Scientific American.

ESTABLISHED 1845.

MUNN & CO., EDITORS AND PROPRIETORS.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, - NEW YORK.

TERMS TO SUBSCRIBERS. One copy, one year, for the United States, Canada. or Mexico........\$3.00 One copy, one year, to any foreign country, postage prepaid, £0 16s. 5d. 4.00

THE SCIENTIFIC AMERICAN PUBLICATIONS Scientific American (Established 1845). Scientific American Supplement (Established 1876) Scientific American Building Edition (Established 1885). Scientific American Export Edition (Established 1876).

The combined subscription rates and rates to foreign countries will e furnished upon application. Remit by postal or express money order, or by bank draft or check. MUNN & CO., 361 Breadway, corner Franklin Street, New York.

NEW YORK, SATURDAY, JANUARY 21, 1899.

SHALL THE GOVERNMENT ENGAGE IN COMMERCIAL ENTERPRISES ?

"Director Emory, of the Bureau of American Republics, in his annual report, shows on December 1, 1898, a balance of \$16,569 out of the annual appropriation of \$36,000. The receipts from advertisements, etc., from July 1 to November 30 were \$17,812, of which \$16,078 was expended. When he took charge of the chusetts" grounded, not, as was at first suggested, upon bulletin, it was published at a cost of \$8,000 per month; the net income from advertisements was \$36,000, and the annual appropriation was \$23,000. By doing away the safety of all the deep draught warships that with the advertising system then in force and making have occasion to go to the Brooklyn navy yard. An other changes Mr. Emory effected a saving of \$5,000

Anyone casually reading the above in the daily press would naturally suppose that it referred to the business affairs of some private publishing concern. As a | Had it been either of these, the plating would have matter of fact, astonishing as it may seem, it refers to been torn and the frames cut through; whereas, the annual report of a United States Government the frames were in the main not distorted, while the Bureau, whose operations constitute one of the most plating between them was bent or dished in just as it and 4, sexual subversion. Some physicians trace all flagrant abuses of the functions of national government on record.

In times like the present, when the elements of political economy are familiar to the average schoolboy before he is far advanced in his teens, it should seem superfluous to discuss in the columns of a journal the sand as the great ship pushed itself bodily through the question whether it is lawful for a govern- the reef. ment to engage in business enterprises which bring it into direct competition with the commercial interests of its own citizens. Yet this is exactly the situation in which the United States government stands tion. As matters now stand any one of our first-class to-day in respect of the bureau whose report Director Emory has just made public.

Our readers may remember the sitting in Washington in 1890 of an International American Conference designed to promote closer trade relationship between serious state of affairs at any time and might prove proper supply of food brings about degeneration of this country and the South American states. The depositively disastrous in time of war. liberations of that conference resulted ultimately in the founding of an organization known as the "Bureau of American Republics," whose ostensible purpose was the disseminating of special information of the kind likely to increase the trade between those countries and ourselves. Appropriations were granted, and the funds thus available were expended in the printing and dessemination of a varied assortment of literature directed to the attainment of the desired result.

So far, so good. The object was laudable and the methods legitimate and unobjectionable.

In course of time, however, it seems to have occurred to the bureau that the increasing circulation of the monthly bulletin rendered it at once an alluring medium to the advertiser and a possible mine of wealth to the bureau; and forthwith, without one thought of the gross violation of principles involved, an army of government advertising agents was sent out, together with a large volume of franked literature, soliciting gally appointed guardian." The law is to apply to all paid advertisements from merchants all over the country.

