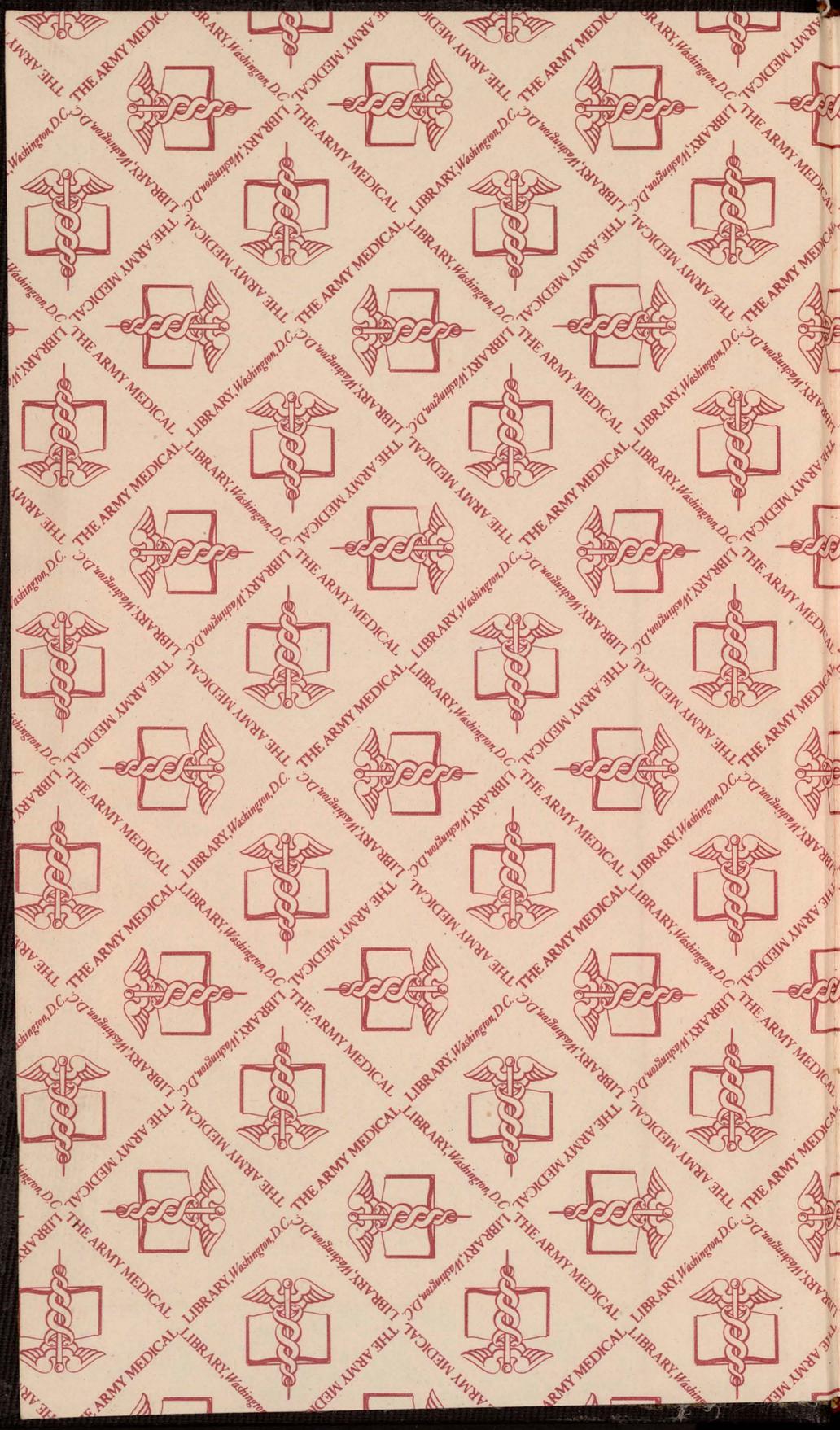
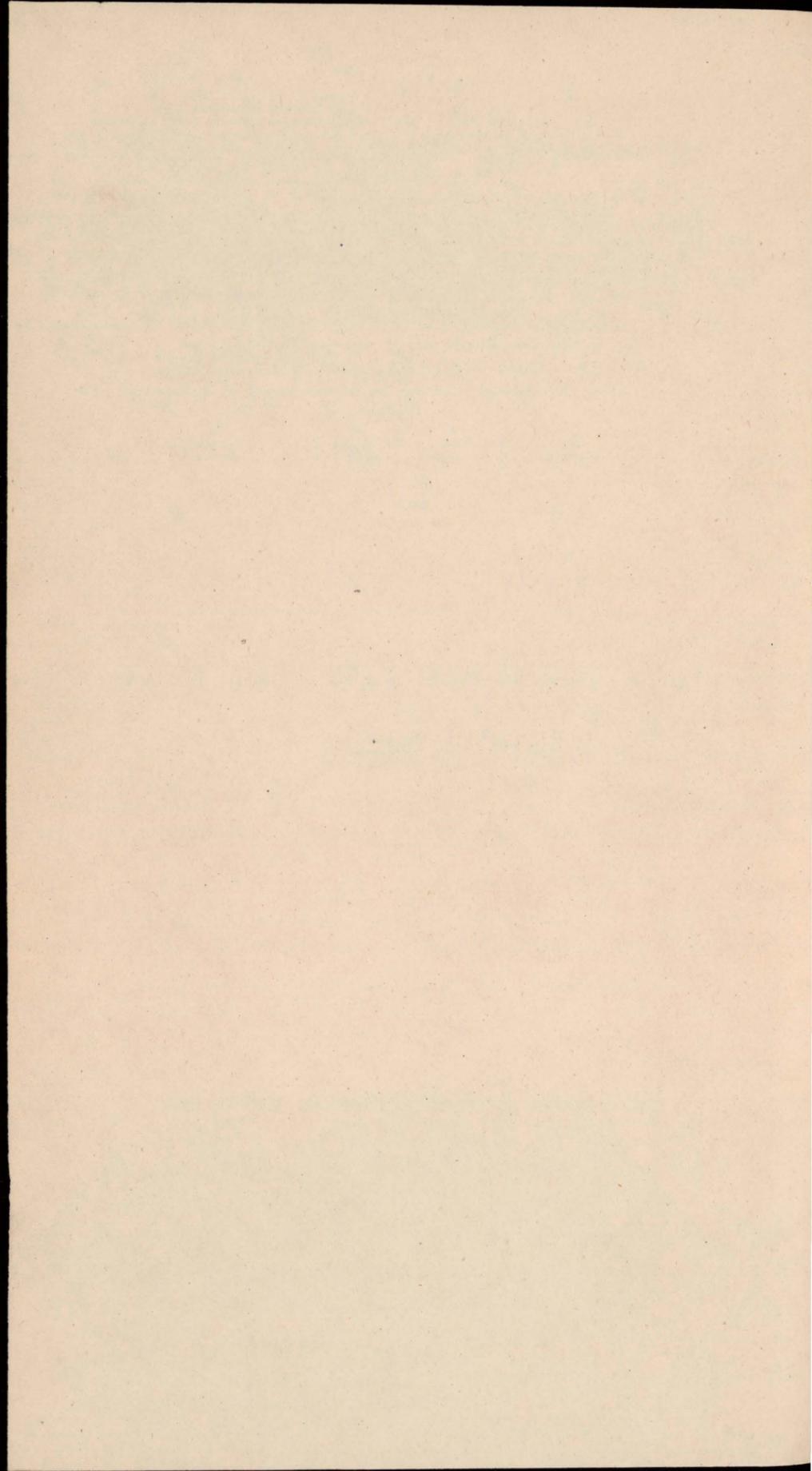


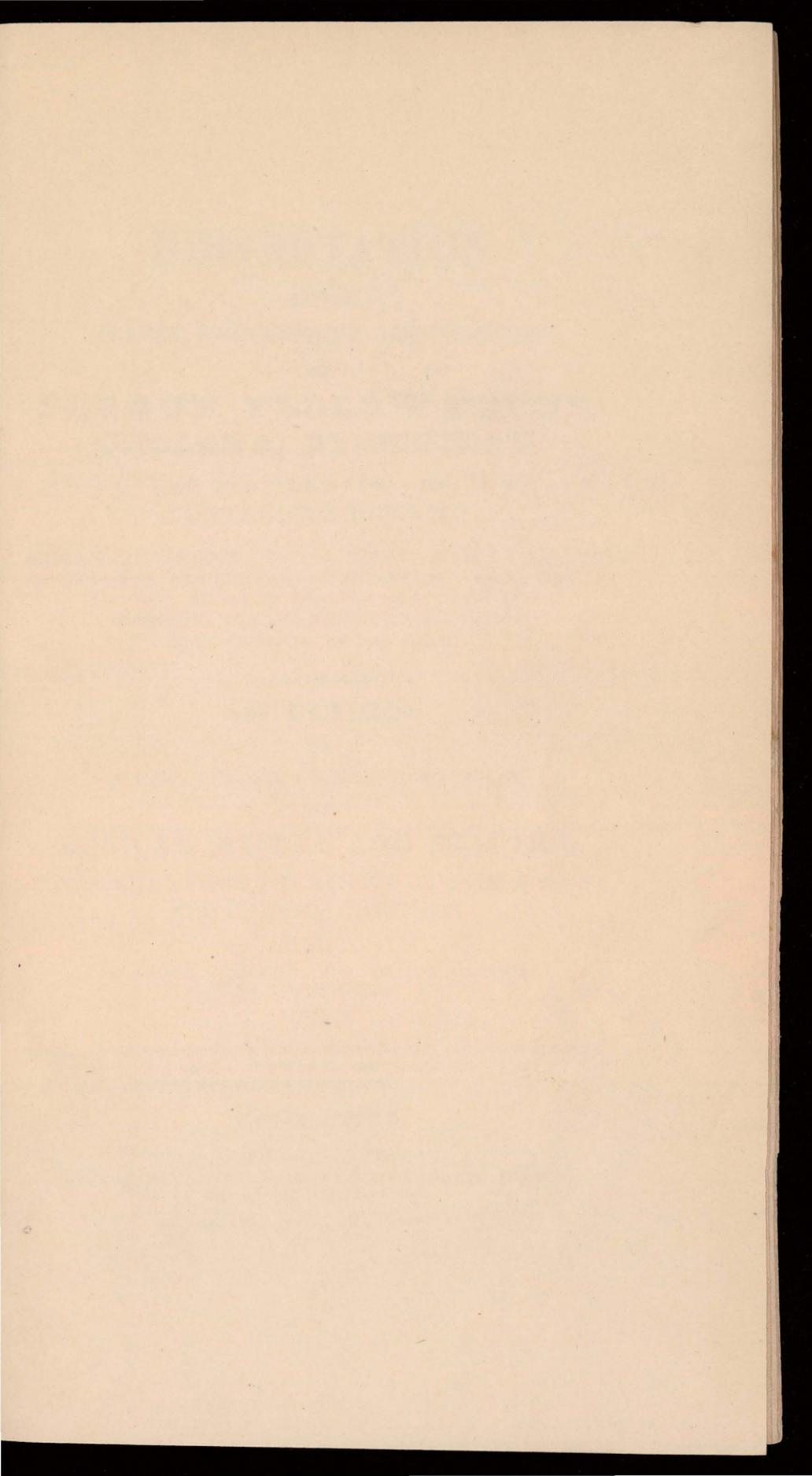
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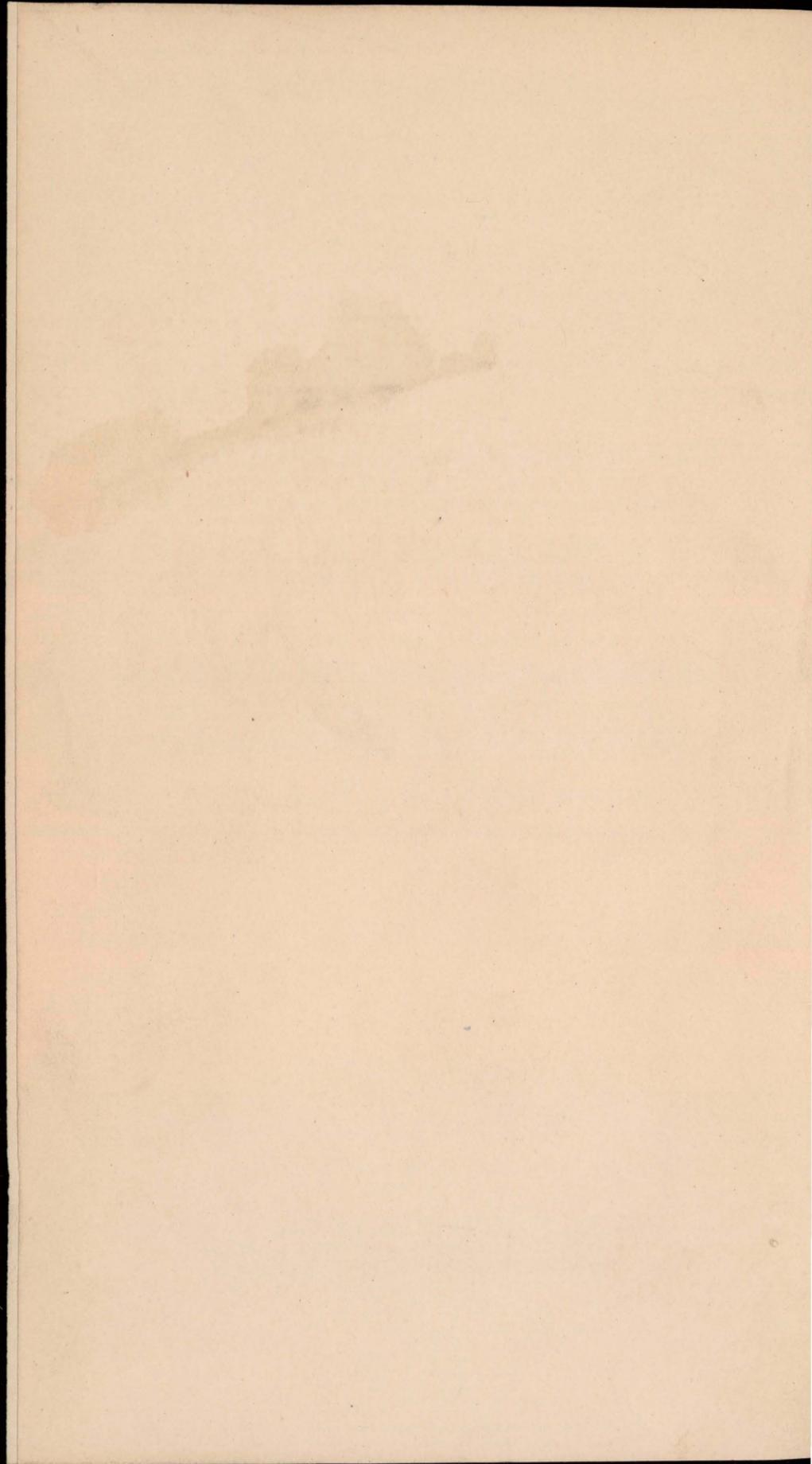
TORREY. PLAGUE, YELLOW FEVER, CHOLERA.











A
DISSERTATION

ON THE
CAUSES, PREVENTIVES, AND REMEDIES

OF
**PLAGUE, YELLOW FEVER,
CHOLERA, DYSENTERY,**
AND OTHER PESTILENTIAL, EPIDEMIC, OR
CONTAGIOUS DISEASES.

RESPECTFULLY PROPOSED TO THE CONSIDERATION OF THE GOV-
ERNMENTS, MAGISTRATES, PHILANTHROPISTS, BENEFICENT
SOCIETIES, BOARDS OF HEALTH, MEDICAL SOCIETIES,
PHYSICIANS, AND INHABITANTS OF ALL NATIONS
AND COUNTRIES ON THE GLOBE.

CONTAINING
OUTLINES

OF
A NEW, UNIFORM, PHYSIOLOGICAL SYSTEM

OF
MEDICAL SCIENCE AND PRACTICE.

PREDICATED UPON THE KNOWN LAWS OF NATURE
AND CHEMICAL AFFINITY.

By **JESSE TORREY, JUN.** OF PHILADELPHIA.
No. 229, Arch Street.

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ANNEX

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To Booksellers, publishers of newspapers or other periodicals, and all who may estimate the value of the contents of this work so great as to be desirous of republishing it.

I hereby permit any bookseller or any other individual, or any company, in any part of the United States, to republish this work, on the following conditions: The publisher to send me the following agreement, free of postage, witnessed by the post master, previous to printing the work.

"I agree to publish the whole of the Dissertation on the causes, preventives and remedies of Plague, Yellow Fever, Cholera, Dysentery, &c. by Jesse Torrey, Jun. and sell the same on the terms stated in the title page, and remit to him, by mail or other safe conveyance, one half of the clear profits of sale of the work, as often as the same shall amount to ten Dollars, quarterly."

I hereby permit any publisher of any periodical Journal, paper, magazine, register, &c. in the United States, to republish therein, the following work, on condition that they shall remit to me, at the expiration of every six months, one half of the additional profits, (if any,) that shall, according to their own impartial judgment, accrue in consequence thereof, forwarding to me, previously, an agreement, as above.

In witness whereof, I have hereunto set my hand and seal, the 16th day of July, 1832.

JESSE TORREY, JUN. (SEAL)

In presence of
JAMES S. PAUL,
THOMAS AVERY. }

Entered according to the Act of Congress, in the year 1832, by
JESSE TORREY, JUN. in the Clerk's Office of the District Court
of the Eastern District of Pennsylvania.

PREFACE.

The following work was commenced about a year ago; but a constant involvement in business, with some other circumstances, have prolonged its completion and publication to this time; one of which has been the continual accession of interesting information. I had many years ago adopted the opinion that *putridity*, or excessive *oxidation*, is the proximate cause of nearly all the diseases that attack and destroy animal life. Hence in selecting remedies, I was governed by the laws of chemical affinity, instead of accidental experiments. I considered my discovery a solid foundation, upon which the present vague, unsettled *art* of medicine may be reared to a uniform self-evident *science*. I must however acknowledge, that I am indebted to Mr. Chaptal for the germ of my system. In his description of the custom of embalming human bodies in Egypt, he remarks that putrefaction was prevented by the presence of substances having a stronger affinity for oxygen than the flesh of the mummies. Therefore, instead of relying on the same articles used by the Egyptians, whose knowledge of chemistry was probably very limited, I selected articles according to their known ratio of affinity for oxygen, and their capacity for preventing or suspending putrefaction. Consequently, carbon, (charcoal,) hydrogen, (oil, resins, &c.) chlorine, tan, (nut galls, oak, chesnut, hemlock, sumach bark,) carbonate of lime, (chalk,) phosphate of lime, (calcined bones, ashes,) wine, cider, sugar, cruciform vegetables, lime, carbonate of soda, carbonic acid, carbonate of potash, &c. in conjunction with numerous products of vegetation possessing similar affinities for oxygen, constitute the principal agents in a scientific *Materia Medica*. Several of the metals and other minerals, if not already saturated with oxygen, may also be added: but I consider oxidized metals generally, repugnant to animal life, particularly the oxides or saline preparations of quicksilver, lead, antimony, copper, or arsenic.

A comparison of physiological facts, with analogical deductions thence derived, convinced me also that *pain* is generally the result of animalculæ, acid, oxygen, or caloric too much concentrated, acting chemically upon the phosphoric calcareous substance of the nerves. Accordingly I confided in the same chemical agents as antidotes to pain as well as to putridity, especially external accessible pain.

My first experiments were tried on myself, with the precise successful result anticipated. Immediately on applying several of those carbonic and calcareous articles, mixed with molasses, to several inflamed painful ulcers on my breast, the pain and inflammation ceased, and the cure was completed by one dressing, the plaster becoming loose as soon as the cicatrisation prevented its adhesion by moisture. The same result occurred uniformly in numerous cases which came under my care while practising medicine.

