.—*Hedeoma*. "The dried leaves and tops of *Hedeoma pulegioides* (L.), Pers. (*Mentha p. L.*; fam., *Labiatae*)." U. S. P.

This is a slender annual herb, very abundant in dry, especially rocky meadows and pastures throughout Eastern and Central North America. The base of the stem is frequently decumbent. The upper portion is usually much branched, the branches are slender, erect or ascending, and quadrangular, the leaves opposite, slenderly petioled; blades usually less than 2.5 cm. (1 in.), long, and 1 cm. ($\frac{3}{8}$ in.) broad, oblong ovate, narrowed gradually into the petiole, obtuse, distantly and shallowly serrate, pale or grayish-green, thin, with few, strongly ascending secondary veins, and the lower surfaces beset with small, circular, depressed glands, which are usually golden-yellow and shining under a strong lens; flowers several in a leaf axil, pedicelled, the calyx tube cylindrical, somewhat contracted at the mouth, strongly nerved, its tube two-lipped and slenderly and sharply five-toothed; corolla tubular, two-lipped, pale blue, spotted; stamens four, two of them sterile; odor strong, somewhat mint-like; taste aromatic and pungent.

With a little tannin and bitter extractive it contains nearly one per cent. of a volatile oil, official under the title *Oleum Hedeomae*, which is its active portion.

American pennyroyal possesses the carminative, aromatic, and diffusible stimulant properties of the mints in general, and is similarly employed. There is no official preparation, but an infusion is probably the best form of administration. One of the important properties of this plant and of its oil is that of repelling mosquitoes, to a considerable and useful extent.

Oil of pennyroyal is thus described: A pale yellowish, limpid liquid, having a characteristic, pungent, mint-like odor and taste. Specific gravity, 0.930-0.940 at 15° C. (59° F.). The oil should form a perfectly clear solution with twice its volume of a mixture of three volumes of alcohol and one volume of water, this solution being neutral or slightly acid to litmus paper. It is also readily soluble in carbon disulphide, or in glacial acetic acid. It consists chiefly of pulegone. The dose is 1-5 minims. The genuine or European pennyroyal is *Mentha Pulegium* L. (*Pulegium vulgare* Mill.) in the same family. It has a similar taste and odor, and contains an almost identical volatile oil. *Henry H. Rusby.*

PENTAL (*Tri-methyl-ethylene*), a purified amylene, introduced by Mering as an anæsthetic. It is a colorless liquid with a sharp penetrating odor, but not irritating to the mucous membrane. Specific gravity, 0.678; boil-

ing point, 100.4° F. It is insoluble in water, but mixes freely with alcohol, chloroform, and ether.

Pental is administered in the same manner as chloroform. Anæsthesia is produced in three or four minutes and lasts for about four minutes.

Following its introduction pental was employed by many as an anæsthetic, with very satisfactory results, but experimental work upon animals proved that it was a powerful cardiac depressant, and also produced marked renal irritation. Many instances of dangerous depression during its use and several deaths were soon reported, and it rapidly fell into disuse. *Beaumont Small.*

PENTASTOMA. See *Arachnida.*

PENTOSURIA is the term applied to the occurrence of sugars of the five-carbon series (pentoses) in the urine. The pentoses (C₅H₁₀O₅) include the carbohydrates arabinose, xylose, and rhamnose (C₆H₁₂O₆), the latter being a methyl pentose. The appearance of sugars of this type in the urine was first detected by Salkowski and Jastrowitz in the urine of a morphine habitué. Since then similar observations have been made on various individuals. In some of these instances the pentosuria has been found to persist unchanged for many months and even for several years. The pentose either occurs as the only carbohydrate present in noticeable amount, or it may accompany dextrose, the sugar of ordinary glycosuria.

Various methods of testing for pentoses in the urine have been proposed. Of these the following are most widely used:

Tollens' Reaction with Phloroglucin and HCl.—A small quantity of phloroglucin is dissolved in 7-8 c.c. of HCl (specific gravity, 1.12) with the aid of heat. After cooling, ten drops of the urine are added to one-half of the reagent, and the mixture is immersed in a boiling water-bath. In the presence of pentoses a cherry-red coloration quickly results. An immediate spectroscopic examination reveals a characteristic absorption band between the D and E lines. The remainder of the reagent is used for a control comparison with normal urine. The presence of dextrose may interfere with the reaction. (Salkowski's modification.)

Tollens' Reaction with Orcin and HCl.—The urine is mixed with an equal volume of fuming HCl containing orcin (instead of phloroglucin) and heated. After cooling it is shaken with amyl alcohol, which assumes a greenish tint. In this reaction the characteristic spectral absorption band is between C and D. Salkowski prefers the orcin test to all others.