Finding itself fairly launched as a commercial adverbureau cast about for other money-making devices, markable that the omission of such a provision from and hit upon the happy idea of publishing a directory of reliable manufacturers, etc., in the United States. With admirable simplicity and singleness of purpose, it decided that the sole test of a firm's fitness to figure in the directory as "reliable" should be its willingness | nation has many of the characteristics of the individto earich the exchequer of the bureau to the extent ual. In periods of international unrest, when rumors of five dollars for each insertion. This method of of war, or, as in the case of the United States, its stern contribution proved to be as remunerative as it was realities, are upon us, the great aggregation of ele- They influence the history of the nation, destroy its original, for it is certain that if private methods of ments known as a nation takes on an even more disthis character are so frequently successful in wringing tinet individuality than usual, and presents itself to the unwilling cash from the victim, few firms would the mind in the form of some representative and clearly effect which medical men call "shock." Surgical opebe willing to endanger their commercial reputation by defined personality. exclusion from a Government Directory, especially when such august indorsement could be obtained by the sesses many of the characteristics of an individual orexpenditure of a paltry five dollars!

We will be charitable enough to believe, however, allowed the bureau to be guilty of such an extraordi-| ercising the functions of the individual. Nations are of their faculties, yield to despair, and suffer a complete

misinterpretation of the proper functions of national through their childhood and youth; "come of age" government. If, by virtue of the advantages of its and grow to full manhood; have "offspring" in the public appropriations and franked correspondence, the shape of colonies, which are nourished, neglected, or government is entitled to set up successfully in the abused, as the case may be, by a "mother country." publishing and advertising business, why should it not Nations, moreover, have their "prime," their "dealso set about making bicycles, hats, baby carriages, or cline," their "diseases," and "death," and it is only a agricultural implements. The government has just as few months since the term "dying nations," spoken by much right to set up a brewery or a sugar refinery, a leading statesman, was accepted by the world as and run it with all the backing that comes from na- aptly describing the condition of some of the oldest tional appropriations and franked correspondence, as it races of the world. has to insert paid advertisements in its publications. or start commercial directories at the rate of five dollars an insertion.

the odium which they have incurred on the part of the commercial interests which have been so unjustly assailed, this element of the question is less serious life of nations was the fact that, like the individual, than the fact that a door is hereby opened for further they are subject to specific diseases, which undermine and more flagrant abuses. A precedent has been established, which, unless it be stopped and emphatically repudiated, cannot but lead to similar abuses on a more extended scale. It is the duty of the people of the United States to check at the very outset a system which is thoroughly pernicious in itself, and fatally subversive of the interests of sound govern-belief that a nation, if it is thoroughly conscious of ment.

THE DIAMOND REEF SHOAL IN NEW YORK HARBOR.

There is no question that the battleship "Massaa sunken wreck, but upon a dangerous reef of sand off Governor's Island which is a serious menace to examination of the plating of the keel when the ship was first placed in dry dock gave ample proof that it was not the irregular and unvielding form of a wreck or sunken rock that did the mischief. would be if some plastic material were forced against it with great pressure; in fact, the ribs and the keel framing stood out in relief through the skin plating just like the ribs of a greyhound. The result is just such as would be caused by the enormous pressure of to eat." The expression was too sweeping, yet it was

The Secretary of the Navy has recommended the immediate deepening of the channel, and we think there can be no question of the great urgency of the situabattleships which draw well on toward 27 feet of water is liable to suffer injuries equal to those of the "Massachusetts," which have entailed dry-docking and two months' detention at the yard for repairs. This is a

A GREATLY NEEDED AMENDMENT TO THE PATENT LAWS.

It is a curious fact that at this late day the Patent Laws of the United States should contain no provision for the event of an inventor or applicant for a patent becoming insane before the patent is granted. As the matter now stands, the inventor who becomes insane is entirely at the mercy of his affliction as far as the interests of his invention are concerned.

We are glad to see that a bill has passed the House of Representatives and has been introduced into the Senate in which it is provided that "when any person having made any new invention or discovery for which a patent might have been granted becomes insane before a patent is granted, the right of applying for and obtaining the patent shall devolve on his leapplications at present on file in the Patent Office.

The obvious necessity and justice of this amendment will commend it, we doubt not, to the unanimous aptiser, and with such gratifying pecuniary results, the proval of the Senate and the Executive. It is only rethe statutes was not rectified long ago.

THE DISEASES OF NATIONS.