In the year 1815, I was so decidedly confirmed in my belief of the correctness and importance of my system, that I considered it my duty to submit it to the attention of the American National Government, and accordingly addressed a general sketch of it to the Secretary of State, James Monroe. In the same communication I also urged the necessity and propriety of national measures for diminishing the consumption of distilled liquors, by heavy taxes, and the appropriation of the revenue to the universal diffusion of knowledge, through the medium of free schools and free circulating libraries. This document probably remains in the office of the Secretary of State. The signature is as follows: "*Amicus Physiologiæ et Philosophiæ.*"

In the year 1817, I submitted my plan to Dr. Wistar, in the following manner.

PHILADELPHIA, April 16, 1817.

To Casper Wistar, M. D. President of the "American Philosophical Society, &c."

SIR, I beg the privilege of presenting for your examination, and such disposal of it as you may think proper, the following note; in the hope that thereby, if it contains any valuable information, it will be duly appreciated and its benefits extended; and if not, that error may be promptly discovered and dismissed.

I am, with sentiments of high esteem and regard, your most obedient servant, &c.

J. TORREY, Jun.

JESSE TORREY, Jun. proposes, for the consideration of the Physiologists and Physicians of the United States, the following statement.

Having adopted a sentiment that the effects of medical remedies may be explained and anticipated, from their chemical character, the undersigned has devised and applied to successful practice, a *Physiological Compound*; which he recommends as an effectual uniform remedy, (operating according to the laws of chemical affinity, analogous to the revival of oxidized metals by the various fluxes,) for ulcers, wounds and diseases in general, seated on the *external* surface of the human body, or of the bodies of quadrupeds. The object is to apply such substances as will extract and *retain* the excess of *oxygen*, which, it is believed, generally exists, in various forms of combination, in all wounds accessible to the common atmosphere, or in a state of inflammation. Thus it is proposed to remove the cause, and prevent the occurrence of inflammation and pain, and produce the immediate commencement and continuation of the healing process.

Chalk, (<i>carbonate of lime</i>)	4 lb.
Fresh charcoal, prepared, in a close vessel of iron or earth, except a small aperture at the top.	2 do.
Calcined bones of the ox, (containing <i>calcareous earth</i> , <i>phosphorus</i> , or phosphate of lime)	} 1 lb.
Fresh <i>quick lime</i> , (containing calcium)	$\frac{1}{4}$ do.
Resin, yellow, (containing much <i>hydrogen</i>)	$\frac{1}{4}$ do.
Fresh ashes of the roots of poke, (<i>phytolacca decandra</i>) or of straw, corn cobs, or the bark of trees, (containing <i>phosphorus</i> , <i>potassium</i> , <i>carbonic acid</i> , <i>alumine</i> , <i>calcareous earth</i> , &c.	} $\frac{1}{2}$ do.

The chalk to be heated to redness, and the whole ground fine as soon as prepared, and instantly excluded from the contact of the atmosphere, by being closely bottled.

To this composition, whenever used, add $\frac{1}{4}$ of its weight of *r.je flour* containing much concrete *vegetable mucilage*.

These articles may be formed into a pulpy mass, with various materials, according to the various indications and intentions. As the *cutaneous varnish* or skin of animals, can seldom be long *absent*, without the *presence* of, or tendency to putrescency, it will be generally proper in such cases, (particularly in *gangrene*) to mix, and keep the first dressings for 24 or 48 hours moistened, with good lively vinegar, (*acetous acid*) by which means, besides the antiseptic effect of the fixed carbon (charcoal) lime, potash, &c., the diseased part will be constantly surrounded by a *halo* of

carbonic acid gas, evolved from the chalk, ashes, &c., (and in much greater abundance than from the common yeast poultice.

Thus having purified the surface of the wound, if it contains fungus flesh, sprinkle it with a dry compound, consisting of two parts of finely ground charcoal of leather, (old shoes are as proper as any) one part resin, and one of the ashes of the bark of the root of the red-ash tree, or of poke, or if these cannot be obtained, either of the kinds of ashes abovementioned. Dress the ulcer or whatever wound it may be, morning and evening, with a fresh application of the "*Physiological Compound*," formed into a softish paste, with a mixture of fresh eggs and milk, in the proportion of two parts of the latter to one of the former.

When the suppuration of schrofulous, syphilitic, or other tumours, is required to be promoted, let honey or molasses be used instead of milk.

The abovementioned ingredients, or only the charcoal and ashes, may also be made use of in the form of a salve, by mixing them to a proper consistence with three parts linseed oil, three of oil of fresh butter, or sweet almonds, one of yellow bees-wax, and one of green myrtle wax. A plaster thus compounded preserves fresh wounds in a healing state, without pain or suppuration; the cavities being constantly lubricated with healthy transparent lymph.

The undersigned, with whom the idea of reducing medicine and the curative department of surgery, to systematic, chemical or physiological principles, is original, has confirmed his hypothesis, in a variety of cases, by the opportunity of experimental facts, while attending to the practice of physic, in the years 1814-15.

If the proposition now submitted, is carefully and thoroughly tested, and accepted, it is his intention at some future period, to communicate his views on the practicability of forming the present fluctuating *artificial* theories and practice of medicine into a *uniform physical science*, founded on the basis of the known *laws of nature*.

With due humility and deference, the devoted and voluntary servant of mankind.

JESSE TORREY, Jun.

The compound was tried in the Almshouse, a few days, in cases of obstinate sluggish ulcers, with acknowledged advantage, but was discontinued on account of the "operose" method of preparation.

In conformity with my predictions, at the time of contriving the physiological compound, that it would cure the yel-

low fever, taken internally, in doses of half an ounce, I now propose it, with full confidence in its efficacy, as a remedy for cholera, both internally and externally, mixing it with molasses, oil of fresh butter, or of almonds, when taken into the stomach, but omitting the lime. I propose charcoal of willow, or white poplar wood, or any kind of bark, prepared chemically, as a universal remedy for all malignant, infectious, putrid, or epidemic diseases, internal or external.

Besides the *passive* antidotes to putrefaction, acting by absorption or affinity, a numerous class of agents operating *actively* may be found among the various chemical and vegetable acids. While the former *attract* and *retain* the oxygen or the animalculæ (acid) generated during the process of putrefaction, (depending on oxygen for their vitality,) the latter acting chemically upon the organic substance of the animalculæ (carbon; hydrogen, phosphate of lime,) *decompose* them, and accordingly arrest the progress of putridity. As the animalculæ of putrefaction can exist only in a limited temperature, they can also be destroyed, paralyzed, or their production prevented, by two other agents of opposite characters;—heat or cold, applied in such degrees as not to destroy the organization or vitality of animals with hearts and red blood, or at any rate, of a *living man*.* Another negative and positive method of governing putridity, consists in the profusion or absence of water.† Hence, in all external affections attended with the least discharge of lymph, or any fluid, the cure, in some cases, will be facilitated by absorbent applications, and in others by immersion in *running water*,‡ or linen cloths folded, and repeatedly saturated with fresh water. Salt (muriate of soda) is a powerful antidote to putridity, if used in sufficient quantity; but is too corrosive to remain

* In the use of alkalies or mineral acids, special care should be taken not to administer them in too concentrated or corrosive state. They should be generally diluted so as not to corrode the tongue painfully. The same rule is applicable to the use of caloric and its absence.

† From this fact, it may be inferred that throwing water over the pavements in cities, in dry weather, defeats the object intended, increasing putridity instead of preventing it. Unless enough water is used to carry off the filth, it is less noxious to remain dry; as may be perceived from the increase of putrid effluvia, after wetting the streets.

‡ Sores, or ulcers, and ichorous eruptions on the legs, and rheumatism, which had resisted the customary salves and ointments, have yielded to wading in creeks in pursuit of fishes, several hours at a time.

long in contact with unprotected nerves. Combined with brown sugar, it may be used for bruises and other wounds, if done with discretion. Nitrate of potash (salt petre) is also a powerful antidote to putridity. A mixture of salt petre or gunpowder, with alum and vinegar, has been used in Virginia, with surprising effects, for preventing and suppressing gangrene (mortification, alias putrefaction) whether internal or external. Putrefaction may be arrested or prevented by the total abstraction or exclusion of oxygen, or by a concentrated application of it in such abundance as to decompose the animalculæ or seeds of putridity.

The elements of putrefaction being almost as extensive as air, water, and caloric, (heat,) the antidotes are also almost collateral. Among the latter may be arranged the flesh, and the gall of healthy animals, immediately after being deprived of life, by a quick discharge of the blood. The flesh of healthy living animals is preserved from putrefaction, by various agents,—the principle of vitality, (*electricity*?) the cutaneous, gelatinous casement, (skin,) the bile, the *red colour* of the blood, the presence of pure, untainted, nutritive food, in the stomach and intestines, animal or vegetable;—but particularly the latter; the *frequent* access of pure atmospheric air, (not exceeding the temperature of 74 degrees,) to the interior surface of the lungs, and the entire external surface of the skin. The bile (*animal soap*) being essential for assisting digestion, and promoting the peristaltic motion of the intestines, as well as to counteract putrefaction, ought not to be wantonly wasted, either for the prevention or cure of diseases, by violent cathartics. But when the bile is deficient, the *bitter* products of vegetation, such as extract of gentian, &c. or the fresh dried gall of a healthy ox, may supply a substitute. All bitter vegetable substances are antiseptic, used internally or externally, and as nearly every vegetable production contains carbon, hydrogen, sugar, and other antidotes to putrefaction, such as tan, aromatic oils, gums, resins, &c. the vegetable kingdom affords a vast resort for a choice, whether for food or medicine. Vegetables, while growing, have the faculty of attracting and digesting putrid animal or vegetable substances and converting them or restoring them to a state of purity and salubrity. Hence, as they retain the same properties, in some degree,

after being deprived of life, they continue to produce the same effects, when placed in contact, internally or externally, with the human body, in a diseased or semi-putrid state. It is highly probable that a careful chemical analysis, of almost any vegetable product, would enable a physician, well acquainted with vegetable and animal physiology, and medical pathology, to anticipate its effects upon diseases and upon the organic functions of life.

The manner in which new flesh acts as an antiseptic, is different from that of vegetables; its effect being entirely passive; attracting or absorbing the putrid effluvia, septic acid, or animalculæ, from living flesh in which putrescency is progressing, but which, still retaining its vital or electrical energies, readily repels it and yields it up to the attraction of the former, which is destitute of the vital preservative. Hence, although animal food may prevent putrescency, (as well as hunger,) in health, it should be avoided in sickness, especially in putrid fevers, dysentery, &c. But vegetable food, judiciously selected, not only affords salutary nourishment, but at the same time a palliative if not curative medicine. In putrid diseases, such as yellow, bilious and typhus fevers, &c. the skins of animals just killed have been wrapped round the patient with instantaneous benefit, and also half of a fowl to the sole of each foot.

From the preceding brief sketch of my system of medical philosophy, it may be perceived by the ingenious physician, physiologist, chemist, or inquiring student, that the three latter characters should always be concentrated in the first, and that in proportion as this is attained, the mysteries and uncertainties of the present arbitrary theories and practice of physic, will be superseded by a scientific system of medicine, and the results of remedies never before known or used, may be anticipated with nearly the same precision, as those of a mathematical problem, or the combination of sulphuric acid with a piece of marble or iron.

Now having explained the principles which have been adopted in the following work, I submit it to the good sense, the liberality, the justice, and the generosity of THE WORLD;—fully confiding therein, notwithstanding the assertion of several of my friends that "*the world*" is destitute of those attributes. I demand nothing for my discoveries, or labor

in explaining and presenting them to the public. All that I shall receive for the information which my book contains must be offered as a voluntary bounty. No price will be set on it, except the *necessity* of declining less than cost of materials and mechanical execution;—although I do *really believe*, that if it shall be universally circulated, translated into all languages, universally read, and its precepts and information pursued and adopted, the consequent benefit to mankind will exceed the value of one hundred millions of dollars.

DISSERTATION

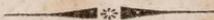
ON THE

CAUSES, PREVENTIVES, AND REMEDIES

OF

PLAGUE, YELLOW FEVER, CHOLERA, DYSENTERY,

AND OTHER PESTILENTIAL, EPIDEMIC, OR
CONTAGIOUS DISEASES.



A new disease of a peculiar malignant character, has commenced its reign in the East, and appears to be extending its dominion, with slow but sure progress, over the whole surface of the earth. It commenced its career fifteen years ago, and it has now approached so near, that we are in daily expectation of its arrival among us. Hitherto, its specific origin, as well as its manner of propagating and spreading itself among its victims, have baffled the sagacity of physicians, and generally the barriers and quarantines of military or civil authority.

Having for 25 years, devoted my attention particularly to the investigation of the primary causes, peculiar character, and physiological preventives and remedies, of pestilential, epidemic, contagious and other malignant diseases, I have carefully watched the progress and effects of this *modern plague*, and endeavoured to trace it to its birth, ascertain its natural history, and to discover an antidote capable of disarming it of its terrors and mortal stings. I firmly believe that my arduous attempt has been successful, and feel it an imperious duty to promulgate the result of my inquiries to the world.

It is a palpable trait in the character of the Asiatic cholera, that, except its superior virulence, and not being contagious (unless partially) it resembles several of the regular contagious diseases, (such as small pox, measles, itch, &c.) in propagating itself, without restriction of seasons or latitude.

While contagious diseases may be generally communicated through the medium of the contiguous atmosphere, or personal contact, or by the effluvia or contact of infected clothing, this new pestilence seems to diffuse itself entirely in the air; which demonstrates the highly important fact, that it multiplies itself *externally*, among the pulmonary and perspiratory exhalations, (and cutaneous incrustations,) among domestic or other putrid filth, and among filthy clothing, and beds, either in houses, camps, or ships. The virus of contagious diseases, is generated in the cutaneous or fleshy texture or in the fluids of its subjects. The *putrid* origin of the virus of cholera, explains the cause of its being so much more virulent than contagious diseases; resembling in this respect the plague and other malignant epidemics or endemics, resulting from animal or vegetable putrefaction. Its *locomotive, reproductive character*, shows that it is a *new species* of putrid leaven, acid, or animalculæ, more *poisonous* and fatal than those of ordinary putrefaction, in proportion to the more poisonous character of the materials of their origin. The animalculæ of cholera are probably *larger, hardier, and more prolific* as well as more poisonous, than those of the plague and other endemic diseases.

In selecting remedies for the cholera, I shall not depend so much on their effects upon the organic functions, and the symptoms and effects of the disease, as upon the proximate cause of it,—the small insects, or virus.

The migratory character of the Asiatic cholera, and the entire history of its symptoms and effects, concur in confirming my original decision, on receiving the first intelligence of its existence, that it is *caused* by a *peculiar* venomous species of prolific invisible insects, generated in *putridity*, and reproducing it in succession, wherever they find their proper aliment, and *predisposed* human victims, *ad infinitum*.

Instead of confining our operations, to the symptoms and effects of the disease, (which is the general practice,) we ought to aim at the radical cause. When the cause is eradicated, or its power prostrated, the effects can be managed with much less difficulty. The first object, therefore, is to *decompose* or kill those insects. For this purpose, mix one part of sugar house lime water, or any lime water properly

prepared, with two parts new milk; or if the latter is not attainable, use instead of it an emulsion of oil of almonds, or other pure vegetable oil, with barley water, starch, sago, or gum Arabic;—half a pint of this compound, with the addition of 10 grains rock salt, to be taken every hour, or every two hours, until the disease abates; when the frequency and quantity may be altered at discretion. Injections and external affusions of the same to be repeated frequently. This remedy has succeeded, almost invariably, in dysentery,* and may be confidently relied on, in yellow fever, or any putrid, typhus, bilious, or malignant fever, and in all diseases of the stomach and intestines, attended with putridity, acidity, mucus, morbid bile, or any sort of virulent or pestilential virus, or animalculæ.

In all cases of this description, the cure will be accelerated by adding a table spoonful of fresh prepared powdered charcoal to each dose of the lime water and milk; or by taking it mixed with equal parts honey or molasses, new milk, and sweet oil or castor oil, with a little grated ginger, and capsicum.† These remedies must *necessarily* suspend putrefaction, and decompose or kill all acids or animalculæ they come in contact with in the stomach and intestines. But lest some of those malignant beings should still remain among the glands, lymphatic vessels, nerves, or in the blood, I would also recommend the following *active diffusible* antiseptic. Take a pint of best cider vinegar, add 9 drams ($1\frac{1}{8}$ oz.) rock salt, (muriate of soda,) 4 oz. brown sugar, or boiled honey, one gill syrup of ginger, half an oz. tincture of Cayenne pepper, (capsicum.) Put the whole in a bottle well corked. Give half an ounce or an ounce (according to age or violence of the case) every two or three hours. After brisk friction of the legs and arms with a flesh brush or a piece of red flannel, rub the same compound hot, over the limbs, breast and shoulders, except sugar or honey. After which wash with a solution of castile soap, in new milk and warm water, or with a weak solution of pearl ash, or super carbonate of soda, and

* Dr. Birch, of New-York, informed me, shat he prescribed lime water and milk, for dysentery, to several hundred patients, with uniform success.

† Cayenne pepper.

then with camphorated brandy or whiskey. If spasms occur, apply *tight* bandages, kept moist with the latter mixture.

The causes of the disease (morbid insects, acid and putridity,) being now subdued, the next step will be to dislodge their effects, and restore perspiration, and the stomach and intestines, to their proper tone. To accomplish the first of these purposes:

Take syrup of red roses,	half pint
do. of tamarinds,	do.
do. of senna,	do.
Manna,	2 oz.
Tincture of rhubarb in brandy,	half pint
Tincture of ginger,	1 oz.
Spirits of lavender,	$\frac{1}{2}$ oz.
Tincture of cinnamon,	$\frac{1}{2}$ oz.

Mix and take two or three table spoonfuls once in two or three hours,* until the alimentary canal is evidently relieved from morbid bile, and other extraneous offending contents. Afterwards, to effect the second purpose:

Take tincture of ginger,	1 oz.
Infusion of cascarilla and <i>Virginia</i> snake root,	$\frac{3}{4}$ pint.
Tincture of Columbo,	$1\frac{1}{2}$ oz.
Tincture of cardamons,	$\frac{1}{2}$ oz.
Tincture of myrrh,	1 oz.
Essence of capsicum,	$\frac{1}{2}$ oz.
Mix; take half a wine glass full three times a day. Afterwards,	
Take decoction of Iceland moss,	$\frac{1}{2}$ pint.
Elixir of vitriol,	$1\frac{1}{2}$ drams.
Tincture of yellow oak or Peruvian bark,	$\frac{1}{2}$ oz.
Take as above.	

In case of severe pain or spasms, give a teaspoon full of the antispasmodic elixir, prepared as follows:

Oil of amber,	$\frac{1}{2}$ oz.
Sulphuric ether,	2 oz.
Volatile spirits of ammonia,	2 oz.
Essence of peppermint,	1 oz.
Oil of annis seed,	$\frac{1}{2}$ oz.
Camphor gum,	2 drams.

Estimating the efficacy of the remedies of the preceding prescriptions, from inductions of analogy and chemical affinity, as well as from corroborative experience, I propose them

* As an auxiliary to cathartics, suppositories of pure well seasoned yellow soap, first dipped in water or oil, may be injected into the rectum, and immediately after, warm water, or an infusion of mallows or flax seed, with 40 grains carbonate of potash and 2 oz. castor oil.

for the cholera, as well as all malignant putrid diseases, with unreserved confidence of their success, in all cases, previous to the commencement of organic derangement.

The remedial effects (or *modus operandi*) of the lime water and milk, do not chiefly result from any stimulating, exciting, astringent, or relaxing, or any *mechanical* qualities, but principally from chemical *decomposition* of the animalculæ, or virus, or acid, or mucus, producing or produced by the disease. This result is as *positive* in the interior apartments of the human frame, as it was in the infected Lazarettos which Howard purified by white washing with lime. Thus the result of lime as a medicine, can be anticipated with the same certainty, as chemical or mathematical results. The same remark will apply to charcoal as to its *active* effects on organic life, its operation being *passive* and chemical. Its operation is, the attraction or absorption of putrid or infectious effluvia, in the intestinal canal, by the same law of chemical affinity as it restores impure water, or *metallic oxydes*. Besides the chemical attraction of charcoal for oxygen, hydrogen, &c. it is a mechanical *snare* to animalculæ, coming in contact with it.