Reaction with Aniline-acetate Paper.—The urine is treated with an equal volume of fuming HCl and heated to boiling. If a strip of filter paper, moistened with aniline acetate, is now immersed in the fluid, it is quickly colored cherry-red by the furfural formed from the pentoses present.

Liberation of Furfural by Distillation with HCl.—The method is essentially the same as that used in the estimation of the pentosans in foods. The furfural may be detected in the distillate by the use of aniline-acetate paper. Normal urine or urines containing dextrose or lactose do not ordinarily give any positive reaction.

Preparation of a Pentosazone.—The osazone is prepared with phenyl-hydrazin and acetic acid as in the ordinary tests for sugar. (See *Urine*.) The pentosazone is characterized by: (1) Its greater solubility as compared with glucosazone; and (2) its melting point, 156°-160° C. When large quantities of dextrose are present, they may previously be removed by fermentation with yeast. The pentoses do not ferment, but they reduce alkaline copper solutions.

Preparation of the Benzoyl Ester.—The benzoyl esters are prepared from 500 c.c. of urine, then saponified with sodium ethylate, and the mixture is filtered at once. The filtrate will give the orcin reaction for pentoses (see above), and glycuronic acid is said to be excluded. When dextrose is present slight modification of the method is desirable. (von Alfthan.)

In considering the possible origin of the pentose found in the urine, the wide distribution of the five-carbon carbohydrates in the vegetable kingdom, as shown by Tollens and others, must be recalled. In the form of pentosans they may enter into the diet. Such precursors of the pentoses occur in certain fruits, like cherries and plums for example. In animal tissues precursors of the pentoses are also found, notably in the pancreas, from which the carbohydrate may be obtained, combined as a glyconucleoprotein. Neuberger has shown the pancreas pentose to be *D*-xylose. When fed as such, the pentoses are apparently not well assimilated. Regarding their occurrence in the urine, it seems probable from the meagre data at present available that we must look to metabolic processes for an explanation. For there is no evidence that the diet in the cases on record was particularly rich in pentoses, and in one instance at least pentoses were excreted for a long period on an ordinary diet. Furthermore, the urine pentose is the optically inactive racemic arabinose, and is probably a synthetic product. The pentosuria seems comparable to those perversions of metabolism which are seen in severer forms of diabetes in which the sugar excreted is independent of the diet. In accord with this are the observations of Kütz and Vogel on diabetic patients and on dogs suffering from experimental diabetes. They were able to detect pentoses in company with the dextrose present in the urine in several cases. Regarding the immediate precursor of the urine pentose in the body nothing definite is known at present. *Lafayette B. Mendel.*

REFERENCES TO THE MORE IMPORTANT PAPERS ON PENTOSIS IN THE URINE.

- Salkowski and Jastrowitz: Centralblatt für die medicinischen Wissenschaften, 1892, No. 19, No. 32.
E. Salkowski: Berliner klinische Wochenschrift, 1895, No. 17, p. 364.—Zeitschrift für physiologische Chemie, 1899, xxvii., p. 507.
F. Blumenthal: Berliner klinische Wochenschrift, 1895, No. 26; 1897, No. 12.
Kütz and Vogel: Zeitschrift für Biologie, 1896, xxxii., p. 185.
Reale: Jahresbericht für Tierchemie, 1894, xxiv., p. 627.
Colombini: Jahresbericht für Tierchemie, 1897, xxvii., p. 733.
von Alfthan: Archiv für experimentelle Pathologie und Pharmakologie, 1902, xlvii., p. 417.
Bial: Zeitschrift für klinische Medizin, 1900, xxxix., p. 475.
Meyer: Berliner klinische Wochenschrift, 1901, No. 30.
von Jaeksch: Zeitschrift für Heilkunde, 1899, xx., p. 195; Deutsches Archiv für klinische Medizin, 1899, lxxiii., p. 612. (Alimentary pentosuria.)
Neuberger: Berichte der deutschen chemischen Gesellschaft, 1900, xxxiii., p. 2243. (Nature of the urine pentose.)—*Ibid.*, 1902, xxxv., p. 1472. (Theoretical considerations.)

PENZANCE AND THE SCILLY ISLANDS.—These two localities on the extreme southwestern coast of England, although possessing no great value as health resorts, are taken as representatives of the mild winter marine climate of the south of England. "Penzance appears to be warmer in the winter than any other place on the mainland of England from which we have records" (Dickinson, "Climate and Baths of Great Britain"), and the temperature of the Scilly Islands for the same season is still higher. Mildness and equability of temperature is about all that can be said in favor of such resorts as the above, as well as of others in the same county of Cornwall and in the adjoining one of Devonshire, the most noteworthy of which is Torquay. Such a climate has been resorted to by consumptives and by patients having other inflammatory respiratory affections, notably by those patients with bronchitis who require a moist air.