Looked at from more points of view than one, the

While the recognition of the fact that a nation pos-

nary misdirection of its own powers, such a complete | "born" amid the throes of a revolution; "nursed"

An extremely interesting study of one phase of this subject is afforded by a lecture recently delivered in Philadelphia before the Society of Ethical Research While the operations of this bureau fully deserve all by Dr. Daniel G. Brinton, of the University of Pennsylvania, in which it was shown that one of the most striking evidences of what might be called the organic their strength, sap their vitality, and, in time, if not restrained, bring on senilty, decay, and even death itself.

Some fifty years ago a French officer, after careful study of history, determined that the natural term of life of a nation was between eight hundred and one thousand years. Dr. Brinton, however, entertains the what it is doing, and is not crushed by some of those deadly blows which seem to be of fate, may so guard against national diseases as to insure to itself a life indefinitely prolonged.

A nation is defined as being diseased "when, as a unit, it is chronically incapable of directing its activities toward self-preservation." National diseases are not necessarily of the majority of the nation. In the human system one organ may fail us and precipitate an untimely death; so in nations. A degenerate aristocracy, a dissolute priesthood, or a corrupt government has led to the undoing of a nation, the majority of whom have been free from national disease. The diseases that destroy nations are not so much of the individual, but of the national life.

National diseases may be classified under four heads: 1, imperfect nutrition; 2, poisons; 3, mental shock; disease in the human body indirectly to insufficient or misdirected nutrition in one of the organs of the body. The historian Buckle said that "the history of every nation could be traced by the food it was accustomed based upon truth. "Every nation must have, throughout all the nation, enough to eat, of good quality, and properly prepared; or that nation will degenerate."

There is a scarcely a nation in Europe which produces enough food for its own consumption. They all know that the foundation of disease-starvationwill be their most terrible enemy in a time of general warfare, and this consideration helps to bind them to an unwilling peace. Starvation or insufficient and imtissue, inferiority of stature, and a general weakening of the body.

The peasants of Northern Italy present aspects of degeneration, due to their eating the maize (as they frequently do) when it is subject to a local blight. The Jews of Europe are two to three inches nnderneath the stature of the nations among whom they have lived since the middle ages, the cause being unquestionably the limited and inferior food supply which has been their lot. So with the Lapps of the North and the Bushmen of Australia.

Poisons is the name by which Dr. Brinton specifies the second class of diseases. Among these he includes and gives first mention to alcohol and tobacco. While they may be harmless if used in moderation, the using of them, as it is now customary in most nations—and those nations often among the most civilized—brings with it the elements of national degeneration and decay. The lecturer, in making this statement, admitted that he himself used these commodities in moderation, and therefore was able to designate them as poisons without a suspicion of adverse prejudice on his "These are poisons which we deliberately and intentionally take into ourselves," but there are other poisons, such as malaria, distinctly influencing national power, which up to the present time medical science has not been able to meet. There are vast areas of the earth afflicted with malaria, where, as far as we can at present see, it will be impossible for any nation to survive and prosper. There are, moreover, certain infectious diseases, such as leprosy, which, while they are purely physical diseases, are national in their character. power, and shorten its life.

The third form of disease is that peculiar physical rations which, under ordinary conditions, should be successful sometimes imperil, if they do not destroy life, because certain mental temperaments receive what ganism is most pronounced, perhaps, during the fever is known as "surgical shock." Something answering and madness of war, we do, at all times, unconsciously very closely to this is discernible in the history of nathat it is thoughtlessness or simple ignorance that has but habitually speak of nations as possessing and ex-itions. Under its influence they appear to lose control

collapse. An instance of this is found in the conquest ing; consequently it was worse than useless. He then upon it and express great appreciation of its taste. of Mexico by a handful of Spaniards under Cortez, gave orders to have the point of the rod changed for The people of Mexico and the Indians of our Southanother in the exploits of Pizarro in Peru, in both of a multiple formed like a flame. He found that the rod | west also eat the pigweed in considerable quantities. which cases the powerful native races seem to have suddenly lost all sense of their own power and resources and suffered a mental collapse that corresponds the end of the rod and replaced the tallow by graphvery clesely to the shock known in surgery.