The compound of lime water, charcoal and milk, will probably sustain its claim to the name of a panacea, with more propriety than any other composition of mineral, animal or vegetable materials, for it embraces in its constituents the most powerful absorbents of acid, animalculæ, and the elements of putridity and disease;—and yet instead of injuring the constitution, (as many medicines do,) it supplies refreshing and salutary nutriment.

The oxygenous compound of salt and vinegar, with honey or brown sugar, ginger and pepper, &c. is entitled to the same distinction, as an active instead of a passive remedy;—decomposing the virus of disease by attacking it *actively*, instead of attracting it passively. This remedy also, has the advantage of agreeable salubrity, and may be adopted with safety and satisfaction at the daily dinner table, as condiment or catsup, for meat, lettuce, raw onions or pickles. It is probable that the compound of salt and vinegar, is indebted for its powerful anti-putrid qualities, to the chlorine of the

salt, which is perhaps assisted, or partially disengaged from the soda, by the vinegar.*

Being unreservedly confident of the success of the remedies proposed in the preceding pages, I would advise every family, and every person, in city and country, every where, whether exposed to cholera or not, to procure the ingredients as soon as possible, and keep them constantly in readiness, to be mixed and taken, in case of an attack of any of the diseases for which they have been prescribed, or others of a similar character. The poor ought to be universally supplied with those medicines, either by benevolent individuals and Societies, or by government. If prepared scientifically, and well put up in bottles, they will form a popular Domestic Materia Medica, by which disease and pain may be palliated, if not entirely conquered, before a physician can be procured, or by which, perhaps, frequently the necessity of his attendance, may be superseded.

In case those articles cannot be obtained, I would recommend that a choice be made from the following catalogue of remedies, which are indicated by medical and chemical facts, and by analogy, as antidotes to venomous insects, large or small, or putrid diseases of any kind.

Powdered brimstone, mixed with molasses, grated race ginger, Jamaica pepper and allspice, internally;—and the same externally, except using fresh butter or lard instead of molasses, applying it only to the hands and wrists, and feet and ancles, warm, and drawing a stocking over each, on retiring to bed.†

* Salt and vinegar has been used with astonishing success, externally and internally for various putrid diseases; such as dysentery or bloody flux, scarlet fever, or putrid sore throat, intermittent fever, mortification, or gangrene, white swelling, &c. and I have no doubt of the same result in cholera, typhus fever, plague, yellow fever, scurvy, and all putrid diseases.

Although salt and vinegar are so well known by name as articles of diet, yet but few probably know how to estimate the mixture as a medicine. The President of Williams College, Ms. relates that he had cured the scarlet fever, or putrid sore throat, with it, without a single failure, in numerous cases. Mr. Butler, of Albany, informed me, that having taken an intermittent fever in the Southern States, which resisted the prescriptions of several eminent physicians, he cured himself by taking half a pint of salt and vinegar at one dose. I was rescued by salt and vinegar from impending dissolution. The process of putrefaction having progressed so far, as to produce laborious breathing, and an incrustation of blood under the ends of the nails of the fingers, which adhered to them until carried out by their growth.

† An effectual remedy for the itch also.

Chalk and vinegar; effervescing neutral salts; (tartaric acid, or vinegar and carbonate of soda or potash;) pyroligneous acid; muriate of lime; carbonic acid in very cold water; castile soap and aloes;—nitrous acid, 1 dram, mixed with one ounce peppermint water, or camphor mixture, and 40 drops tincture of opium; a fourth of which to be taken once in three or four hours, in a tea cup full of thin gruel:*—muriate of lime;—chloride of soda;—oil of sassafras, spices and aromatics;—Alkalies; ANTISEPTICS;—boneset, (*Eupatorium perfoliatum*;) pills of sulphate of potash and rhubarb;—oil of turpentine;—oil of cedar; calamus aromaticus;—horse radish, mustard seed;—yest; camphor;—Ether;—capsicum;—ginger; Ammonia;—Black snake root, (*actea racimosa*), &c.

* Hope.

DETACHED PRESCRIPTIONS AND SUGGESTIONS.

Mr. Thomas Hope, Surgeon of H. B. M. Hospital Ship, Canada, has published in a respectable London paper, which states that he has furnished testimonials of his skill from eminent professional men, the following mode of cure for the *Cholera Morbus*, which, he states, he has employed for more than thirty years with uniform success: He says:

“The disease is induced by causes too well known; and shows itself at first by a violent pain from the stricture of the gall-duct, and is afterwards kept up by the irritability of the bowels, brought on by the excoriation of the internal coat, from the acrid or scalding nature of the bile when first expelled from the gall-bag. This irritation keeps up the disease till nature recovers or sinks. I never use calomel, because I have a more certain, safe, and speedy remedy, that produces an almost instantaneous relief; calomel relieves by inducing a more copious secretion of mucus to defend the membranes from excessive irritation, where it succeeds; whilst the remedy I recommend affords a tone and firmness of the membrane—a smoothness of the surface that defends it from the action of the bile, and removes excessive irritation; by which means the disease goes off as soon as the gall-bladder is emptied of its excessive irritative contents, which is very soon accomplished, as from three to five doses complete the cure. The following is one of the proofs of my assertion:

"I was surgeon of the Dolphin, in 1825—between the 17th and 26th of July, of that year, I had 264 cases of cholera morbus, from which, with the exception of 16 being kept under medical treatment for three days, four patients demanding attention for four days, and three for five days, every patient was restored within the space of fifty hours: one who had been previously ill, demanded longer attention.

"I persuaded the chief maté to take a dose of the remedy before the healthy remaining part of the ship's company, to induce them to follow his example; they all complied, and to the best of my recollection, not one of them had occasion to trouble me from illness.

"The remedy I gave was—one drachm of nitrous acid, (not nitric, that has foiled me,) one ounce of peppermint water, or camphor mixture, and forty drops of tincture of opium. A fourth part every three or four hours in a cupfull of thin gruel. The belly should be covered with a succession of hot cloths, dry; bottles of hot water to the feet, if they can be obtained; constant and small sippings of finely strained gruel, or sago, or tapioca; no spirit, no wine, no fermented liquors till quite restored."—*Asiatic Journal*, June 1831.

AN EFFECTUAL CURE FOR THE CHOLERA.*

The following is an extract from a letter, dated Vienna, August 9:—

"The communication which I herewith enclose, ought to be made public in every quarter of Great Britain, for it details the easiest and most effectual mode of treatment, under attacks of the cholera, which has hitherto been practised:—

"The Jews of Weizniz have been eminently judicious in their treatment of the cholera; for in that town, out of two hundred and forty individuals who have been attacked by it, every one of them has been saved, with the exception of two persons who refused to submit to it. As one of the members appointed to conduct the sanitary establishment, I was an eye witness to the treatment observed, and have already saved the lives of my three servants, who were attacked, by

* My confidence in this remedy is such, (judging from its chemical *antiseptic*, *exciting* properties,) that if it had never been used, I would not hesitate to proclaim to all who are terrified by the prospect of cholera, that in connection with Dr. Hope's and my own prescriptions, it will *infallibly* disarm that horrid disease of its mortal terrors and power, unless counteracted by the predisposing circumstances of excessive intemperance and filth, or extreme debility.

adopting it. The several points of the remedy are these following:—

“Take a pint of strong spirits of wine, and half a pint of good white wine vinegar, add to them one ounce of powdered camphor, one ounce of flour of mustard, or bruised mustard-seed, a quarter of an ounce of good pepper, and a full teaspoonful of bruised garlick; and lastly, half an ounce of powdered cantharides.* Mix them well together in a bottle, and expose the mixture twelve hours in the sun, or otherwise place it in some warm spot, taking care to shake it repeatedly.

“As soon as a person is attacked, let him instantly be put to bed, under warm coverlids, and let his hands and feet be rubbed powerfully and uninterruptedly with the lotion, after it has been warmed. During this operation, let the patient take a glass of strong drink, composed of two parts of chamomile flowers, and one part of baln mint.

“Persevere in this course, and at the end of fifteen minutes, at the utmost, (the patient’s head and body being kept well covered beneath the bed-clothes,) he will break out into a profuse perspiration.

“The patient must be kept in this state between two and three hours, but care must be taken that he does not fall asleep. After this, remove the extra covering from off the bed, and he will drop into a slumber, which will last between six and eight hours, and be accompanied with a gentle perspiration.

“When he awakes, he will find himself weak, but the disease will have entirely left him, and he will require nothing further but rest and a moderate diet to restore him to perfect health.

“Espécial attention must be paid, that the patient, after the operation of rubbing, does not so much as lift a finger above the clothes; for the slightest chill, whilst the perspiration is upon him, would be his death.

“When the cramps† in the stomach come on, we apply very hot dry bandages of bran and ashes to the pit of the stomach, and when necessary, a bladder of hot water to the region of the navel.

“The great point is to produce strong perspiration, and to restore the circulation of the blood, which, at the beginning of the attack, is drawn from the surface of the body, and thrown with frightful virulence on its inward parts.

(Signed)

“RIVER,

“Commissioner of the District of Bochnia.”

* Or Cayenne pepper? (capsicum.)

† When spasms attack the legs or any other parts, I would advise the immediate application of *tight* bandages, kept wet with salt and vinegar or camphorated spirits.

We do not vouch for the success of the above treatment; but we present it the more willingly to our readers as pointing out that which, by the almost unanimous testimony of physicians, who have seen the disease, is most urgently required and most safely had recourse to—we mean warmth, and frictions of the skin.—*Journal of Health.*

London, 16th Feb.

The following has been issued from the Council Office:—

“CHOLERA DISTRICTS.

“Looseness of the bowels is the beginning of cholera.

“Thousands of lives may be saved by attending in time to this complaint, which should on no account be neglected by either young or old, in places where the disease prevails.

“When cramps in the legs, arms and belly are felt, with looseness or sickness at the stomach, when medical assistance is not at hand, three teaspoonfulls of mustard powder in half a pint of warm water, or the same quantity of warm water with as much common salt as it will melt, should be taken as a vomit; and after the stomach has been cleared with more warm water, twenty-five drops of laudanum should be taken in a small glass of any agreeable drink.

“Heated plates or platters to be applied to the belly and pit of the stomach.

“As persons run considerable risk of being infected by visiting those suffering from this disease, in crowded rooms, it is earnestly recommended that only such a number of persons as are sufficient to take care of the sick be admitted into the room.

“W. MACLEAN, Secretary.

“Central Board of Health, Council Office,
Whitehall, Feb. 15.”

The Augsburg Gazette mentions a new specific against the cholera morbus, which it says, is strongly recommended by Dr. Hahnemann. This specific is camphor applied in very strong doses. Dr. Hahnemann is of opinion that the miasmas of the cholera are produced by insects so small as to be imperceptible, which attach themselves to the hair, the skin, and the clothes, and which exercise a deadly influence. The vapour of camphor being mortal to these insects as well as to others.

Cholera.—Prince Lievins, the Russian ambassador, prescribes the moment the least symptom of approach of the cholera, 20 to 30 drops of laudanum, the same quantity of

ether, to be taken in camphor, julp or peppermint water; rhubarb, or tincture of it, to be taken if necessary; but on no account salts or magnesia; then send for medical advice. No case has proved fatal with these precautions. A person by the name of Taylor, calls this disease, in the Liverpool Mercury, "The *Melanæma* or *Black Blood* disease," for which he prescribes the inhalation of oxygen gas.

"THE UNKNOWN DOCTOR."—The Montreal Gazette gives an interesting account of the practice and habits of a stranger, a physician, now administering gratuitously to the sick in that place, who, from the singularity of his appearance, has attracted much curiosity. He leads three horses, and his prescriptions, which are said to have been attended with great success, consist of a compound of equal parts of maple charcoal, maple sugar and lard, and an outward application of ley, not over hot. His name is Stephen Ayres, a graduate of a college in New-Jersey, as he says.—*Albany Argus*.

It appears by the report of a committee of eminent physicians sent from Edinburg to Sunderland, to investigate the character of the cholera, and also by the discoveries of the justly celebrated Dr. Abercrombie, that the cholera is *entirely within the control of medicine* AND EASILY CURED if its *premonitory* symptoms are observed. They say that no case of cholera has ever occurred, so far as they have been able to ascertain, which has not been preceded by a *buzzing in the ears and looseness of the bowels*, and that a powerful *cathartic* taken at this stage of the disease, is a *certain and infallible cure*.

The following statement of Dr. Plantou, is a sufficient confirmation of the *certainty* of the success which may be anticipated from the employment of lime water and charcoal in cholera, or any other putrid malignant disease.

ON CHOLERA.

Neutralization and arrest of the poisonous effects of Miasmata, when absorbed by the mucous membrane of the stomach and bowels.

The undersigned, moved by a sentiment of humanity in a moment of so afflicting a danger, takes the liberty to state, (with all the respect and deference due to the medical faculty,) that residing in Gaudaloupe about twenty-five years ago, he was surprised with the little success of the physicians to cure the yellow fever, which so cruelly attacked the soldiers,

and new-comers in general, that there died every day from forty to fifty in the Hospital.

Having already observed that in that sickness, corrosion of the stomach and bowels preceded the putrefaction and gangrenous state of those parts, he was by reflection, struck with the quite miraculous effects of charcoal, in preventing corruption, or even to restore the most putrid water to a wholesome beverage, and also to prevent the putrefaction of meat, and restore it to a wholesome and palatable food, though having already undergone putrefaction.

He then resolved to employ charcoal internally to cure yellow fever. Having already, with the doctors of the Hospital, observed that after death, the stomach and bowels of those who had died of the yellow fever had evident marks of gangrene, which even in many circumstances had entirely perforated them; from that observation, and the series of the symptoms in yellow fever, he likened or compared the effects of yellow fever, cholera morbus and plague, to cases of death caused by corrosive sublimate, acetate of copper, acetate of lead, &c. &c.

From this reflection, he concluded that castor oil, sweet oil, or even melted lard, ought to be employed to cure yellow fever, in order to prevent the fatal effect of the corrosive action of the miasmata on the membranes of the stomach and bowels, and to expel gently those malignant and offending matters the soonest possible.

When he resumes himself in saying, that at the first invasion of the cholera, two ounces of pulverized charcoal ought to be administered, diluted with about four spoonfuls of molasses, and about a pint of lime water, or simple water if the other be not at hand, the mixture ought to be well stirred up, so as to facilitate the deglutition of the charcoal—soon after, two ounces of castor oil ought to be given to the patient, say a quarter of an hour or half an hour, after the administration of the charcoal.

Two ounces of powdered charcoal prepared the same way as before, will be administered, a spoonful every quarter of an hour, and alternately administer a spoonful of sweet oil, or melted lard, every half hour. It is not blindly, that the undersigned has made choice of the lime water for the cure of the yellow fever, but because that substance is known to be the most powerful anti-emetic and anti-putrid, that it decomposes carbonic acid, that it is the test of recognising after death, whether corrosive sublimate has been swallowed, and it precipitates it. It is for those reasons that he has employed it in the yellow fever, and that he recommends it as the best drink during the whole of the attack of the cholera morbus. It will be adulterated with lime syrup or molasses; ice may

be advantageously employed to cool that drink. He will add that frictions, with camphorated sweet oil on the neck, breast and abdomen of the patient, as well as under the arm pit, will no doubt contribute to save the life of the patient. He is of opinion that no emetics, no violent purgatives, nor stimulants of any sort are to be employed in cholera; as for bleeding, he will ask if any physician would resort to it in cases of poisoning. Has not Dr. Brousset, of Paris, declared in his lectures on the cholera, that the blood in that sickness turned soon to the consistence of currant jelly.

The undersigned, in October 1822, published in Philadelphia a pamphlet on the yellow fever; he there describes the same treatment as having been successful in Gaudaloupe for curing yellow fever; he is happy in finding that his conjectures were well founded, since many newspapers attest that same treatment has proved to be the most successful, in Canada, against the Asiatic cholera, as he had published it should be, as well as against the plague; those three scourges being only the effects of the same cause. He further advances that powdered charcoal, at the dose of two drachms taken daily in the morning fasting, mixed with lime syrups, lime water, or simple water, would no doubt diminish the predisposition, and neutralizing the miasmata before a too great accumulation should take place in the stomach, then a real attack of the cholera should be avoided, having also regard to temperance, which all physicians and reasonable people recommend. This powerful remedy is so innocently used (as he has experienced himself on many occasions.) It does not impair digestion, on the contrary it facilitates it, and has no bad taste. He solemnly declares that three years ago, his son, having a severe attack of this country's cholera, he administered the charcoal and sweet oil, which acted as magic, in causing the intolerable pains to cease in a short time.

Dr. A. PLANTOU, Surgeon and Dentist,
South Fourth 110, Philadelphia.

TREATMENT OF CHOLERA.

Dr. Ewertz, in his account of the cholera as it appeared epidemically in Dunaburg, states, that from the first appearance of the disease on the 9th of June, 1831, up to the 7th of July of the same year, out of a population of five thousand, seven hundred and forty-five were attacked, of whom only seventy-five died. Two-thirds of the latter were individuals who, from various causes, were not placed under any regular treatment until that period of the disease had gone by, when

alone, according to Dr. E. there is certainty of a cure being effected. Nine-tenths of those attacked were of the lowest classes, and were treated at their own dwellings, or when attacked in the streets, were carried to the nearest house, and remedies applied without the least delay.

Our readers will no doubt be anxious to hear the plan of treatment that was generally pursued in those cases in which the patients recovered. The plan appears to us to be one well adapted to a large number of cases of cholera, and to be in general, if sufficiently early resorted to, better calculated to produce a favourable termination of the disease than can be expected from the profuse administration of calomel, opium, brandy, and ether, so often resorted to by the East India physicians, and imitated by so many on the continent of Europe.

It appears from the paper of Dr. E. that almost the only treatment pursued in Dunaburg was the following:

When an individual was attacked with cholera—when he experienced a giddiness, sunk exhausted, and his whole body, but particularly his extremities, became cold, and of a bluish colour, without loss of time the whole body was rubbed diligently with a liniment composed of nine parts of camphorated spirit and one of tincture of capsicum. The frictions were continued until the warmth of the skin was restored, and the patient became roused from the state of collapse into which he had fallen. In the meantime a vein was opened, and sixteen to twenty-four ounces of blood drawn off. When the state of collapse had gone off, and the pulse beat freely at the wrists, he was directed to drink copiously of a warm infusion of mint or some other aromatic herb, and being warmly covered in bed, hot bricks wet with vinegar were applied to different parts of his body, beneath the bed-clothes, which were properly supported in order that the steam produced should be allowed to pass around him. A free perspiration was in this manner generally produced, the patient commonly fell asleep, and awoke free from disease.

When the attack commenced with a severe vomiting and purging, or with only the one or other, with a severe continued pain at the præcordia, great thirst, and cramps of the extremities, frictions with the spirit of camphor were not found to be so beneficial as the speedy production of perspiration by the means indicated above, the detraction of blood from the arm, and a blister over the epigastrium. In cases where the symptoms were less violent, a blister, sinapism, or even grated horse-radish to the epigastrium, was sufficient of itself to remove them. The patient at the same time taking from ten to twenty drops of the laud. liq. Sydenh.* in a

* Laudanum.

draught of mint or other tea, in very slight cases a tea-spoonful every hour of a powder composed of one part of bicarbonas sodæ vel potassæ* and two of cremor tart.† was found very beneficial. In all cases injections of flaxseed tea with a few drops of laudanum were administered, and it is believed, with good effects.

Dr. Ewertz urges the great importance of losing no time before the foregoing treatment is had recourse to—and denounces all the restrictive measures that have been adopted in the different cities, on the supposition that the disease is contagious, as in the highest degree injurious—as calculated to augment rather than abate the violence of the disease, and by preventing that prompt assistance from being given to those attacked which the rapid progress of the disease so loudly calls for, increases to a very great extent its mortality.

Cholera Gazette.

From the United States Gazette.

TO THE PUBLIC.