As will be observed from the climatic chart of Penzance, the temperature range throughout the year is comparatively small. It is neither hot in summer nor cold in winter. Frost and snow are rare. The mean temperature for the three winter months is 43° F., while the mean of the coldest is 40° F. The relative humidity for Penzance is not obtainable, but it probably does not differ much from that at Falmouth, twenty-five miles to the East, which is eighty-two per cent. At the same place (Falmouth) the amount of sunshine is said to be greater than at any other place in England except Jersey, and it is therefore a fair inference that Penzance is also similarly favored, although it is said to have more mist

than Falmouth. Everywhere in England there is rain enough, and Penzance, it is seen, has its share, the annual rainfall being 42.59 inches. The winds from the north and south are equally common, while those from the west are more prevalent than those from the east. Penzance has a southeastern exposure, and is sheltered from the prevalent west wind by the high country about the Land's End, and "very completely from the north by elevations of from five hundred to seven hundred feet within four miles. It is exposed, however, to the east, although some protection can be obtained by a choice of residence" (Dickinson, *loc. cit.*). With so many unfavorable climatic features—the large amount of rain; the high humidity; the wind and the relatively small number of sunny days, although large for England—such resorts as Penzance cannot compare with many other mild-winter marine ones except as regards equability; such, for example, as those on the Mediterranean coast, on the Pacific coast of Southern California, on the Gulf and Atlantic coasts of Florida, and many insular resorts. For the inhabitant of England, however, who desires for any reason a mild and equable winter climate, it offers an easily accessible retreat.

CLIMATE OF PENZANCE, ENGLAND, LATITUDE, 50° 8' NORTH. TEN YEARS.

| | January to March. | April to June. | July to September. | October to December. | Year. |
|--------------------------------|-------------------|----------------|--------------------|----------------------|-------|
| Temperature (degrees F.)— | | | | | |
| Mean monthly average | 43.2° | 52.4° | 59.8° | 47.7° | 50.7° |
| Mean daily range | 6.0 | 9.7 | 9.5 | 6.1 | 7.8 |
| Mean of warmest | 46.3 | 57.4 | 64.6 | 50.6 | 54.7 |
| Mean of coldest | 40.2 | 47.5 | 55.0 | 44.5 | 46.8 |
| Highest or maximum | 58.0 | 77.0 | 76.0 | 64.0 | 77.0 |
| Lowest or minimum | 21.0 | 33.0 | 39.0 | 26.0 | 21.0 |
| Precipitation— | | | | | |
| Average in inches | 10.81 | 6.65 | 9.54 | 15.59 | 42.59 |
| Wind— | | | | | |
| Prevailing direction | S. W. | N. W. | S. W. | N. W. | S. W. |

The situation of Penzance is very picturesque, as indeed are so many of these seaside towns in Cornwall and Devonshire. There are also numerous attractive excursions in the neighborhood and in the adjacent district of Land's End.

The vegetation of Penzance and its neighborhood is very luxuriant and rich, and it seems quite extraordinary that in the latitude of 50°, that of Southern Labrador, one should find exotics flourishing in the open air, even in winter; geraniums and fuchsias attaining the dimensions of large shrubs; aloes flourishing, and hollyhocks, mignonettes, magnolias, and roses blooming, sometimes even in January. Potatoes are cultivated extensively, and sent to London and elsewhere during the winter months. A marked difference is noted between the north and south coasts, although only ten miles apart, not only in the vegetation, but also in the character of the climatic effects. On the north coast the vegetation is far less luxuriant and the climate is more bracing and exciting.

The *Scilly Islands*, although but little resorted to by invalids, represent an interesting phase of climate, and present many attractions from their picturesque situation, as well as from the fact that the Bishop lighthouse, which marks the group, is the first evidence of land which greets the Transatlantic voyager as he enters the English Channel. The group, consisting of forty islands, some only tiny specks, lies about forty miles southwest of Penzance, from which it is reached in four hours. But five islands are inhabited, and but one, St. Mary's, possesses any satisfactory accommodations. This island, which is the largest of the group, contains sixteen hundred acres, and no part of it is a mile from the sea. The scenery is of a peculiar and weird grandeur, great masses of granite cliffs standing out against the sea and storms. In this country the Isles of Shoals, off the New Hampshire coast, would appear to bear a close resem-