which Dr. Brinton regards as "probably the most insidious, prolonged, and dangerous of all the causes of national disease." Under this head he specifies the failure of pepulation to increase, owing to the fact that marriage either does not take place or is, for various reasons, infertile. Statistics prove that, if the population is to grow, independently of immigration, there should be an average increase of four children to each family, even if all members of the pepulation should marry. This is necessary to compensate for the natural losses; for infant mortality carries off one-fourth of the population, while the early death of the parents or unfruitful marriages serve to prevent the increase of pepulation and reduce the average number of births per family below the number necessary to merely keep the population at a constant number.

In addition to these, the principal causes of national disease, are various diseases that affect the mind of the nation, such as imbecility, seen in many lower tribes like the native Australians. Incapable of following out a logical argument, they cannot understand civilization, and die out when they come in contact with it. Criminality, which is defined as a disposition in any man to destroy the social fabric around him for selfish aims, is a disease which has sapped the life of nations, and national delusions is another. The crusades were an exhibition of what might be called epidemic hysteria, and in what is called Jingoism, or by the French Chauvinism, we see evidence of an inordinate mental exaltation which leads to a national disease of the emetions that may prove to-day, as it often has in the

Dr. Brinton's lecture, which should be read in its entirety, will be found in full in the current issue of the SUPPLEMENT.

DILIGENCE REQUIRED FROM THE OWNERS OF TRADE-MARKS.

The decision of the United States Circuit Court of Appeals for the Second Circuit, in the action brought rights in the first instance, but in vigorously protecting them from invasion thereafter.

The action was brought by the proprietor of the well known Hungarian bitter water, "Hunyadi Janos," to enjein the defendant, a wholesale drug esalso to enjoin it from using a red and blue label, closely simulating that used by the complainant.

On the trial of the case, it was shown that from about 1888 until the commencement of the suit in 1897 many thousand cases of Hungarian bitter water, under the names "Hunyadi Arpad," "Hunyadi Matyas," "Hunyadi Laszle," and under other similar names, had been importance in the summer. Farmers should eat the sold in the United States under similar red and blue labels without protest, objection, or action of any sort in its present untrammeled growth. Yellow rocket is by the complainant or its predecessor in interest; and Judge Shipman, before whom the case was tried in the Circuit Court, decided in June last that the defendant anybody except farmers, who kill it as a weed. was entitled to use the word "Hunyadi," but enjoined the use of the red and blue labels (88 Fed. 61).

Both parties appealed from this decision, and the Court of Appeals now holds that the exclusive right to use the red and blue labels, as well as to the name "Hunyadi," had been abandoned and lost by the complainant in this country.

The opinion was written by Judge Lacombe, who, after reviewing the facts, says:

"In view of these facts, of the continued and increasing appropriation by competitors of his label and of his trade name as a general designation, can a complainant who has for nine years done nothing toward maintaining or even asserting his original rights now be heard to suppress the competition which his supineness has allowed, and, indeed, invited and encouraged, to grow up? We think not. The case at bar seems to be one of those exceptional ones referred to in Menendez vs. Holt (128 U.S. 514), where delay or acquiescence has been continued so long, and under such circumstances, as to defeat the right of possession."

**** REPAIRING THE LIGHTNING ROD OF ST. PETER'S AT ROME.

It may not be generally known that the basilica of St. Peters, at Rome, has a lightning rod. Some two years ago, when repairs were in progress on the great ball of the cupola, the director of the Leonine Observatory made use of the scaffold which had been erected to measure the point of the lightning rod. He saw that the metallic cable was not continuous and it was it is tender and succulent. In California the Chinese this country they are allowed to run wild, and few not connected with all the metallic parts of the build-have taken to cultivating the weed, and they thrive realize their value.

ended in a hole filled with tallow and grease. This made the rod positively dangerous. He therefore reset ite, which is a good conductor of electricity. A special The fourth element of disease is sexual subversion, scaffold was erected on the dome, and the lightning rod induce any one to eat it. Yet it possesses all of the was made continuous.