At a time, when so much alarm exists, and such a general agitation pervades the community throughout this country, lest that dreadful scourge, the CHOLERA, which has made such direful havoc in Europe and the East, should be conveyed to our Western shores, by means of agents, hitherto found too subtle for our strictest quarantine laws, effectually to guard against; a stranger, who has adopted this happy country as his own, comes forward, and offers a remedy, which he sincerely believes, will be found a powerful, if not a complete antidote, to this frightful and fatal disease.—His object is simply and devotedly, the welfare and preservation of his fellow citizens. The remedy was given to him by a foreign medical gentleman, of much scientific research, who has travelled through the greatest part of Europe, Asia, and both continents of America, including Manilla, for professional purposes, and gave it as the result of tried experience.

The materials of the Recipe, are within the reach of almost every individual, and for the completely destitute, in this land of public benevolence, no appeal will be necessary to provide a supply, where the object to be attained, may be the preservation of the lives of thousands.

The *Preservative Elixir*, as it may properly be denominated, is composed of the following ingredients, and the quantities are calculated for twenty bottles of common size:

* Super carbonate of soda or potash.

† Cream of tartar.

1 lb. (of 16 oz.)	of shavings of hollywood, (guayac.)		
8 oz. (of 16 dr.)	fennel seeds,	pulverized.	
8 do.	jalap root,	do.	
8 do.	coriander seeds,	do.	
8 do.	elecampane root,	pulverized.	
8 do.	rhubarb,	do.	
4 do.	scammony,	do.	

Put these ingredients into a demijohn, to which add 20 bottles (about 4 gallons) of the best French or Spanish brandy, and expose it to heat of from 70 to 75 degrees, for nine days, frequently shaking it, either in the sun, or near a fire; taking care, if the latter is used, not to place it too near, lest the spirit should inflame. This last advice is given for the inexperienced in these preparations.

After nine days, filtrate, and put up the mixture for use. The ingredients can be proportioned according to the quantity required by every individual.

How to use it.—Adult persons, of very weak constitutions, may take, at bed time, one table spoonfull twice a week; those of moderate habit, 2 table spoonfulls three times a week; and those of very robust strength, three spoonfulls three times a week.

Children from 4 to 8 years old, may take a tea spoonfull of the Elixir, diluted with equal quantities of water, on going to bed, two or three times a week, according to their strength and constitution; and those from 8 to 14 years old, two tea spoonfulls, similarly diluted.

Those who can have medical advice, will do well always to take it, in the administration of the medicine; but in the absence of such advice, the above directions will answer as a general guide. Three or four operations, each time the medicine is used, will be all that are required.

To aid in giving the medicine its proper effect, let the following rules be strictly attended to:

1. Previous to taking it, take an emetic of 10 grs. of ipecacuanha, infused in a wine glass of water, prepared the day previous, leaving the powder at the bottom of the glass; and use a tea made of marsh-mallow leaves, or of flax-seed, to assist the operation of the emetic.

2. Cleanliness of person and habitation must be strictly attended to.

3. Total abstinence from spirituous, or malt liquor, during the administration of the Elixir.

4. Let the food be soup, made of beef, mutton, chickens, &c., made with rice, barley, and wholesome vegetables; but exclude cabbages. These different kinds of meat may also

be cooked in various ways, but avoid always making them rich. Pork must not be eaten.

5. Guard against damp feet, night dews, and sitting with clothes damp from perspiration or any other cause.

6. The ordinary drink should be an infusion of the leaves of plantain, (*Plantago salustris*) mixed with a small quantity of Peruvian bark, cinnamon, nutmeg, mace, sassafras, some orange or lemon rind, or a little valerian or snake root.

7. Fumigate the house frequently, with vinegar and camphor, and chloride of soda, putting these ingredients in a small pot, over a slow fire, until ebullition is produced.

In the great plague in Europe, in 60 or 65, eminent physicians recommended the fumigating of houses, by the dried ordure of cows, as an especial antidote to the contagion. If useful then, why not now?

At the risk of the imputation of holding old fashioned opinions, (*tot homines tot sententiæ*) the present writer ventures to recommend wearing next the breast, a silk or cotton bag, containing, say half oz. of camphor, 10 drachms of brimstone, two drs. of the chloride of soda, and about a dozen cloves of garlic. The bag can be suspended to a string round the neck.

He would also recommend keeping in the mouth a small piece of camphor, about the size of a pea, or a little mace, cloves, cinnamon, calamus aromatic, or any other aromatic of a similar class, as a useful precaution.

The highly respectable source whence these instructions were derived—the science and general attainment of the promulgator, entitle them to much credit and attention; and, under this conviction, the present writer, with the sincerest desire to contribute his quota to guard his fellow citizens from the fatal effects of the fell destroyer, has given them publicity. His object is simply as stated—he has no sinister motive—nothing personally to gain or to lose, and therefore trusts that the prescription will have due consideration, and be judged of dispassionately. The scourge has been dreadfully felt in Europe, and what pre-emption can we claim for the interference of Heaven, to prevent its visiting our shores? That it may be prevented is his fervent prayer; but as he sincerely believes in the efficacy of the above prescription as a preventive, should the infliction arrive, he earnestly hopes that a fair trial will be made of it.

Q. SENRAW.

P. S. Writers on the subject assert, that the following recipe was found very beneficial as a remedy for the plague in Egypt, consequent on the inundations of the Nile: extract of the juice of the plant and root of the plantain, (*plantago sa-*

lustris,) mixed with honey and pure olive oil. The dose was from one to two table spoonfulls, administered immediately on the appearance of the symptoms of the disease: might not this also be useful for the cholera?

There is also one herb called *Wild Pimienta* found in *Vuelta de Arriba*, and *Vuelta de Abajo*, in the island of Cuba, which has been found very effective in the cure of Cholera. A strong decoction is made of the leaves, and is administered immediately on the appearance of the disease, a tea-cup full at a time may be taken. As this is the most proper season for collecting the plant, would it not be an act of kindness as well as a source of profit, if some of our respectable Drug-gists were to import a supply?

Q. S.

From the same.

Mr. Editor—You had the goodness to publish, on the 2d of April last, some observations from me, and a recipe for a preservative remedy against CHOLERA, which, I am gratified by observing, has been adopted by many. Urged by the same motive that caused the appearance of the former communication, but with a keener sense of sympathy, from the contiguity of the disease, I again presume to offer my advice and opinion—both, however, based on scientific and observant practice.

To the Elixir prescribed in the paper of the above date, (which might be an act of kindness to many if you would republish,) I beg leave to add the following additional:

RULES FOR THE CURE OF THE SPASMODIC CHOLERA.

1. Take two pounds of brown sugar with a sufficient quantity of water, and boil it to a thick syrup; when cold, let it be added to each gallon of the Elixir; or *honey* may be used, one pint and a half to a gallon, and so in proportion.

2. At the moment the symptoms of the disease appear, take half a wine glass full of the Elixir. Apply mustard poultices to the calves and soles, to be renewed every 15 minutes. Let sixty leeches be put to the epigastrium, or eight scarified cups—rub the back and limbs with a flesh brush with camphorated sulphuric ether—and cover the patient well with blankets, to induce free perspiration.

The steam of hot vinegar and water, of equal parts, mixed with some spirits and camphor, will be found very salutary in the sick room.

N. B. If, in the first stage of the disease, after the above treatment, an electric apparatus can be had, and a couple of

strokes given to the patient, very beneficial effects will be felt. If the disease continue, a repetition of them is recommended.

3. If the symptoms do not abate in half an hour after taking the first dose of the Elixir, renew the dose—adding to it 40 drops of laudanum. Continue the mustard poultices, apply 40 leeches, or six scarified cups to the back-bone, beginning at the first vertebra downwards.

N. B. Should the symptoms still continue, in 15 minutes from administering the second dose, apply large blisters to the calves or thighs. To relieve the spasmodic cramps in the abdomen, apply the following:—

Make a decoction of marsh-mallow and elder leaves, of equal parts, or of the leaves and fruit of the lochra plant, or of flaxseed and trigonella—(fenu-greek, *fœnum græcum*) seed, one table spoonful of the trigonella to two of the flaxseed. Strain, and to a fourth of the decoction add two table spoonfuls of sweet oil, or the same quantity of lard or newly made butter, but sweet almond oil is better than either—with two table spoonfuls of the pulp of cassia, molasses, or pulp of tamarinds, and the same quantity of wine or cider vinegar. Dissolve 20 grains of camphor in a little sweet oil, hog's lard, or yolk of an egg. Mix all these ingredients together, and use half a pint as an injection, of blood heat. Should the first injection be discharged, take a second, and rest.

After the cramps abate, continue the injection every four hours, until the disappearance of the spasmodic and inflammatory symptoms.

5. Prepare the following:—

Bruise plaintain leaves, (*plantago salustris*,) strain the juice (half a pint) through a cloth, and add to it one wine glass full of honey, one of sweet oil, or very pure hog's lard—mix them well, and to them put two table spoonfuls of the pulp of cassia, if it can be had. In an hour, after a dose of the Elixir has been taken, commence with a spoonful of this remedy, which continue every hour, until the symptoms entirely disappear—in the mean time paying due attention to the mustard poultices, blisters, friction, &c.

6. All kinds of food are absolutely forbidden until convalescence takes place, then some weak chicken soup may be taken, and a drink of gum arabic water and sugar.

The utmost attention must be paid to cleanliness in person, room, and bed clothes.

The common drink will be rice or barley water, mixing in each pint, half an ounce of gum arabic, and 40 drops of sweet spirits of nitre, or Hoffman's anodyne.

No remedies prescribed are meant to prevent sending immediately for a physician, but even in sending for one, such

time may elapse as may give the disease too powerful a seat. In such event, the above means, under the blessing of the Supreme Physician, it is sincerely hoped, may help to preserve the lives, or alleviate the sufferings of the afflicted.

The favourable reception that has been given to my published opinions on the treatment of consumption in its first stage, those relating to the bilious fever, which prevailed so generally throughout N. York state in the fall of 1828, for the tertian fever, &c., embolden me more in assuming the attitude I do in this alarming disorder.

All that has been, and that is offered, is the result and conviction of scientific, experimental research. Were it not so, was a full belief of its efficacy not strong, and founded on sufficient data, the remedies would not be proposed, nor the observations hazarded. But convinced of their power, and with a heartfelt desire to contribute again my mite in warding distress from my fellow citizens, they are confidently offered to the public. I cannot at any rate be accused of puffing that by which I make no gain; therefore no sinister motive can be attached to me; for in no way directly or indirectly, am I connected with any commercial or other establishment in the city,—nor at any time, in the numerous cases where my prescriptions have been blessed with success, has a single pecuniary advantage arisen.

SENRAW, my last signature, being the anagram of my name, I now at the advice of my friends, drop, and sign myself in *propria persona*, your respectfully and obliged friend and servant,

J. Q. WARNES.

P. S. I would again call public attention to the fact, that the preceding observations and curatory means emanate from the highest authority, as they were communicated to me by a gentleman deeply versed in medical knowledge, whose practice and observation in the Phillippine islands, while the cholera existed there, fully qualified him to decide, farther tested by his own conviction and experience, after a close scrutiny of the various opinions and means of cure that have been given in different countries, adapting the whole to the climate, and to the habits of the people of the U. States.

J. Q. W.

Violent Cholera produced by Foul Effluvia.

One of the most striking instances, with which we are acquainted, of violent cholera being produced by foul effluvia, occurred at a school in Clapham, England, in August, 1831.

A very foul drain or cesspool behind the school-house, was accidentally opened in making some alterations about the grounds, and its contents were taken out and thrown into a garden adjoining the play-ground. The boys were freely exposed to the effluvia, and in a day or two almost every one of those who had been in the play-ground were attacked with cholera. Two of the teacher's children died, one in twenty-five, the other in twenty-three hours illness. Of twenty-two boys remaining in the school on Saturday, twenty were attacked, between three and nine o'clock on Sunday morning, with vomiting and purging of the most alarming character, attended with a degree of prostration, which threatened immediate death.

The details of this occurrence, and the post mortem examination of the children who died, will be found in the *American Journal of the Medical Sciences*, for February, 1822.
Cholera Gazette.

Chlorine Gas.—The efficacy of chlorine in dissipating offensive effluvia, and abstracting the germs of disease from the air, renders it at present a very important consideration, and the public cannot be too much importuned upon the subject. The London papers press it particularly upon the attention of their readers, and give directions for obtaining it in a cheap and ready manner.

Take a cup or basin and put therein a $\frac{1}{4}$ lb. of black oxide of manganese, upon which pour a teaspoonful of muriatic acid—there will soon rise gas sufficient for the disinfection of a large room; with the addition of a little acid daily, and a gentle shaking of the manganese, the preparation will serve a fortnight;—to sprinkle the lighter part of the composition about the premises, gives a more speedy and general effect.

The chloride of lime is not so well adapted to domestic purposes, and costs much more; though for streets, &c. it is pre-eminently useful, and should be far more thoroughly applied in the filthy places of our city.

Sir Humphrey Davy discovered that muriatic acid is composed of chlorine and hydrogen;—when poured upon the black oxide of manganese, the hydrogen unites with the oxygen of the oxide, forming water, and the chlorine ascends in the form of gas.
Genius of Temperance.

Treatment of Cholera by the Polish Physicians.

By Dr. Sturm, of the camp near Kamienka, warm water appears to have been the remedy chiefly employed. He gave the patients every fifteen or thirty minutes a glass of water as warm as it could be swallowed—he declares that after

fourteen glasses, at the farthest, had been taken, the disease was so far removed that the patient complained only of a slight diarrhœa. The good effects of the warm water were, we are told, so promptly shown, that in two hours or even sooner, a cure was often effected, particularly when it was drank with sufficient freedom.

Dr. Sturm remarks that the operation of calomel and opium, though he had found it beneficial, and at first depended chiefly upon it, was not to be compared in the rapidity of its effects to the hot water, and accordingly, Dr. S. soon laid aside the former. Blood-letting Dr. S. found to be in the highest degree beneficial in every case in which a flow of blood could be obtained.

Dr. Camillo, surgeon to the Kron-Garde barracks, is said to have been peculiarly successful, losing but few of his patients.

He gave either an infusion of chamomile, 6 oz. with tinc. assafetid. and sulphuric ether, of each 1 scruple; or when there was severe and constant diarrhœa, a decoction of Columbo root, 6 oz. with asafetida and ether as above. The above quantities were those generally administered in the twenty-four hours. External frictions with stimulants, and sinapisms, were employed at the same time. A more extensive experience with this plan of treatment does not appear to have confirmed the praises with which it was first announced.

Cholera Gazette.

Reflections on the Location of Cities, with an investigation of the primary and pre-disposing causes of Epidemic Diseases, and the means requisite for their prevention.

Combining the facts developed in the histories of Cholera, and nearly all other epidemics and endemics, not contagious, I find myself decidedly confirmed and sustained, in the sentiments which I adopted many years ago; that health and life ought never to be sacrificed, or exposed to destruction, for the *minor* object of accumulating wealth;—and hence that towns, cities, villages, and all habitations of men, ought to be located on *elevated positions*, or at least so far from marshes, ponds and rivers, as to secure the inhabitants from the various epidemic diseases generated from vegetable putrefaction, and the noxious exhalations of stagnant waters. The preference of “AN ELEVATED DRY POSITION,” as demonstrated by the example of the army and followers of the Marquis of Hastings at Jubbulpore, is so positive and conclusive as to

require no further illustration. The introduction of Rail Roads, will soon remove the necessity of locating even commercial towns, on the foggy banks of rivers. Therefore, although I am aware of the imputations of eccentricity and extravagance to which I shall expose myself, I must submit to the paramount dictates of my conscience and unavoidable convictions, by earnestly advising the inhabitants of all towns and villages which are annually afflicted with yellow fever, cholera morbus, bilious fevers or other diseases produced by the miasma (*morbid animalculæ*) exhaled from irreclaimable stagnant waters, to *tear down* their dwelling houses and work shops, with as little delay as possible, and remove them to a dry, healthy, and if practicable, to an *elevated situation*.

I also advise the superintendents of every new city, to adopt strict regulations for free ventilation and cleanliness, by requiring every other square to remain vacant, like a chequer board, and forbidding the exposure of any kind of filth to the sun, or even to the atmosphere. Tombs should be prohibited by severe laws; and grave yards ought to be excluded from the bounds of populous towns. No kind of kitchen offals should be thrown into the streets, or any filth producing nauseous exhalations. All putrid nauseous effluvia (*swarms of animalculæ*) produced by animal or vegetable putrefaction, disseminate the seeds of disease,—yellow, bilious, typhus, and other malignant fevers, dysentery, Cholera Morbus, plague, &c. &c. In addition to all these precautions, let all who prefer health, wealth, and happiness, to sickness, poverty and distress; spurn dissipation, intemperance, and vice of every sort, as loathsome reptiles and mortal enemies. The adversaries of health are innumerable and universal, and yet recognized by but few:—among which the custom of holding public meetings in close rooms, halls of legislation, churches, court houses, theatres, school houses, lecture rooms, &c., is one of the most pernicious.

“It is not air that from a thousand lungs,
Reeks back to thine, sated with exhalations fell and sad.”

The *breath* and *perspiration* of the most healthy and polite gentlemen or ladies, kings or queens, are unfit for respiration;—how extremely pernicious then must be the suffocating exhalations from the lungs and skins of diseased, intemperate and dissolute persons. The insupportable heat, which

must be imparted to the atmosphere of crowded assemblies, is extremely unwholesome, and united with the carbonic acid, steam, and nitrogen (*azote*) continually issuing from the lungs of several hundred people, and the perspirable vapours, frequently produce fainting, head ache, vertigo, and debility, and sometimes apoplexy, common cholera morbus, typhus or malignant fevers. Churches, court houses, lecture rooms, school houses, colleges, prisons, factories, hospitals and alms houses, and all buildings designed for meetings and numerous collections of people, ought therefore to be provided with large ventilators, with tubes communicating with every room, so as to discharge the adulterated air at the top of the building; each room having ventilators for the admission of air. The walls on each side should consist of pillars, with moveable windows, and Venetian blinds or doors, between them, instead of solid columns of brick. Large tubes with perforated caps, ought to be plentifully scattered over the lower part of the room, communicating with the open atmosphere. In cold weather these tubes may be conducted through the chamber of a stove in the cellar, so as to supply the upper rooms with warm fresh air, free from the contamination of perspiration and respiration, and also from the suffocating deleterious vapours, ashes, or smoke of coal, and the *stupefying* pernicious exhalations of a *cast iron stove*. The rooms in dwelling houses, (especially bed rooms,) ships, or shops, or any building without exception, ought to be provided with ventilators for the admission of fresh air, (obliquely) near the floor on one side, and for the expulsion of the impure air, at the tops of the windows or doors directly opposite. Bad air, bad food, bad drink, bad beds, bad clothes, bad habits, bad medicines, (metallic salts*) and whatever is filthy, frightful† and disgusting, are all predisposing causes of cholera

* Calomel, corrosive sublimate, tartrite of antimony, acetate of lead, oxide of arsenic, &c.

† The imaginary terrors of superstition and ignorance are equally pernicious and debilitating, as if their chimeras were realities. Anger, despondency, envy, indolence, remorse, poverty, and a guilty conscience, all deject the vital powers, and consequently expose and predispose them to the attacks of disease. Purity of mind and conduct are indispensable to health as well as purity of person, diet, clothing, &c. Therefore, knowledge and intellectual improvement, (as antidotes to ignorance and superstition,) virtue, cheerfulness, activity, competence and benevolence, may all be properly adopted as valuable articles of the *Materia Medica*, not only as preventives, but as auxiliary remedies against disease.

morbus, and many other epidemic diseases, and also of consumption.

The sources of bad air, are numerous, frequent, and extensive. I have already mentioned several. A large portion of them may be traced to arts and trades, practiced for profit, and sustained for the gratification of depraved fancy, pride and fashion. Among these we may class the manufacture of *metallic* paints and colours, and the trades of painting and colouring or *dying* therewith (or *thereby*.) Besides which the occupants of painted rooms are almost perpetually annoyed, and sometimes nearly poisoned to death, by the exhalations from metallic paints. Government ought to defend the public health, and prohibit the importation, manufacture, use or consumption of *unnecessary* instruments or agents of disease and death. The laws ought also to provide for the prevention of putrid exhalations, as far as practicable. The offals of slaughter houses, and of kitchens in cities, as well as human ordure, and every useless corruptible article, ought to be burnt, or removed several miles off, and thrown into *deep* running water, or buried, or converted into manure, by adding lime, stable dung and earth. Sewers in cities ought to be so constructed, that nothing but water can be admitted into them:—and never an ounce of animal or vegetable matter should be allowed in the gutters or streets, except the excrement of animals, which, although innocuous, ought to be secured from the sewers for manure.

I must emphatically recommend it to my readers, to avoid, as they would the fangs of a venomous reptile, every source of PUTRIDITY, either in diet, drink, air, or medicine. Beware of stale unsalted meat, damaged fish, bread, fruit or vegetables. If you dwell in cities, remove, without delay, and afterwards prevent every source of nauseous *putrid* smells; or if you cannot do that, desert your cities without hesitation, and flee to the hills and mountains, where the atmosphere is perfumed with the odour of plants and flowers, instead of the putrefying contents of tombs, filthy streets, gutters, sewers, narrow alleys, and privies, &c. &c. Prohibit the use of tombs, and fill those now existing, with a mixture of lime, charcoal, and earth. Fill the vaults of privies in the same manner, and then use portable casks or boxes, frequently throwing in lime, or charcoal. Strew lime, several inches thick, over the

church yards, and prohibit interments within two miles of the city.

I am unwilling to dismiss this subject, without pointing out the impropriety of the custom of placing necessary houses over cells. In towns and villages the impurity of both the air and water, is greatly increased from this cause. The police of the American Metropolis, have set an example, which ought to be imitated throughout the United States, in prohibiting cells, and compelling the use of portable boxes, or nothing at all. In cities, the contents of necessaries, ought by no means to be allowed to accumulate more than a week, unless during the winter.—Besides the filthiness of the custom of digging vaults to necessaries, it is another sufficient reason for abolishing it, that the lives of children are thereby constantly endangered, and sometimes destroyed, in the most shocking manner. A most heart-rending instance of this kind, occurred recently in the city of Philadelphia.

It is not at all surprising that the water of cities, is uniformly unpalatable and unwholesome, when the well of the pump and the well of the necessary, are frequently contiguous.—The water at Washington City, is excellent, and was formerly so at Georgetown; but wherever the town extends, the water has become extremely bad.

In the hope of adding further incentives to legislative measures for excluding from our cities, the causes of malignant diseases, I have borrowed the following valuable sentiments from Dr. Plantou's "*Observations on the Yellow Fever.*"

"The best method to prevent the return of yellow fever, must be to endeavor by every means to dry up marshy spots, to fill up stagnant pools, to cleanse every place engendering or containing deleterious matters, and especially not to allow any body to be interred at any season of the year without having charcoal and quicklime placed in, above and below the coffin."

"The moment of danger ought not to be waited for, nor ought these precautionary measures to be left to the care of tenants or proprietors; these most important and necessary duties ought to be attended to by the municipal authorities of every city; they should be scrupulously fulfilled, for the health, the fortunes and the lives of the citizens are at stake.

A good government, a good administration, should watch over the morals of the people; it is for them to attend to these things, and not leave them to the indifference of the inhabitants, who like shipwrecked seamen, seldom fulfil, when the danger is over, the vows which they make when in distress."

"Privies and burying grounds are two abundant sources of deleterious miasmata. There are two methods of obviating the effects of these; the first is suggested to me by experience, for I have seen in Point a Petre, and in Basse Terre, that there are no privies, all the soil being daily carried to the sea by slaves. There should be constructed a mile or two from the city, reservoirs, raised five or six feet above the level of the ground, in order that the moisture may drain off. Instead of digging privies, casks ought to be kept in every house, to be carried away every month. The fæcal matter contained in the reservoirs, would form when dry one of the best of manures. There are persons in Paris who have acquired large fortunes, by dealing in what is called *la poudrette*, which is the fæcal matters dried and burned."

"In Paris, in 1554, the suppression of the Cemetery of the Innocents, was ineffectually demanded, and it was not till the year 1785, two hundred and thirty-one years after, that a resolution was taken, to remove from the city that focus of putrefaction, which caused every year epidemics more or less afflicting, according to the proportion of putrescent materials, and the degree of heat in concert therewith.

"Previously to taking this step, the people had offered up prayers to heaven, to relieve them from the scourge of pestilence; but they did not reflect that God has not said, that he will at our desire change his laws, which are immutable; that for our asking, causes shall cease to produce their effects; were it otherwise, he would not be himself the Cause of causes. On the contrary, he has said, "Help thyself and I will help thee." This declaration of the Deity was then attended to by the good people of Paris, who on one of those days when nature forces the destructive effluvia to retire deep into the bowels of the earth, set about the work, and transported the bones of their fathers to the quarries from which they had taken stone to build the city. All the bodies which were still capable of undergoing putrefaction, were covered with a sufficient quantity of quicklime and consumed.

Since that period, this part of the city, has been as healthy as any other; and through a prodigy of reason, the throne of disease has been metamorphosed into a cornucopiæ.

“It is to be hoped that an example so salutary, will not be held up in vain to a people like that of the United States; a people which, in a shorter time than the French took to deliberate on the subject of the public health, has founded a number of cities, of which the population equals or excels that of the second order in Europe, that have been thousands of years in existence; a people whose exalted courage has raised it to the highest rank among free nations; it is to be hoped I say, that now the veil is removed, and it may be seen by the broad light of reason, that the germ of the destroyer of its health, its commerce, and its future fortunes, is in its very bosom, the same zeal will be shown in destroying it, as was manifested in breaking the shackles of despotism.”

“No one can be ignorant, that burying grounds and privies,* in the heart of a city, contribute more than any thing else to give to the water qualities pernicious to health, and that if this state of the water has less activity than impure air has, yet it aids in augmenting the effect of the latter. New-York, Charleston, Savannah, Norfolk, and every city which has not the benefit of river water, are particularly exposed to these two causes united.”

Finally, in regard to the contamination of the atmosphere, by tombs, privies, &c. I would recommend the adoption of the following sanitary rules, as far as practicable: avoid as much as possible, inspiring the pulmonary exhalations of your own lungs, or those of other persons, whether sick or well, or of any animal whatever;—also the effluvia of perspiration:—avoid inhaling the exhalations of your own fæces or those of others,† whether sick or well, but especially while

* “Sinks for privies, in a country like this, where the heat is so great, are a focus of infection and ought to be entirely suppressed by municipal law, which easily may be done as follows. Every house ought to be provided with two casks, each capable of containing all the soil accumulated in a month, then the full cask should be conveyed and emptied into reservoirs, two or three miles from the city. These casks may be furnished with covers, to close them hermetically, so that no unpleasant smell will escape during their removal.”

† To secure this important desideratum, let every cask or cell used for privies, or stool closets, be partly filled with lime water: and every closet or privy, furnished with a well glazed porcelain or metallic vessel; (never

subject to infectious or malignant diseases:—never inhale the effluvia exhaled from dead bodies,* or any substance in a state of decomposition by putridity: in short avoid every kind of nauseous or strong effluvia, and be no less careful to breathe pure salubrious air, than you are to drink pure palatable water, or to eat wholesome palatable food.

Since the arrival of the epidemic cholera at New-York, the Council has passed an ordinance excluding interments from the more dense parts of the city. How lamentable is it, that in an age boasting of common sense, reason and knowledge, the health and lives of living men should continue to be jeopardized or sacrificed by the puerile though ancient solicitude of the survivors of deceased friends and relatives to have their bodies deposited as near as possible to their churches and dwelling houses.

The offals of slaughter houses ought to be removed without delay, and mixed with lime and other manure, or else burnt, buried or thrown into deep water;—and if the proprietors neglect to conduct their establishments so as not to endanger the health and lives of their neighbors, effectual laws ought to be enacted for enforcing that duty.†

In cities, an extensive and permanent source of deleterious effluvia, exists in the foot pavements, when paved with soft bricks;—which being of a spongy porous texture, absorb and exhale impurities alternately for years, except when prevented by nearly a freezing temperature. After being

the common brown lead glazed ware,) containing a quart of lime water or thin mortar, or common water, (a large pitcher full being always ready,) to be used instead of *sitting over the horrible exhalations of a privy vault*, and the contents emptied as often as necessary into the cask or cistern, and the top to be immediately closed.

† This equally or more important desideratum, may be easily secured, by placing the body soon after life is extinct, and after bathing it with pyroligneous acid or lime water, in a simple box, previously having lime and charcoal spread in the bottom, and then covering it several inches in depth with a compound of sand or common earth and quicklime. Or if such a mode is too difficult or expensive, let the body be bathed in salt and vinegar brine or wrapped in a cloth dipped in such brine, and the body covered thoroughly with common earth, in the box or coffin, and then buried if practicable 8 feet in depth, within 20 or 30 hours. Tombs or vaults should be strictly prohibited by law, unless the bodies deposited are previously well embalmed with charcoal and antiseptics, and placed in metallic coffins perfectly closed.

* Dysenteries, cholera morbus, and malignant fevers frequently originate in hotbeds of putrefaction, and become epidemic and infectious. A cholera morbus, now spreading in a village in this state, commenced in the vicinity of a slaughter house.

heated by a few hours exposure to the sun, if a light rain falls on the side walks, or if they are washed by servants, a copious evaporation commences, accompanied with very suffocating exhalations, (*swarms of noxious animalculæ.*) To eradicate or prevent this fountain of disease, (probably cholera infantum, &c.) the foundation of the pavement ought to consist of a bed of mortar, composed of six bushels of gravel, one of sand, and one of lime, graded so as to leave no inequalities on the surface of the pavement, but inclined towards the gutter sufficiently to carry off the water freely. Instead of brick, large tiles should be manufactured for the purpose, glazed or vitrified, or saturated with boiling tar or pitch, so as to be impenetrable to water. The joints between should be filled with a mortar of sand and lime, of the same proportions as before mentioned, without gravel, leaving a vacancy of half an inch from the surface of the pavement. The vacancy to be filled with a composition of tar, sand, and fine gravel,* and then covered with dry sand. Thus, the pavements being impenetrable to water, will not only remain perpetually clean, (at least below the surface,) but will also prevent the undermining and heaving of the frost.

Until such a salutary revolution can be effected, the old pavements ought to be frequently washed with lime water or ley;—but *never* with simple water, which increases the exhalation of noxious effluvia. The lime water will not only neutralize or kill the insects or miasmata, which inhabit the cavities of the pavement, but will probably eventually saturate the interstices by a combination of the lime with the carbonic acid gas of the atmosphere, so as to exclude water as effectually as solid stone.

I will close my lengthened observations on the means of securing genuine air for respiration, by adding the following valuable essay on this most important subject, from the United States Gazette.

COMMUNICATION.

Mr. EDITOR—I have lately read with much interest in the January number of the American Journal of Science and

* In Ireland public roads are dressed over with such a compound, which keeps them smooth and very durable.

Arts, some account of a series of experiments made by Dr. Henry, on the disinfecting power of increased temperatures, with a view to the suggesting of a substitute for quarantine. The results of his experiments, particularly those on the vaccine lymph, appear to me to form strong grounds for believing that all contagious or infectious effluvia might be disarmed of their power by subjecting them to a similar process. If there is a possibility of doing this, no effort should be spared to effect an object of such incalculable importance. It is not necessary that the question should be settled between the contagionist and the anti-contagionist, since both may be right in some respects, and both at fault in others. It appears to me, however, that a very feeble argument in support of the non-contagious quality of a disease is drawn from the fact that it is not always directly and immediately communicated to others, on emanation from the diseased subject. It is a fact well known, that many contagious diseases are not communicable except at certain stages of their existence; now it may so happen, that the animalcule (if such is the real essence of the disease) being once deposited in the human system, loses its energies in fulfilling the ultimate object of its deposition—and that, having reproduced its species, these are thrown off in the form of effluvia, in their embryo state, to be matured in the atmosphere before they can be capable of fulfilling a similar office. All this is hypothetical, it is true, but so is every other theory respecting the nature and origin of diseases; and I know of none which can be supported by stronger analogical reasons than this; but, which ever of the many hypotheses be true, all intelligent persons will, I believe, concur in the opinion that the atmosphere of a sick room is rendered insalubrious by the presence of disease. This being admitted, it follows, that if means could be devised for collecting and destroying the noxious qualities of this *infected air*, the salubrity of the surrounding atmosphere would be thereby preserved. That it is within the limits of human power to obtain this control, I have not the slightest doubt, and I have entire confidence in the efficacy of the principle above alluded to, in destroying all contagious matter submitted to its action. It is probable that the Cholera will soon be among us, and we shall be compelled to erect hospitals for the reception of its subjects. Let us then devise a plan for these hospitals which shall combine the most advantages for the patient, with the greatest security for the healthy. The following plan, if it does no more than suggest to other minds something *better*, may not be unacceptable. Let a building be erected, consisting of two stories only, the upper one to be occupied by the patients. Let this chamber be spacious, and above the ordinary height; let there be no lateral com-

munication between this chamber and any other apartment, or with the external atmosphere; let the ceiling be vaulted, and in the centre of the vault let there be an aperture to admit a large metallic conducting pipe; let this pipe be connected with a metallic air-chamber above, constructed in some such manner as the drums used for warming apartments—and from this let there be an exit pipe, of sufficient height to ensure a draught. Within the lower pipe there might be suspended the means of heating the air that should pass through it, to any temperature that should be deemed requisite to destroy the virus. Probably a large powerful lamp would be found sufficient for this purpose. The air thus rarefied would create a strong current through the apartment below, which should be constantly supplied with fresh air from the basement story only.

The air thus supplied should be heated, if necessary, by means of a furnace or stove below, so that the patient might be made comfortable in regard to temperature, without any other than thin light clothing. Let the patients be placed upon couches elevated or suspended by some convenient means above the common area of the chamber, to such a height as would enable the attendants to administer their aid without endangering their own health, by inhaling the air that had become infected by contact with the diseased subject. Such an arrangement would, of necessity, cause the rapid passage of all the effluvia through the heated air chamber above, where it must be rendered inert before it would be mingled with the atmosphere abroad. Hence, the spread of the contagion by this means would be wholly obviated. The patient thus situated, would be exposed to the salutary influence of a constant supply of pure air passing through the apartment in a strong current, and taking along with it the poisonous exhalations, which would otherwise hover around them, and again be returned in part to their systems, by the process of respiration. They would, by this means, leave the chances of their recovery greatly multiplied. The medical and other attendants would have nothing to fear from their vicinity to the contagious subject, since they might keep below the infected portion of the air.

It appears to me that, in ordinary cases of fever or other diseases, too little attention is bestowed upon the subject of ventilation, and that a course in direct opposition to this is generally pursued. The poor patient, by mistaken tenderness, is confined to a close, or at least a badly ventilated apartment. He is enshrouded in curtains, wrapped in blankets, and smothered with comforts, to prevent the access of what is now deemed a baneful enemy—the air. He is by this means given over to the real enemy—his disease, which, by the powerful aid of this prejudice is enabled to obtain a

strong hold on the constitution it has assailed, and but for the opposition of skilful practitioners, might make a final conquest.

FRANKLINA.

Notwithstanding my proposition on a preceding page, to close my lengthened observations on the means of securing pure air for respiration, with the essay of Franklina, I have concluded to resume a subject which embraces in its wide circle, the interests and well being of nearly one half the human species. Having suggested a plan, which, if adopted, cannot fail of rescuing the side pavements from the dominion of pestiferous animalculæ, I will now proceed to a renovation of the gutters and sewers, the most virulent fountains of city epidemics of all others. To them may be traced the seeds of yellow fever, dysentery, bilious fevers, remittent fevers, typhus fevers, cholera morbus, asphyxia, plague, &c. &c.

I have already said that nothing but water should be admitted into the sewers; and I will also add that no air should be emitted from them. To effect this object, I propose the following method:—At the entrance of the sewer, let a cavity be formed in the side walk, 7 feet in length and 3 feet in depth and width, enclosed in a smooth wall of hard burnt brick, or stone. Let strong portable wooden reservoirs or cisterns be made, (a pair for each sewer) with a sliding cover, and apertures at each end, communicating with the gutters by aprons,* or conductors; also an aperture at the back part near the top, with a screen, with a short apron to conduct the water into the sewer. The whole to be covered with a wooden trap door. Thus, once or twice a week, in summer, or once a month in cold weather, the cistern may be lifted into a cart, by a portable crane and pullies and ropes, and carried off and emptied, and the cistern previously emptied put in its place. The advantages of such an apparatus are many. Besides the economy of saving the manure, and preventing the discharge of the pestilential stench from the mouths of sewers, it will supersede the necessity of the disgusting and dangerous occupation of shovelling out the filth which accumulates in them so often. This horribly fætid *fluid* filth is often scattered in the streets from the carts, in

* A hanging door should be fixed at the outlet of the gutter, so as to let water pass into the sewer, and prevent the escape of air.

which it is conveyed, diffusing its offensive effluvia a considerable distance around for several days.

Dr. Orfila, in his valuable treatise on Poisons, classes the putrid effluvia of privies, drains, and common sewers, among the most dangerous poisons; producing asphyxia, similar to that of the Indian cholera. Having adopted the *decided conclusion* that the cholera infection, virus, acid, animalculæ, miasmata, malaria, or poison, (or whatever name may be fittest for the cause of this pestilence,) originated in laboratories of putrefaction, and is propagated through the same medium, I quote M. Orfila's article on asphyxia produced by putrid effluvia, not only as a confirmation of my hypothesis, but as a specimen of such treatment of cholera, as the cause of the disease indicates, and such as has already proved most effectual.—See p. 18, and 24.

"Of Asphyxia from Privies, Drains, and Common Sewers.

"The asphyxia, which makes the subject of this article, is principally *owing to hydro-sulphuric acid gas*, (sulphuretted hydrogen): this gas, when mixed with a large quantity of air, is a very energetic poison.

"*Signs.* When the disease is slight, the patient experiences uneasiness, inclination to vomit, convulsive movements of every part of the body, and principally of the muscles of the chest and jaws; the skin is cold, the respiration free but irregular, the pulse very much embarrassed.

"When the disease is more serious, the patient is deprived of sensation, consciousness, and motion; the body is cold, the lips and face violet, &c.; to this state sometimes succeeds a more or less violent agitation.

"When the disease is still more dangerous, the muscles are affected with violent contractions of short duration, which are succeeded by convulsive movements, with a curvature of the body backwards. The patient appears to experience acute pains, and utters sounds like the bellowing of a bull.

"TREATMENT.

1. "Exposure of the patient to the open air, aspersions with cold vinegar and water, friction with a strong hair brush; the body should be rubbed with cloths dipped in the same liquor, in camphorated spirits, in Cologne water, or in any other spirituous liquid. In three or four minutes the wetted

parts are to be wiped with warm towels, and two or three minutes after, the aspersions and frictions with cold vinegar and water are to be repeated. These means should be perseveringly employed.

2. "If some chlorine, (oxigenated muriatic acid gas,) can be procured,* the bottle containing it should be passed backwards and forwards under the nose; but it should not be left beneath it a long time, for fear of irritating the lungs.

3. "If, as often happens,† the patient has swallowed some of the water contained in the privy, vomiting should be excited, by giving a glass of oil, 24 grains of ipecacuanha; or 24 grains of the sulphate of zinc (white vitriol) should be dissolved in a glass of water, and given in two doses, at a quarter of an hour's interval, if the first dose has not produced vomiting.

"4. If these means should prove insufficient, and the palpitations of the heart be irregular or tumultuous, blood should be drawn from the arm, and in quantity proportioned to the strength of the individual.