EDIBLE WEEDS.

A collection of weeds that would be classed as pests reside in the leaves. and agricultural nuisances in this country would be considered by many of the people of Europe as excellent "greens" and salad plants. Down on the meadows thrive vegetable growths that would prove of dietary value to us, if we but knew of their virtues; up in the woodlands or on the hillside, other so-called weeds spread in such amazing rapidity that the farmer stands aghast at the bare idea of exterminating them, although in truth the wild growths are really vegetables of considerable value to man and beast; and even in our backyards, city gardens, lawns, and parks, thrive innumerable little plants which contain food ingredients of no mean order. We are said to be a nation of bilious people because we ignore these "greens" and medicinal plants which nature has se lavishly spread about. Our stock animals show a better appreciation of their value by eating the leaves and roots of these vegetables, and thereby renewing their muscular vigor and vitality each spring.

Edible weeds is an appropriate term for these neglected greens, for nine out of every ten would call them weeds, and not think of classifying them as garden vegetables. Gradually people are beginning to adopt some of these edible weeds, and they now form a part of our dietary system. Thus the dandelion has gained considerable favor as a spring green, and tons of it are annually gathered and used. But we are still behind the Europeans in respect to the consumption of the dandelion. The market gardeners around Paris cultivate the dandelion on a large scale, and sell it for good prices in the market. The winter cress is another wild vegetable growth that has been , accepted as a food product by the people of the Middle States. As a salad and pot herb it is quite highly valued in Washington and Baltimore.

But the list of popular green herbs of the field is by Emile Saxlehner against The Eisner & Mendelson quickly exhausted. Wild chicory, or succory, is con-Company, handed down on the 5th instant, is a timely sidered a weed of disagreeable habits from the Atlantic warning to the owners of valuable trade marks and to the Pacific, and it is only here and there that its trade-names to be diligent, not only in securing their leaves are utilized. In Europe it is raised in the gardens, and its leaves are even blanched the same as celery. It is a hardy, perennial plant that spreads rapidly, and if allowed to grow out of its proper place, it may prove troublesome in both pastures and lawns.

Charlock is another edible weed that grows in nearly tablishment, from selling similar waters under the every part of this country, and is looked upon as a names "Hunyadi Matyas" and "Hunyadi Laszlo," and nuisance by many farmers. In the wheat-districts of the Northwest it is particularly considered a pest. In the Eastern States charlock is often called the "wild mustard," and it is closely allied in appearance and botanically to the black mustard. In Northern Europe charlock is used extensively as a pot herb, and it yields medicinal properties that are of the utmost leaves of charlock, and it would soon be kept down a fine edible weed that only needs to be eaten to be appreciated. At present it is barely recognized by

There are several varieties of the dock that are edible. The broad-leaf and the curl-leaf in particular should be eaten. Both of these are used as pot herbs American Indians used the dock as food, and also as useless weeds. Dock roots had a place in every kitchen herb garden of our early New England settlers, and every spring they were boiled up and taken as spring medicine as religiously as their prayers were too old to get the best results from it. The leaves said. There were no apothecarie's shops at every street should be cut long before the plant begins to corner then to run to for medicine, and each householder raised her own medicinal herbs. The result plants it adds a warm, pungent taste that is considered was that more edible weeds were then eaten as greens and as medicine than in these latter days. The leaves of the dock make good pot herbs, and should be eaten in regions where other greens fail to grow. Thus in the arid regions of Arizona, New Mexico, and Texas dock grows where all succulent green things fail.