"5. We should endeavor to calm the nervous disorders, the spasms and convulsions, by cold baths, and by the use of a few spoonfuls of the following antispasmodic potion:—4 oz. orange-flower, mint, balm, or lavender water, or of common tea, an ounce of sugar, 30 drops of Hoffman's anodyne liquor, or of ether, and 20 drops of Sydenham's liquid laudanum. After taking a bath, the patient should be placed in a warm bed, and frictions continued upon the spine.

"6. Lastly, stimulants and blisters should be applied to the feet, if, notwithstanding the employment of these remedies, the individual still remains deprived of sensation, consciousness and motion."

In addition to M. Orfila's general treatment of asphyxia, whether from vapour of charcoal, (anthracite coal being equally pernicious,) crowded rooms, carbonic acid, or sulphuretted hydrogen gas from putrid substances, I would recommend the prompt use of lime water and milk, equal parts,

* "Chlorine may be readily formed for this purpose by mixing together, strong nitric and muriatic acids." TRANSLATOR.

† If so horrible results *often* occur, from the filthy fashion of using cells for privies, to persons employed to remove their contents, is it not a *sufficient* reason, if there were no other, for abolishing the custom.

together with charcoal, salt and vinegar, &c. as previously proposed for cholera, and other diseases of a putrid type. As putrefaction commences almost instantaneously, as soon as the nervous and organic functions are suspended, from whatever cause, antiseptics, and active external stimulants and excitants should never be omitted.

Until the people or their legislators shall become chemists and physiologists, and learn the superiority of prevention over cure, it *may be* productive of more benefit than mischief to attack the *results* of putrefaction, with chlorides, and chlorine gas, instead of *intercepting* or *preventing* it. Judging, however, of their effects upon my own lungs, as well as upon gold leaf, &c. I must advise the same caution in the inspiration of this herculean *conquering* gas, as of that it is destined to counteract and kill. Instead of chloride of lime, let simple lime or charcoal be deposited as often as necessary, in every *fountain* of mephitic effluvia, whether it be a privy, a tomb, a slaughter house, a sewer, a drain, or a disgusting, *stinking gutter*,—the most public, and the most pernicious of all others in towns.

The gutters at the sides of the streets in cities, or villages, should be constructed in the form of a section of a cylinder and of materials impenetrable to water, perfectly smooth, straight, and tight, and sufficiently inclined to prevent the water from remaining in any part of it stationary. The bed or foundation, should be the same as before proposed for the side pavements, to which charcoal might be added with advantage. Cast iron, in sections 5 feet in length, with joints fitted with melted lead, would be better than any other material, and probably as economical. Or large tiles might be formed in moulds of the right shape, and burnt so hard as to exclude water, or prepared as proposed for side pavements. At the summit levels, in every street, small streams of clean water ought to be introduced,* into the gutters, so as to flow

* To accomplish this important desideratum, in cities which are not favored like Philadelphia with *descending* water power, I can suggest two methods,—one invented by myself specially for the city of New-York, or any city situated on tide water, and one invented by David B. Lee, Esq. No. 79 Lawrence street, Philadelphia, which may be adopted wherever the water has a horizontal current. For further information respecting his invention, I refer the reader to him. My plan is as follows:—The power is produced by a long powerful lever or beam, one end of which is attached by a pitman with a joint at each end to the centre of a half loaded boat or vessel, capable of supporting from twenty to a thousand tons. The fulcrum of the lever is

in contrary directions continually, except in freezing seasons of the year. Small bodies of *motionless* water, exposed to the sun, or sufficient warmth, in summer and autumn, generate spontaneously, myriads of minute insects, (besides musquetoës,) of various sorts, according to the various materials with which the water is impregnated. These animalculæ, generally accompanied with sulphuretted hydrogen gas, ascend into the air in vapour or fog, and being inhaled into the lungs with the air in breathing, produce varieties of disease, sporadic, endemic, epidemic, &c. varying infinitely, in character and degrees of virulence, according to the temperature of the season and the origin of the virus, as before observed. The most prominent distempers evolved and *diverged* from these sources, (almost as extensive* as the torrid and temperate zones,) are yellow fever, bilious fever, typhus fever, plague, dysentery, cholera morbus, dyspepsia, dropsy, liver disease, ague and fever, tertian and quartan intermittents, remittent fever, &c. &c. *ad infinitum*. Many of these diseases are produced by drinking the water containing those animalculæ, as well as by breathing the vapour exhaled from it.

Note.—This subject will be continued in the second number of this work.

A SERIOUS APPEAL TO THE WEALTHY.

Although I have already extended this essay to a length far beyond what I intended, at the commencement, I feel impelled by the injunctions of sympathy and humanity, to add a solemn admonition to such persons as are blessed with wealth: If you take delight in benevolence and beneficence, (the purest fountains of human felicity, without sting or alloy,) or if not! if you desire self-preservation;—adopt immediate, vigorous, and effectual measures, to improve and elevate the moral and physical condition of the labouring people, the poor, the unfortunate, the intemperate, and even neglect not the vicious and criminal portions of the community. Let not idleness nor *crime* find a pretext in the want of

fixed firmly in the earth, either under water or on shore. Thus as the tide rises or falls, an immense *perpetual* power is communicated to the lever, which may be applied to numerous forcing pumps, or to the elevation of large buckets, emptying themselves at a proper elevation, to supply a large reservoir.

* The principal exceptions are the mountainous, hilly, rocky, sandy, gravelly, or chalky regions.

full rewarded employment;—and when industry and economy cannot withstand the tide of distress, lend (not give as alms) your friendly aid. Form associations, raise funds, appoint committees of inquiry and of relief. Let clothes, food, fuel, soap, lime, &c. be distributed at a credit, wherever the people cannot pay cash for them. I would recommend that every individual, possessing an estate of not less than ten thousand dollars, devote one third of his annual income to the establishment of a *BENEFACTANT FUND*, or to such philanthropic purposes as he may prefer.—Such a fund would be sufficient to banish ignorance, misery, vice and crime, from human society, and the stockholders and their posterity would derive a richer dividend than bank stock yields;—an improved, virtuous, healthy and happy state of society.

Let public baths be erected without delay, a part of them to be free.

Let all poor children be supplied with comfortable food and clothing, and educated not only mentally and morally, but *manually*, in *spacious, well ventilated* buildings. Let spacious, *well ventilated* work shops be erected for employing every kind of mechanics in *useful* trades, that may desire employment. Let farms and gardens be provided for the employment of labourers without trades, or mechanics having been taught useless trades.

Let the prisons be thoroughly examined. Let them be well whitewashed, ventilated, purified and cleansed. Let the prisoners be supplied with baths, soap, and clean clothes, and wholesome diet. Let inquiries be instituted in the debtors' prisons, and in cases where the debts are of small amount, let them be paid out of the *Beneficent Fund*, unless the creditors can be persuaded to release them. In short, remove and eradicate, as far as practicable, every source of poverty, disease, vice, and misery, both for your own benefit, and of the objects of your benevolence.

If you have investigated the *immutable*, severe, though *Divine laws* of *physiology*,—nature,—or if you have examined the pages of medical history, I need not inform you, that infectious, malignant, terrific diseases, generated in the abodes of want, *ignorance*, distress, filth, and despair, which *might have been prevented by timely help, may turn upon* those who can, but neglect to extend such help!!!!!!

CAUSES OF EPIDEMIC AND MALIGNANT DISEASES.

Dr. M'Culloch, in his very valuable *Essay on Malaria*, (which ought to be translated and read in every part of the earth except in the icy regions,) has proved that "*this poison*," as he properly calls it, has constantly diminished human life and happiness to a greater amount than war, and all other causes of disease and distress. He seems to doubt the animalculine character of malaria, notwithstanding the authority of Lucretius, Varro, Columella, Kircher, Linnæus, (to whom might be added DARWIN,) and leaves the "*dark question*," and "*very interesting object of inquiry*," to future investigation. My *confident* conviction that malaria consists principally of small poisonous insects of the *reptile* class, (many species being innocent and salutary,) commenced with my first physiological studies and reflections, (about 30 years ago,) and has been confirmed and sustained, by observation of facts, and also by analogical induction, ever since. Accordingly I have used the term animalculæ, generally instead of malaria or miasmata, as if their existence was taken for granted. I shall, in a subsequent part of this work, have occasion to examine this subject more thoroughly.

The portraiture which Dr. M'Culloch has given, of the ravages of these little monsters upon the health, lives, personal aspect, and well-being of a large majority of the human race is truly terrible, and affecting to the heart that is susceptible "*to feel another's woe*" not merely, but of sympathising with hundreds and thousands of millions of their victims, in endless succession, unless a *barrier* exists to their merciless rapacity.

The few following paragraphs will afford an outline of the frightful picture:

"They who have travelled, with an observant eye, in France, Italy, Holland, Sicily, Greece, or America, will have little difficulty in recognizing the transcript of an original which must often have attracted their attention."

"That the residence of successive generations in a district subject to the dominion of malaria, produces a degeneracy of the races, is amply shown in various parts of France and

Italy. The stature not only becomes reduced, but deformities are frequent, rickets, &c."

"The colour of the skin, and the general appearance of the people in these cases, has never failed to attract the attention of even the most cursory travellers. The former is sallow, or yellow, or else stained with different hues, and often œdematous.—A dull, languid eye, very often also yellow, is a circumstance which has attracted general attention.

"An enlargement of the abdomen, slenderness and emaciation of the limbs, are frequent in the Pontine marshes, where the residents have the appearance of walking spectres. The appearance of age occurs at a very early period of life. Even the children are frequently wrinkled; and in France, in perhaps all the worst districts, a young woman, almost before twenty, has the aspect of fifty.—And the expression keeps pace with all else; being that of unhappiness, stupidity, and apathy: an habitual melancholy which nothing can rouse, and an insensibility to almost every thing which operates on the feelings of mankind in general.

"In the Maremma of Tuscany, it is observed that idiotism is common;—and that this condition is even propagated, seems, further, fully proved; so that an universal degeneracy of mind and body both, appears to be the certain lot of those races which a combination of unfortunate circumstances have placed in countries that seem to have been intended rather for the habitations of reptiles and insects than those of men.

"With respect to the moral condition of the people in the unhealthy districts of the Valais, the picture drawn by Montfalcon is frightful:—the leading features of which, are abortion, infanticide, universal libertinism, drunkenness, want of religion, gross superstitions, &c.

"Of the specific and definite diseases which are the produce of malaria, or which are endemic in marshy districts, some are now notorious to the whole world, and a few appear to me to deserve or require the place which they have not received, as its frequent if not exclusive produce.

"Fever, continuous or remitting, of an endless diversity of character in different countries, and seasons, or, generally, in different circumstances, stands prominent in this fearful catalogue: itself the source, either directly or through its consequences, of by far the greatest mortality in such coun-

tries, and the further cause, as it has been rudely computed, of more than half the natural mortality of the human race. To this may be added intermitting fever not radically distinct, and almost equally various in its appearances, and many varieties, in both kinds.

“Dysentery, cholera, and diarrhœa, may be here united as constituting another division of the diseases of marshy countries; these disorders also appearing under different aspects, whether from original differences or from combination. Of the vast importance of these, it is superfluous to speak in detail. The mortal power and extent of dysentery, in military service at least, is but too well known. The influence of cholera concerns every one; and if the cholera of India, lately so celebrated for its widely destructive effects, is, as I verily believe it to be, but a produce of this cause, there are few diseases in the history of physic, which would better deserve a place in this enumeration of those pestilences which are the consequences of this wide-wasting poison.”

PREVENTION AND CURE OF EPIDEMIC DISEASES.

Not having seen Dr. M’Culloch’s prescriptions for the prevention or cure of the diseases produced by malaria, I cannot judge of their propriety. The *man* who can stay the progress of so universal a pestilence, by the suggestion of an effectual *preventive*, or prescribe an infallible antidote to its ferocity, after having seized its captives, will secure to himself the greatest prize that ever fell to the lot of a human being,—the consciousness of having done *more good* than ever one man did before.

I NOW UNDERTAKE THE HERCULEAN, GIGANTIC TASK; with unequivocal confidence, that if my plan should not *entirely* succeed, its universal adoption will at least diminish the sum of human misery. First.—Let every family, every ship, *every traveller*, in all the valleys, plains, marshes, and *alluvial* regions in the world, be provided with a *filtering apparatus*, containing charcoal, gravel, and sand, when stationary, with strainers, cotton or wool, of several thicknesses. For travellers, a simple tube of silver or tin, filled with charcoal, one inch in diameter and six inches in length, with a bottom perforated with small holes, and the top surrounded by a flange, like a funnel, to be covered with strainers, as before mentioned.

Ships ought to be provided always with a small alembic, so that sea-water can be distilled, when no other is attainable. The land-water, especially from pumps and wells, is so universally impregnated with saline, mineral, or earthy, as well as animal and vegetable solutions, that I would recommend the distillation of all water used in cookery or for drink, and then filtration through charcoal, so as to fall upon stones or gravel in *small streams*.

Second.—Let the channels of all streams of water passing through marshes or grounds nearly level, be made as deep and straight as possible, so as to give the water more velocity. Let all stagnant swamps, ponds and marshes be drained, by ditches, with sloping banks, and the bottom in the form of a section of a cylinder, so as to leave no corners, in which vegetable matter can accumulate. Wherever practicable, let the surface of all marshes and plains, be converted into hills or ridges and valleys, of an inclination of five or eight degrees, in a direction from north to south. The summits of the ridges may be twenty, thirty, or forty feet apart. By this means the surface of the ground will be considerably enlarged, for cultivation, (which may balance the cost,) and the water so promptly conducted off as to prevent the generation of animalculæ or malaria. The banks of rivers, ponds, ditches, gutters, lakes and canals, streets and roads, should be shaded as much as possible with trees, yellow willow, sycamore, mulberry, &c. *Mill ponds and canals* should be immediately abolished and prohibited by effectual laws, wherever they annually generate the seeds of disease, or where their construction is accompanied with such circumstances as uniformly produce that effect. Instead of mill dams let raceways or aqueducts of plank be substituted;—and instead of canals, rail roads; except where the canals may serve at the same time as indispensable drains.

Third.—To prevent the generation of musquetoës, or other insects, malaria, or animalculæ, noxious and annoying to man or cattle, in the gutters, drains, and artificial or natural valleys, let pulverized quicklime be strewed in them several times in a year, as circumstances indicate. Let lime be used in making manure, and as a manure alone, in all *low countries*, *heretofore* subject to the reign of endemic or annual disease.*

* Salt is also an effectual preventive of the generation of insects. Mingled with wheat or other grain or seeds, before or after thrashing, it prevents the approach of weavils or other insects. It is also useful in hay.

Dwelling houses, and all other edifices without exception, in warm latitudes, ought to be painted white, or white washed with lime, over the roofs as well as the walls, by which the rays of the sun will be repelled, and the heat produced by the exposure of any other colour to the sun, avoided. The interior surface of buildings or ships throughout, ought to be white washed with lime, or washed with lime water, at least once a month. Wherever the elements of putrid fermentation exist, attack and suppress it with lime.

Fourth.—Let every individual, exposed to malaria, or any malignant endemic or epidemic disease, (cholera, yellow fever, &c.) in low or high lands, adopt the following means of external defence:—use *red* shirts and drawers, cotton or woollen, according to the season, but always flannel, where the atmosphere is foggy or damp. Never use *blue* or black clothing of any kind, not even for hats or shoes. Use additional clothing according to the temperature, especially mornings and evenings in the months of August and September. Use no *linen*, nor hemp, either for shirts or sheets, or for any clothing, except for shirt collars, and wristbands, at any season of the year. Keep the feet dry, and comfortably warm, using generally worsted or woollen stockings, (not *blue*,) and shoes or boots *impenetrable* to water. As a protection from the approach of malaria, animalculæ, or *visible* insects, infectious gas, or contagious virus, use as many of the following articles as it may be convenient to procure, quilted between two pieces of *red* worsted or cotton cloth, about a foot square, and about half an inch in thickness, to be suspended loosely outside of the shirt, over the breast and stomach:—ground inner bark of white or yellow oak, box wood, hemlock, chesnut, sumach or willow, raspings and shavings of *red* cedar,—camphor gum in lumps, gum myrrh and guaiacum, shavings of guaiacum wood,—resin, pitch, burgundy pitch, chalk, charcoal, garlic, tobacco, sage, mint, tansy, rue, wormwood, asafetida, musk, sassafras bark of root, nut galls bruised, nutmeg, cloves, cinnamon or cassia, mace, allspice, black pepper, Cayenne pepper, fennel seeds, broken brimstone, pennyroyal, caraway seeds, dill seeds, annis seeds, frankincense. In addition to which, suspend a phial a little below the chin, containing sulphuric ether, oil of amber, oil of red cedar, oil of tansey, camphor, liquid ammonia, oil of sassafras, of pennyroyal, of fennel seeds, of annis seed, of peppermint, of spearmint, of cajeput, and British oil, having a small aperture on the side of the

cork, about the size of a pin. Also wear a plaster between the shoulders, composed of two parts of Burgundy pitch, one part yellow resin or hemlock gum, and one part myrrh. Use a flesh brush over the whole surface every evening or morning, and bathe every three days, using soap, and afterwards an affusion of vinegar and water; shirts, drawers, stockings, and sheets, to be *changed every day, or every other day*, as the season may require, always previously well heated before a fire, and fumigated with chlorine, smoke of wood, plants, or sulphur. Let FEATHERS be *totally discarded*, and hair, either for beds or pillows, and in their stead, use boiled manufactured straw, cotton, or other *vegetable* materials, or such beds and pillows as are described in p. 56. For the means of securing pure air for respiration, see p. 33, 34, 38, and 39. The subject of diet will be discussed in a subsequent part of this work.

Fifth.—For prevention, by internal remedies, use lime water and milk, and salt and vinegar, &c. as directed p. 13. Those who have been accustomed to spirituous drams, *must* abandon them, and may use the latter medicine as a substitute. For the cure of diseases resulting from malaria, use the same remedies as for cholera, page 12, 13, and 14.

About 21 years ago, I published the following essay in the Mercantile Advertiser, (of Aug. 20, 1811,) in the City of New-York;—being the first article ever printed from my pen.

COMMUNICATION.

Infantile Flux.—Must the disease to the effects of which this appellation is applied, two or three months every year, sweep from their weeping parents by dozens, the rising scions of another generation, and the active cause be not either detected and destroyed, or disarmed of its deadly arrows!—Or, are the greater part of the people deterred from applying to the proper ministers of relief, by a prevailing mistaken prejudice, (but perhaps too much encouraged by a herculean practice) that remedies are more dangerous than diseases; or by the inconveniency of satisfying the extraordinary premiums sometimes demanded for pointing out the means of relief, although nature has made liberal distributions of them?

Although it is asserted that a putrefaction of the blood cannot exist with life, yet will not every accurate observer

the fluids of infants and others, which occasions the infantile admit, that the putrefaction, dissolution, or decomposition of flux, or dysentery, is generally excited by a putrid effluvia, or septic acid, produced by the putrefaction of a prodigious quantity of vegetable and animal colluvies, which abounds in almost every part of the city, under the pavements, and in other places, and is transmitted through the medium of air and water, or both? Does not common sense then enjoin the liberal use of antiseptics, or such substances as prevent, or put a stop to putrefaction; and is not every family provided with a variety of these; as sugar, molasses, vinegar, salt, spices, milk, wine, cider, distilled spirits, pearl ash, &c.? Is not common salt an irresistible antiseptic, when its alkali is neutralized, and its muriatic acid (chlorine?) set at liberty, by adding a gill of sharp vinegar to a heaped tea spoon full, and an eighth part taken every sixth hour, 48 hours, either alone or mixed with a little water, sweetened with brown sugar?—Would not equal parts of lime-water and milk prove both an effectual preventive and cure;—equal parts of milk and molasses:—of brandy and loaf sugar;—rum and molasses;*—solutions of pearl ash, &c.—and has not the efficacy of these been repeatedly experienced by vast numbers?

AMICUS HOMINI.

CAUSES, PREVENTIVES, AND REMEDIES OF SPASMODIC CHOLERA.

Having pursued the study of chemistry, collaterally with medicine and physiology, from a comparison of facts in each branch, I had adopted the conclusion that *putridity* in the bile, in the contents of the alimentary canal, in the lymph, in the chyle, or in the nerves, is generally the proximate cause of cholera morbus, dysentery, yellow fever, typhus fever, &c. and hence that, cordial, restorative, and *antiseptic* remedies are the most appropriate, accompanied with mild cathartics, and sudorifics. I find in the Report of the French Academy of Medicine, ample evidence, (in my view,) of the truth of my theory with respect to the cholera, although the Com-

* I have lately heard that in New Orleans, a mixture of equal parts of rum, molasses, and honey, boiled down one third, is used with much success in the cure of common cholera morbus. A table spoonful to be taken three times a day.

mittee adopt the conclusion that the numerous necroscopic facts which they have collected afford no important elucidation of the character or cause of cholera. The presence of *rapid putridity* is palpably indicated in every symptom described by the committee during the progress of the disease;—and fully confirmed by every result developed by dissection. The appearance of the liver, the bile, the lesions, gangrenes, (*putridity of living flesh*,) injections, the state of the brain, the spine, and of the blood, the *free acid*, (septic acid?) concur in establishing this important fact; and especially the decisive circumstances published by the Russian surgeon, Sokolow, of Orenberg;—“a certain flaccidity, a softness of the muscles, and rapid tendency to putrefaction,” extravasated black blood between the cerebral convolutions of the brain, &c. In the common cholera, the putridity probably generally commences in the contents of the stomach and intestines, as it is frequently the result of damaged food, but it has a peculiar faculty of spreading itself rapidly, through the contiguous parts, by the same law that it does from a piece of putrid flesh in contact with a piece untainted. The putrid taint, effluvia, leaven, septic acid, or *morbid animalculæ*, of the Indian Cholera, may be propagated in filth and rags,* or from one victim to another, in the air through the medium of respiration, or cutaneous absorption, wherever predisposition exists. Hence if the bile and liver, blood and other fluids of one who is exposed to the infection of epidemic cholera, has been already subjected to a semi-putrid condition by the habitual use of alcoholic liquors, or various other *predisposing* causes, he is much more liable to a *successful* attack of the distemper than one in a sound *natural* state of health. And the same analogy will extend to all malignant epidemics.

As an important auxiliary in the prevention or cure of cholera or other malignant diseases, I would recommend the use of beds and quilts containing a compound of charcoal, oak bark ground soft, (that which has been used by the tanners,) or other bark containing *tan*, or the leaves of the hemlock tree, with straw. Frequent use of the warm bath, and washing with castile soap, ought to be punctually attended to.

* The appearance of the cholera at Riga, four days after the arrival of a large quantity of old filthy clothes and rags from the army in which the disease prevailed, is a conclusive confirmation of this assertion.

Among the numerous remedies adduced by the Committee of the French Academy, as the most efficacious, (derived from the practice of eminent physicians and surgeons in the East Indies and Russia,) are the following:—Opium combined with aromatic resinous substances, camphor, ether, or liquid ammonia, essence of mint and other aromatic oils;—large doses of ether;—aromatic infusions, acid drinks, especially the tartaric lemonade;—rubefacients, sinapisms, musk, vapour baths, sand baths, baths with a strong decoction of hay, purgatives, especially torrefied rhubarb; nitrous ether, oxygenated muriatic acid diluted with water; Riverius's draught; frictions with spirits of camphor, &c.

At Warsaw, Dr. Leo was convinced that the disease presented no inflammatory character. He opposed blood-letting as dangerous, and also calomel and opium, and in their stead he adopted his "method," as follows: Every two or three hours, 3 grains of the subnitrate of bismuth, in powder, combined with sugar. At the same time, he gives an infusion of balm, and directs frictions with a heated mixture of compound alcoholic tincture of angelica and liquid ammonia to be applied to the superior and inferior extremities. At a later period of the malady, he orders some torrefied doses of rhubarb in powder; but he very particularly insists upon the bismuth in powder, and he affirms, that he has not seen one of the numerous patients perish, who have been treated in this manner: the cure has in general been accomplished at the end of five days. In the opinion of Dr. Leo, blood-letting was rarely admissible, and only in young individuals of a robust constitution. M. Briere de Boismont, confirms the advantages of this method in some cases.

The Committee, however, arrive at the conclusion, (which they corroborate by the testimony of Dr. James Boyle, Dr. Christie, and Dr. M. Mausnier,) "that there does not exist, in the spasmodic cholera, a uniform, constant treatment applicable to all cases," and hence, "that we must vary the treatment according to each particular case;" "employ different medicines according to circumstances;" and that, "in this, as in many other diseases, we must expect every thing from the tact and judgment of the physician." The Committee give the following outline, as a summary of what they consider the proper general treatment: "To re-animate the

general action of the innervation, and to render the distribution of the nervous function more regular; to warm the cold surfaces of the skin; to call life and motion from the centre to the circumference." To promote the first object alluded to, they propose diffusible stimulants, and antispasmodics: such as Hoffman's elixir* mixed with essence of mint, which had been given with so great success at Orenburg, that it became extensively popular, and "every body took it by the title of preservative." They also mention volatile alkali in sweetened balm tea; strong doses of ether; a mixture of two parts of the essence of mint and one of laudanum, as having been used with great success.—To restore vitality to the surface, they recommend vesicatories, externally; and capsicum, Virginia snake root with cinchona, internally; and also James's powder, or Dover's powder.

ANALOGICAL EVIDENCE OF THE ANIMALCULINE CHARACTER OF THE CHOLERA.

Meeting with the remarks of Dr. Drake, in the American Sentinel, respecting the cause of cholera, I introduce them as incontestible and conclusive though circumstantial evidence of an important physiological *fact*, which I had long since *discovered*, (notwithstanding the Doctor's assertion to the contrary,) that all contagious, *prolific*, epidemic, endemic; malignant, infectious or pestilential diseases, result from *various species of animalculæ, like producing like*, as with visible insects or animals, generally;—but sometimes generated spontaneously, when the requisite materials and appropriate circumstances concur.—Every vegetable or animal substance contains in itself, the elements of both spontaneous and *generic* animalculine generation, the genera, or kinds, being almost as various and numerous as their sources.—Whenever a disease indicates a locomotive or contagious character, migrating from one house to another, or one individual to another, or from one city or nation to another, in ships, caravans, or with armies, whether by contact or atmospheric medium, in *succession of time*, a *peculiar genus of reproductive animal-*

* R. Peruvian bark, orange peel, and sub-carbonate of potassa, *aa* 2. Extracts of holy thistle, of small centaury, and of myrrh, *aa* 1; Madeira wine 48.

culæ is indicated.—Among this order may be classed, those prolific tribes, under the names of *itch*, *syphilis*, small pox, measles, scarlet fever, hooping cough, mumps, dysentery, plague, imported Cholera, influenza, &c. Those resulting from local spontaneous generation, such as in yellow fever, typhus fever, jail fever, bilious and intermittent fevers, are not uniformly (but sometimes partially) reproductive and migratory. These commonly result from animal and vegetable impurity and putrefaction. Gout, rheumatism, dyspepsia, pleurisy, and hæmorrhoids, are not known as contagious diseases, or reproductive, unless the gout, which is sometimes hereditary, as well as are also sometimes the organic constitutional diseases of debility, produced by intemperance.

Hence these diseases, as well as mechanical wounds, may be discovered to indicate a character very different from travelling diseases; for without organic life and the faculty of reproduction, the seeds of disease cannot be propagated from one individual to another, or from one country to another. The capacity of reproduction is peculiar to animal or vegetable life. Pure water, earth, or air, or gas, cannot multiply itself, either twofold or a thousand fold. Therefore drawing our deductions from the known laws of cause and effect, as well as from the almost equally conclusive inductions of analogy, we have now arrived at the possession of a palpable, invincible, and vastly valuable DEMONSTRATION, that contagious or travelling diseases must derive their locomotive and similar reproductive character, from the prior existence of organized living germs or *parents*, of the same prolific character; or those diseases or the *causes* of them, must cease where they began, like grains of sand or drops of sulphuric acid thrown into the eyes.

The *peculiar* poisonous, venomous species of reproductive insects, which are now ravaging in succession all the nations of the earth, under the name of Spasmodic Cholera, are not only the most virulent of any other heretofore known, but also extend their excursions and conquests much farther from their parental hives or nests, among the marshes in Jessore, between the river Hoogly and the Ganges. Hence it must be inferred that they are a *new* species. They commenced their journey in August, 1817, and travelled, or *propagated*

themselves through a country about one degree or 69 miles in extent in one month. In endeavoring to discover the *primary* source of these *modern* murderers of the human race, I indulged a suspicion almost amounting to confidence, that they were generated among the tombs, slaughtered armies, exposed to putrefaction in the rays of the sun, dead bodies floating in rivers, marsh malaria, or the domestic filth of Eastern cities and provinces. But when the adverse evidence presented itself, that these causes have existed for ages, producing only those malignant *endemic* insects which devour human life with equal voracity, but are restricted in their progress by seasons (or temperature) and *local* limits, the grand mystery seemed to be inexplicable and *confounding*: For while the latter only prostrated hundreds, or thousands, the former subdued millions! Having read of cases of immediate death resulting from the "*horrible stench*" issuing from the putrid *livers* of bodies subjected to the process of dissection,* in hot weather, I queried whether a more prolific, perennial, or locomotive species, might not have been generated in the liver, bile, or in the *nerveo-splanchnic* system of some *unburied* victim of the combined malignity of local cholera, intemperance, and filth.—I was nearly satisfied with this solution of the problem, until this moment, when, in examining the letter of Dr. Burroughs, for the purpose of finding the name of the district where the cholera commenced its career, I observed in a parenthesis, an incidental allusion to a circumstance which unveiled to my view (as I believe) the inexpressibly awful mystery with which the *specific* origin of this great scourge of nations has been concealed from human cognizance since it began its march of death 15 years ago. I believe I have discovered the fountains of putrefaction and destruction, the dens of those ferocious, insatiable wolves in miniature, which have devoured the vital fluids

* I must here record my unequivocal protest against dissections, as not only unessential, but disgusting, dangerous, and sometimes fatal; as I firmly believe was the fact with those valuable professors, Wistar and Dorsey. Having been presented with a ticket by the former, I attended his lectures, until, notwithstanding I was seated 60 or 80 feet from the table, I considered my health in danger from the rank effluvia (alias animalculæ) issuing from subjects (parts or whole) in a state of putrescency. Hence I believe that dissections multiply diseases more than they diminish them. It is another sufficient objection to dissections, that the bounty for procuring subjects, has often been, in fact, the wages of murder!! and may be again!!!

and organs of 40 or 50 millions of men. I proclaim the discovery to the world, with the most exquisite delight, such as accords with the immensity of its value to mankind. **THOSE PANDORIC FOUNTAINS ARE, as I believe, THE PUTRID INDIGO CISTERNS OF JESSORE.** I had already denounced indigo (among the *blue* colours) as a predisposing cause, but I did not then suspect it to be the original one. Indigo, prussic acid, prussian blue, and all blue colours are poisonous, and ought to be banished from human society by severe laws.

That the poisonous character of insects, as well as animalculæ, depends essentially on their origin, and quality of nourishment, is fully proved by numerous facts. The Lombardy poplar is said to produce a poisonous insect. Malignant fevers (called the potato fever) and dysentery have been known to result from the putrefaction of potatoes. The potato belongs to a poisonous class of vegetables, and the tops produce a most nauseous venomous bug. It is therefore presumable, that, as the indigo plant, (*merium tinctorium, indigo-ferra tinctoria,*) produces the most deleterious colour of any other, an acknowledged poison, the insects, animalculæ, or malaria, generated by its putrefaction in water, may be more pernicious and *more extensively reproductive*, than those which proceed from any other source.

Having frequently heard it mentioned, for forty years past, that the blue colour, and especially indigo, was poisonous, I have been astonished to see it in such universal use. The horrible putrid stench of the indigo dye-tub, (formerly a universal article of furniture in the corner of almost every kitchen fire place,) ought to have been a sufficient evidence of the deleterious qualities of indigo. The blue stockings and domestic plaids and stripes retain a similar offensive odour. Blue stockings have been long known to aggravate ulcers or eruptions on the legs. Indigo is indebted to putrefaction for its colour; and the same colour is well known to be an almost universal result or attendant of putridity whether vegetable or animal, and particularly in the blood.

Therefore besides recommending the suppression of the manufacture and the use of indigo, I would advise also that all the wool, yarn, thread, cloth, clothes, bedding, &c. either wholly or partially blue, now in existence on the earth, be

immediately immersed in lime water or chlorine gas, until the blue colour disappears.*

The following extracts from Dr. McCulloch's "*Malaria*," fully confirm my suspicions of indigo, which were reduced to writing, previous to meeting with his work.

"We might very naturally infer, that as certain parts of any vegetable are more prone than others to decomposition or putrefaction, and as there are also some plants which run faster into this state than others, so there might be important differences in the quantity, quality, or rapidity of the poisonous produce, connected as this is with the decomposition in question. If it is true that we have not as yet any decided evidence on this subject, there are not absolutely wanting some facts which appear to justify such a conjecture; such as the peculiarly poisonous effects of flax and hemp in this state; together with those of indigo, often observed, and those of coffee and other substances, as supposed to have been ascertained at New-York."

"The plague, [poisonous insects or animalculæ generated principally by animal putrefaction,] is actually as nothing in the scale of mortality, when compared to the diseases of malaria, [poisonous insects or animalculæ resulting from vegetable putrefaction;] to the fevers, the dysenteries, and the choleras of the tropical regions, and to all those endless consequences which disable those whom they do not destroy. Yet such is the weight of one name compared with another."

"THE CHOLERA.

"The Cincinnati National Republican contains two letters from Dr. Drake, an eminent physician of that city, on the subject of this pestilence. In the second, he enumerates several causes to which it has ordinarily been ascribed, to all of which formidable objections are raised. He then proposes the following as the one which appears to him the most satisfactory."

"The last cause of Cholera which I shall mention, is the *conjectured* presence, in the atmosphere, of flying insects, or *animalculæ*, too small to be seen by the naked eye, but which,

* It is a remarkable coincidence, that I should have selected lime water as a sovereign specific for Indian cholera, before discovering it to be the offspring of indigo, that material being used by chemists and dyers, to change to green, the *blueness* of indigo, by the abstraction of oxygen.

introduced into the lungs and stomach, operate on our systems as a poison. The suggestion of this hypothesis generally excites a smile of contempt and ridicule. Well, be it so. That such a smile is not merited, cannot be shown, but it would be easy to show, that it is equally applicable to every other hypothesis, hitherto invented; for they are all *inventions*. No *discovery* has yet been made.

'As a theory designed to explain the existing facts, I confidently believe it will go further than any other which has been struck out. The limits of this paper do not admit of all that could be said in its favor. Let us look at it a moment. 1. It is known to all the world, that many insects, either in their bite or sting, are decidedly poisonous—for instance, musquitoes and wasps. 2. Many kinds of insects appear in countless numbers, and in general, the smaller the more numerous. It is admitted by Naturalists that there are insects inhabiting the air, which are too small to be seen by the naked eye. 4. We know many species of gnats, which are extremely numerous, multiply themselves by depositing their eggs in the water, and extend from the tropical regions almost to the poles, flourishing equally in all climates. 5. Let us suppose a species of the same family so small as to float in the atmosphere unseen, to arise in Asia,—might they not spread themselves, by migration or on the winds, into other lands? Would they not keep along the rivers, in which they would lay their eggs like our musquitoes? Would they not frequent harbours? Might they not attach themselves to the caravans of travellers, and ships, and thus pass from place to place, multiplying to a fatal degree wherever they found stagnant water, morasses, and wet filth in which to deposit their eggs? Might they not be wafted on the winds to high and salubrious situations, in many of which the disease has actually appeared? Might they not swarm about the poor and filthy, in preference to those in more comfortable circumstances? Is this not the case with many insects and small parasitic animals? Finally, might not ships import them, to multiply as new colonies remote from their birth place? And under this view may we not reconcile much of the discordant testimony, on the subject of contagion and importation?

'The cause of the disease may be *importable*, but the disease itself cannot be contagious.

'Now, I would ask, which theory, of all that have been proposed, calls for better regulations than the animalcular? It teaches us that the quarantine may *possibly* do good, but is not to be relied on, as the enemy may come on its own or the wings of the wind; it teaches us that we are in no danger, when in sentiments of duty or affection, we stand over the

sick and dying; it calls on us to remove moist filth and stagnant water, and keep ourselves in dry places; it requires us to keep out of the evening air, for instance, and all experience demonstrates the utility of this precaution; finally, it teaches us to keep ourselves in the most regular health possible, as insects of every kind prey more fiercely on the sick than the well.

'I do not pledge myself to this hypothesis, but wish to protest against a blind acquiescence in any other yet proposed, and especially that of contagion. For practical purposes the animalcular theory seems to me preferable to any of the rest. It explains much that has been observed, enjoins much that experience has shown to be necessary, and commands us to nothing, which experience has proved to be improper—recommendations of no ordinary character; although they fall far short of establishing its truth.'

THE GRAND CHOLERA MYSTERY UNVEILED BY OCULAR EVIDENCE.

Since writing the preceding pages, further evidence has supervened, which being of the sensitive (ocular) kind, will corroborate if not confirm the animalculine theory, therein assumed.

Where individuals, independently and far remote from each other, investigating the same subject, arrive at the same conclusions, it is presumptive proof of their correctness. And when such conclusions are further corroborated by concurrent facts, the matter may be safely considered as settled.—Having adopted the decided conclusion many years ago, that all malignant, infectious, contagious, pestilential and *locomotive* diseases, result from animalculæ or insects, I classed the cholera asphyxia *migratoria* among those diseases, as soon as I saw the history of its commencement and progress. It is well known, that in hot climates, both animal and vegetable putrefaction, gives birth to numerous swarms of insects of various sorts and sizes. The most pernicious of these, are either invisible, or so small as not to be observed by those who neither know nor suspect their existence or their noxious character. Since I decided upon the cause of cholera, and recorded my sentiments, I have observed that several others have also adopted the same hypothesis. Dr. Hahnemann

of Europe, professor Rafinesque, Dr. Drake and Mr. Hammond of America, are all that I have heard of, who have adopted it, and one of these, (Dr. Drake) is not fully confirmed. By some it is derided as a ludicrous *notion*. But ridicule cannot alter facts. But to come to the point, What is there, subject to the laws which govern *matter*, in our department of the solar system, that can travel, or move *against the wind on land* two or three miles a day, except animals or steam engines, or except by their assistance? If the negative is the true answer, the cholera must result from a *self moving living cause*, travelling without *relying* on the wind, like ships on the sea. To me it seems astonishing, that among all the philosophers and physicians of various nations, who have reflected and written on this subject, none of them have considered the fact just mentioned as *conclusive*, without regard to the multiplicity of others, amply sufficient without it.

Dr. Binaghi says, "The direct cause of this malady is unknown, in spite of the most minute observations which have been bestowed upon it; nor has any thing been discovered sufficient for the forming an opinion or hypothesis."

The Committee of the French Royal Academy of Medicine, in their Report on Cholera, say, "Nevertheless, the extension to a distance of the Cholera, as it now reigns over several parts of Europe, is an incontestible fact; this enormous fact surely implies causes which are peculiar to it, and the knowledge of the causes of this phenomenon would be of immense benefit to mankind.

"We may safely affirm, however, that the special manner in which the cholera is developed, the essential cause of its extension, are entirely unknown to us; this is, at the present day, the most essential point to be illustrated in the general history of the disease; it is this which should be proposed to the investigation of learned men in every country. Upon other questions, which are connected with the pathology of cholera, observation has not left us entirely destitute of guides and illustrations, we possess data which are peculiar to this disease. But as to the mode of transmission, setting aside general ideas, we have every thing yet to discover, almost every thing to learn."