A common edible weed in this country, which is cultivated in Europe, but entirely neglected here, is lambs-quarters, pigweed, or goose-foot, as it is variously called in different localities. When it once gets established on a place this green grows and spreads rapidly, and for that reason it has been counted a nuisance. Originally this weed was introduced in this country from Europe as a valuable food for pigs, but in late years it has been considered a pest, and its extermination is prayed for. Nevertheless, the pigweed is a fine summer green and pot herb. When properly boiled, in the woods and fields or cultivated in gardens. In

Our common pokeweed has been taken to France, and the gardeners have cultivated it as a pet herb, and it is looked upon favorably as an excellent green. But in this country it would be pretty hard work to essential qualities necessary to make it a good green. Economic betanists claim that it should be more generally eaten for the sake of the medicinal qualities that

Even our common nettle, milk-weed, and roundleaf mallow are good food plants. They are edible weeds that thrive in abundance in all parts of the country, and often in places where few other plants will live. In Scotland, Poland, and Germany the tender leaves of the common nettle are gathered as a pot herb for soups or for dishes like spinach. The peculiar flavor of the weed is highly esteemed by the Germans, and it is mixed with cabbage, spinach, and similar greens to give piquant taste. The curled-leaved mallow is an annual plant originally brought to this country from Europe, where it is raised more for garnishing dishes than for eating.

Purslain is another edible weed that is abundant in nearly every old garden or neglected field. In Europe there are several cultivated kinds of purslain. but they all originally came from the common purslain of the fields. When mixed in salads, eaten boiled as spinach, or pickled, the plants make excellent summer diet. If the plants were regarded as edible weeds and not as useless, troublesome growths, the purslain would soon be kept from spreading. Rocket is a wild plant introduced from Europe, that one finds growing on the hill-side and even in the sandy spots in the upland woods. Its pale citron-yellow flower, marked with dark purplish veins, and with the fragrance of the orange blossom, is more commonly gathered than the plants. The flowers are considered very delicate and valuable prizes; but those accustomed to plucking the flowers should gather the young, tender leaves of the plant, and try them as a salad. A new appreciation of this plant will then be created.

Sweet cicely, or sweet-scented chervil, is sometimes cultivated for aromatic purposes, but as a seasoner for soups it answers a higher purpose. Formerly in England sweet cicely was put into salads, but its strong odor of aniseseed renders the salads disagreeable to many people. In soups, however, it is excellent, and the French invariably flavor most of their soup concoctions with it. Wood-sorrel is a common green that is being introduced gradually into our American cookery. Like dandelien it has beceme popular ameng some people. The pleasant acid taste of the leaves when mixed with salads imparts an agreeable, refreshing flavor that is greatly liked by epicures. In short, it is considered by culinary experts to be one of the best weeds that can be cultivated for their acid properties.

Shepherd's purse, found so abundantly in old gardens, and along the roadsides and waste places, is an edible weed that makes a fair substitute for spinach. It improves greatly upon cultivation, and in Europe some fine specimens are made to attain a diameter of nearly twenty inches. It has a mild and pleasant flavor. Besides being boiled as a pot herb it is delicious when blanched and served as a salad. Brook-lime, native to this country, is a salad plant equal to the water-cress. It is delightful in flavor, and healthful, being considered an excellent anti-scorbutic. Corn salad or fetticus is another wild salad plant that is found often in our wheat fields, but rarely cultivated in this country. The leaves of the plant when young in Europe. There is every reason to suppose that the are very tender, and they make excellent salads and pot herbs. Corn salad is a remarkably hardy plant, many other wild vegetables that we condemn to-day and it produces an abundant crop of good salad leaves. When full grown it is twelve to fifteen inches high.

> The common cress, or peppergrass, is used by a few to flavor salads; but too many wait until the plant is flower, and then mixed with lettuce or other salad very tempting. It is also used for flavoring soups. The common sweet marjoram is a perennial edible weed that is highly esteemed in Europe for seasoning soups and meats. In this country where it grows wild it is almost entirely neglected. The whole plant is highly aromatic, and a little of it cooked in stews and meats imparts a delightful taste and odor. Moreover, it can be dried, and used in this way just as well as when green. Dried sweet marjoram in winter is excellent for flavoring meat stuffings, broths and souns.

> The list of edible weeds might be extended further, but these include most of the common kinds, which nearly every one is familiar with. They are, with but few exceptions, looked upon as worthless weeds, but in reality they are edible plants of considerable value. In Europe nearly all of them are carefully harvested