Until recently, I did not know of any means of ascertaining the cause of this pestilence, except by its origin, its effects,

and its *divergent* and *successive* mode of extension. To myself, these evidences of the *animality* of the cause, were as satisfactory as the branches of a tree are, that it has roots, or as a river is, that it results from numerous fountains which I never saw. But since the arrival of cholera in this city, I have *seen*, as I believe, the *monster in miniature*, the results of whose *voracity*, is improperly called Cholera. I had already concluded that this little monster was *visible*, and that its colour was *red*, when I saw the account in the papers, of the phenomenon stated to have occurred in France, of a red appearance of pieces of cloth, spread on the ground in bleaching, during the prevalence of the disease in the vicinity. Since the arrival of the Cholera here, very small red insects have several times exhibited themselves on my paper, upon which I was writing; and yesterday one of them was caught while stinging one of the family. I examined it through a small magnifying glass, but it was so extremely small, that I could not distinguish its shape. It appeared some like the flea. Its motion was of three kinds, creeping, jumping and flying.

This character of the *cause* of cholera, explains the mystery of the arrival of the disease in advance of the caravan, which it travelled with, at one of the Turkish cities.

Since having seen these insects, I have been informed by an acquaintance, that a piece of white flannel having been lately spread upon the top of a house in Kensington, it assumed a red appearance in the morning after, which was found on examination with a microscope, to result from numerous red insects. Combining these facts with the circumstances attending the origin of this *new plague*, among the stagnant waters, the marshy "sunderbunds," (islands,) thick jungles, and the putrid indigo cisterns of Jessore, in a hot climate, and sultry season of the year, the induction is unavoidable, that the far famed mysterious cholera, is *nothing* but a *little red gnat, flea, fly*, or other *insect*, flying and skipping over the earth in pursuit of food congenial with its *putrid origin*, and depositing its eggs, or larvæ, according to the same rule,

* Since the above was put in type, and nearly ready for the press, I have examined Rees' Encyclopedia, and found a description of an insect, the appearance and character of which correspond to the appearance of the insects which I have mentioned, and also to the existence of Cholera in all climates and seasons. It belongs to the genus *Monoculies*, species, *Pulex fluviatilis*, *small water flea*. It is red, and not limited to seasons or latitudes.

either in masses of already putrid matter, or in the flesh of living animals, where putrefaction* is the rapid consequence, unless prevented by seasonable antidotes. These or similar insects are the cause of epizooties in animals, as well as the cholera epidemic in men. The mode of destroying and expelling them, I have already described, in the former part of this work. The following simple prescription, by which nearly every one, among several hundred patients, were cured, is precisely adapted to the *repulsion* of insects, if that should be preferred to *killing* them. Camphor is well known to be an effectual antidote to moths, or other insects, and also to putrefaction: hence, its success in curing cholera, even in very small doses, is not very surprising to me.

CAMPHOR TREATMENT OF CHOLERA.

We have received a communication from William Channing, M. D. giving an account of the treatment of the Cholera by Spirits of Camphor. It appears that out of *two hundred* persons attacked by the epidemic, within his practice, all were cured except *four*, and these four died of other disorders superadded. The writer thinks that camphor is a certain specific for the disease in every stage. The treatment is—from *one to three drops* of spirits of camphor taken in a little water, every hour, or every two hours, according to circumstances, until a re-action has completely set in. It has the merit of being a simple remedy.—*New-York paper.*

From the National Gazette.

Extract of a letter from a highly respectable gentleman in New-York, dated July 31:—

“OF THE CHOLERA.—Will you be implicitly guided by me—you and your friends? If you will, dismiss your terrors, and adopt the following directions—namely—Take one ounce of camphor and dissolve it in half a pint of alcohol; of this solution, which in quantity will serve a multitude of occasions, the dose is only three drops on a lump of sugar dissolved in a small wine glassful of water—the sugar to make it palatable; the water to extend the camphor over a large space of the stomach. Here is no nostrum, no trick of empiricism. It is simple: but let not its simplicity offend—for

* It is probable that these insects are provided with a venomous, or putrefying liquid, for the purpose of killing their prey, as is the case with many animals and insects of the reptile species.

it is effectual. Take no other *medicine*; and if life is to be saved by this treatment, touch nothing in the *shape of opium*—it is the antipodes of camphor and would destroy its efficacy.

“Do not stagger at my recipe: it is a specific. Where no excess has been committed, nor imprudence of diet, nor the system been greatly debilitated by previous sickness or old age, three drops as directed on the occurrence of any of the premonitory symptoms of Cholera, such as nausea, vomiting, cramps, or, the most usual diarrhœa, taken immediately, will relieve the system. If the symptoms are obstinate, repeat the dose in about an hour. In case of a sick stomach, if the first dose is rejected, give a second one, precisely the same, at intervals of five minutes, by the table spoonful. The Cholera is a disease of stages—it never comes without notice; the first premonitory stage is easily and safely, and completely cured by three drops of camphor. Taken in time, you will not have the second or dangerous stage; and even in collapse it is the only sure remedy.

Let no one having a bowel complaint think it will go off harmlessly. It may; but there is danger, perhaps death in the contingency. The three drops of camphor will compel it to go off without injury, ninety times in a hundred. I can testify personally to the truth of these statements.

From the United States Gazette.

CHOLERA.

A gentleman who has recently returned from Europe and who has been in various places on the continent and in England, where this epidemic existed, and by his observations and inquiries, understood and believes that the disease is epidemic, and not contagious; says that all precautionary or quarantine regulations and restrictions prove useless and abortive. In Hungaria, Bohemia, and Prussia, where at present no restrictions are in force between the places where it exists and healthy districts, the cholera appears here and there, in places leaving towns and villages frequently intervening entirely free and healthy.—All medical experiments on the old system in arresting or curing this malady in Russia, Austria, Prussia, England and France have proved contradictory and useless in cases where the true characteristic symptoms were prevalent and unequivocal.—The only cures that have been performed in real and decided cases have been those that were founded on the principles of the new theory of the practice of medicine.—A number of cases of real cholera in the 2nd and 3rd stages in Moscow, Pest, Offen, Vienna, Prague, Halle, and Berlin, that were given up as lost by Phy-

sicians of the old school were cured on the principles of the new system, by adherents of the great medical reformer Samuel Hahnemann, who is now in medical practice upwards of fifty five years; the most celebrated Physician, Physiologist and Chemist now living. This method in arresting and curing the true spasmodic cholera is precisely the same as that advertised by Doct. Charles Ihm of this city, and it is the only and true method of arresting the progress and curing of this disease.

Rely on camphor only in the first stage; in the second and third stages, on cuprum and veratri album; according to circumstances, on which the Physician only must decide.—Of all remedies beware of bleeding, calomel, opium, and injection into the veins, which will prove fatal nine times out of ten. As preventive medicine, nothing is equal to a preparation of copper, which is not in the least injurious to the system.

PROXIMATE AND PREDISPOSING CAUSES OF CHOLERA AND OTHER EPIDEMICS.

Having delineated the principal primary remote causes of Cholera and other malignant epidemics, I will now proceed to a brief sketch of the proximate and *predisposing* causes of those and many other diseases. The predisposing causes of disease, and debility (which is itself a predisposing cause of almost every disease,) may be traced to numerous sources, dispersed among the national, social, and domestic customs and habits of the inhabitants of the earth. The wide extended field of these sources, comprises innumerable errors in diet, medicine, clothing, domestic habits, &c. And as *poverty* is often charged with being one of the most prominent predisposing causes of Cholera, I shall describe and proscribe the *causes of poverty* among the rest.

To attack ancient and favorite habits and prejudices, is not a very encouraging or agreeable undertaking. While error is venerated for its antiquity, truth is discarded for its novelty. But there is great consolation in the consciousness of having done our best to benefit our fellow men, even if our good offices are not kindly received or duly appreciated.

As it is my design to promote the prosperity of society in the aggregate, it is hoped that individuals whose occupa-

tions depend on those popular follies which I shall endeavor to exterminate, will not be offended at the course, which a sense of duty impels me to pursue. "It will be impossible to do much good without some persons accounting themselves injured by what you do.—You will unavoidably serve some interests to which others are inimical."* I cannot subscribe to the doctrine of Goldsmith and Franklin, that luxury and fanciful fashions are beneficial on a general scale, because they multiply employment for the laboring classes of society. The *real and rational wants* of mankind are so numerous, and so often *unsupplied*, that it will be a long if not endless period, before no *useful* employment can be contrived for indigent industry. Let possessors of superfluous wealth appropriate it to the employment of poor laborers, in the construction of permanent dwelling houses, factories, rail roads, or some other necessary mechanical, agricultural, or commercial employment, instead of wasting their property in luxury and useless ostentation. Such a policy will advance the moral and physical welfare of both rich and poor.

It is painful to see a British Prince Regent recommending a revival of the use of shoe buckles, for the purpose of furnishing employment to indigent mechanics, when but for the destruction of such an immensity of property, within a century, by false pride, luxury, and extravagant ambition, a nation combining the genius, industry and resources of Great Britain, would now find itself overflowing with wealth and general prosperity.

To scrutinize and determine the propriety or impropriety of ideas and habits acquired from precept or example in early life, (when their correctness is not called in question,) we need the faculty of divesting ourselves from the influence of previous impressions, and of viewing things with which we have been long familiarised, as though they were newly presented to our senses.

What is the design of our existence? What path are we destined to tread, and what are our relative duties? Have we not vagrated from our appropriate orbits? Fellow travellers, we have strayed from the circle marked by our divine Father, and plunged ourselves into a wilderness of

* Cotton Mather's "*Essay to do good.*"

error, in which our lives are beset with perplexity, and terminated prematurely. Regardless of the shafts of wit or resentment, or the imputation of eccentricity, I shall endeavor to exhibit a faithful chart of the mistakes and *eccentricities* of society.

Does man make use of the kinds of food to which nature has adapted his constitution and organization? The proper food for all other animals, may be ascertained with considerable exactness from their construction. Thus the lion, the tiger, the wolf, the dog, the cat, the owl, the hawk, &c. are evidently qualified and destined to seize and devour other animals:—the ox, the sheep, &c. to feed on grass and the leaves of plants:—the squirrel, &c. on seeds and nuts. Hence there is no evidence in the construction of the human body, that we are, by nature, a carnivorous animal. Those human teeth, erroneously denominated by naturalists canine teeth, have no resemblance to dogs' teeth, which are round and pointed. Our grinders are not fluted like those of the rapacious animals, (Feræ.) They resemble those of the other animals of the order Primates, to which man belongs, and in which no other species but man subsist on other animals, and also those of the squirrel race, (Glires.) Man was unquestionably destined to subsist on milk, eggs, farinaceous seeds and roots, pulse, nuts, fruits, &c.—These substances have been repeatedly demonstrated to be sufficiently nutritive, and more favorable to health and longevity, than the flesh of animals. Several individuals in England and the United States, have renounced that food which has already served as a vehicle of animal life, and are enjoying an improved state of health. The writer of this work, has attained a degree of health, by abstaining totally from the use of flesh, tea, coffee, sugar, and spirituous liquors, which, compared with his former hopeless condition, is a phenomenon. "Many millions of the inhabitants of India, called Gentoos, never eat flesh or any thing that has lived, but subsist chiefly on rice and fruits, and enjoy health and strength, and long life."—(Blair's Universal Preceptor.)

The putrid decomposition peculiar to the flesh of animals after death, must generate many malignant and fatal diseases, from which man would be exempt, were he to restrict his appetite to the vegetable kingdom. But if so

great a reverse of habit as this should be impracticable, it would still be an important acquisition merely to have banished from the human table, the flesh of swine. The boar belongs to the order *Belluæ* in natural history; and is the only animal of that order which man devours. The ancient Patriarchs very properly prohibited the eating of his "*unclean carcase*:" Lewis Cornaro, a Venetian, who informs us that he regained his lost health, and prolonged his life to the age of upwards of one hundred years, by regulating his manner of living, says he found pork, pastry, &c., to be injurious to his health. The writer has experienced much worse effects from the use of the flesh and fat of the hog, than of the ox or sheep, which belong to the order *Pecoræ*, and are graminivorous animals.* Of birds, those of the order *Gallinæ*, or poultry kind, are much preferable to those of the *Censores*, or duck kind. If animal food is taken at all, it should be used only at dinner, with four times its quantity of vegetables, and by no means for supper: for the atmosphere supplies a much less quantity of oxygen gas, more of which is necessary for the digestion of flesh than of vegetables, in the night than in the day time. Veal and the flesh of all young animals are unfit for human food, and predispose the system to cholera.

Of vegetable food, the most mischievous articles are sugar, pastries, sweetmeats, preserves, gingerbread, shortened cakes; sugar candies, toys and lozenges, &c. the manufacture and sale of most of which, ought to be prohibited, as public nuisances; of the perniciousness of which, children and ignorant people are incapable of judging. If we do not trespass on the province of the wolf and the vulture, in feeding on carnage and blood, we certainly do on the rights of the ox and horse, in adopting sugar, (or salts of a species of grass,) as an article of aliment. It requires but a small share of common sense to perceive that the juice of the stem of the corn plant, exists not in equal perfection with the ingredients of the mature seeds. The difference between the sap and seeds of vegetables, is much the same as between grass and

* Dr. Willich in his treatise on regimen and long life, says that pork is very injurious to consumptive and scrofulous persons, and ought to be eaten only by those who have strong bile, and athletic constitutions. Mr. Russell, a gentleman of the state of Maryland, who had been in bad health many years, recovered immediately on abstaining from pork, by the advice of a physician. Pork is almost universally denounced by physicians as a predisposing cause of Cholera.

the milk of the cow. The sugar of cane contains too much acid (chiefly oxalic acid,) to be applied, habitually, either to the human teeth or stomach. It contains 64 parts in a hundred of oxygen, and is used externally as an escharotic. Medical writers differ in their opinion of its fitness for human food. Darwin considers it to be innocent and salutary. Locke, Buchan and Willich, think the free use of it pernicious.* The writer has experienced and witnessed such effects from the use of sugar, as to be fully convinced that it ought to be expunged from the catalogue of human aliments. It is no libel on its character, to say, that it is a poisonous substance, and acts as such on debilitated constitutions; decomposing the teeth, producing thirst, palpitation, fever, head ache; and acidity and pain in the stomach. It is generally conceded that it generates worms in children. It is employed to disguise the taste of several other pernicious articles; as tea, coffee, distilled spirits, &c. until the reluctant appetite is perverted and reconciled to their daily use. These four insatiable but fashionable leeches to the public wealth and canker worms to health and life, ought to be exterminated, if it were for no other reason, than their enormous expense; but still more for their deleterious effects. The mischief of coffee and tea, is doubled by the hot water in which they are drank. Coffee is the product of a poisonous shrub, and though a useful medicine, if drank constantly, will at length induce a decay of health, and hectic fever † Tea possesses an acrid astringent quality, peculiar to most leaves and exterior bark of trees, and corrodes and paralyzes the nerves; as experienced by Wesley, and thousands of others, as well as by the writer of these remarks. How shall we account for this universal infatuation? Is nature so partial and niggardly, that she has denied the American continent a single product, fit for an infusion at our tables? Is it fashion, pride, depraved appetite or reason, that induces almost all the inhabitants of America, to drink East India tea, and West India coffee, in preference to those agreeable, salubrious and plentiful fluids, water, and milk. Professors of religion and humanity,

* Dr. Willich says that sugar produces mucus and acid in the stomach, and injures digestion; and that it ought to be used very sparingly by debilitated persons.

† See Dr. Willich's Art of preserving Health and prolonging life.

ought to reflect, that in purchasing sugar, rum, coffee, &c. produced from the labor of slaves, they become voluntary participators in the injustice of slavery, equally as they would in the crime of piracy, by purchasing its plunder, and thereby encouraging its perseverance and extension.

Another general defect in domestic economy, is the usual method of preparing bread. The fermentation of bread, is a chemical process; and every bread maker ought to be acquainted with the elements of chemistry. Bread is generally injured by being fermented too long.—The baker, intent on giving his bread the greatest possible sponginess and bulk, suffers it to remain so long in a state of effervescence, that its wholesome constituents are decomposed, and converted into an acid, incipiently putrid, and much less nutritious state. The original intention of raising bread by the expansion of carbonic acid, could not have been to decompose it, and reduce it to the state of the yeast with which it is mixed. But these effects occur very rapidly, if the fermentation is continued more than two or three hours. Bread is much more wholesome, made up with water, or gruel, than with milk. The milk, being prevented from coagulating, clogs and oppresses the organs of digestion.

It is a very mischievous and reprehensible practice, from which bakers ought to be prohibited by the laws, to mix alum, pearl-ash or any other drug, with bread. It is to be regretted that so many people, particularly in towns, use bread immediately after it is taken from the oven. Both for the sake of health and economy, it ought to be seasoned at least 24 hours before it is eaten. The injury of hot bread is increased when used with butter, as melted butter, with new or toasted bread, or any other way, is very difficult of digestion and unwholesome.*

The custom of drinking spirituous liquors, has become so extensive and enormous an evil, in its moral, political and physical effects, that it is the duty of the government to regulate, and set bounds to its ravages. It is feared that the expostulations of moralists, will have but trifling effect, in

* Bread, after all, is most nutritive, healthy, economical and palatable, prepared simply with water, or beer, without fermentation, in the manner of the ancient Romans, and of the people of Scotland at the present day.

checking the progress of this powerful monster; the offspring of ignorance* and depravity.

Of all the *direct* causes of poverty, vice, crimes, disease, and misery, and of all the *predisposing* causes of Spasmodic Cholera, the habitual and intemperate use of spirituous liquors, is the most prominent, universal, and *positive*, except prostitution and debauchery. The votaries of vice, dissipation, luxury, and sensual pleasure, have been uniformly the first and most numerous victims. May not this awful fact, this tremendous warning, eventually save more lives than the disease has destroyed, although 50 millions?

The increasing habit of chewing, smoking and snuffing tobacco, is too mischievous a trespasser on the public health and wealth, to be excused from an examination at the bar of reason. We shall not refuse tobacco the credit of being sometimes medical, when used temperately, though an acknowledged poison.—While it relieves some diseases, it aggravates others; and is both unnecessary and pernicious to persons in health, especially to youth. Chewing tobacco is almost uniformly injurious. Constantly exciting a discharge from the salivary glands, it exhausts the body of one of its most important fluids: produces obstinate chronic diseases; weakens the organs of digestion, and shortens the term of vital excitability and life. Young persons ought to be prevented from contracting a habit, which is so very reprehensible, both for its waste of vital power, and property. The same may be said of smoking tobacco, except that it is more injurious, because commonly practised in greater excess, and in the form of segars; it is more expensive. Snuffing powdered tobacco, when habitual is disgusting, like both the other modes of using it, and injures the whole nervous system, as well as the sense of smelling. Hence this poison may be justly proscribed as one of the *predisposing* causes of Cholera Asphyxia.

Besides the calamities which men bring on themselves by swallowing improper articles of food and drink, they unwarily incur still more fatal injuries, by disregarding the quality of the air which they breathe. The most universal source of contamination to the air of our dwelling houses, factories, school houses, and churches, is the use of iron stoves. The

* Ignorance of the chemical properties of alcohol, and of the laws of excitability, or waste of vital power by extra or unnatural stimulus.

bad effects of stoves are acknowledged by nearly all who use them; but are supposed to be counterbalanced on the score of economy. This is a most egregious and lamentable mistake.—Is health and life, to be put in competition with temporary and imaginary saving of money? Yet money ought to be religiously economised. But the economy of spoiling the air for respiration, with iron stoves, is as inconsistent, as the economy of depriving the stomach of its requisite quantity of food. A due quantity of vital air, (oxygen gas,) is as necessary to the lungs, as the proper quantity of food, is to the stomach. Heated iron absorbs oxygen rapidly, and at the same time, exhales a deleterious suffocating effluvia. This accounts for the distressing head ache, which every one suffers, who breathes the atmosphere in the vicinity of a heated iron stove. The pain in the brain, occurs from the want of a sufficient oxygenation of the blood in the lungs. A similar effect has been produced on quadrupeds, by causing venous, instead of arterial blood, to pass into the head. The writer rejoices that he is not alone in his opinion of the pernicious consequences of the custom of using iron stoves.* An intelligent gentleman has lately declared, that if he were obliged to give 40 dollars a cord for wood, he would burn it in an open fire place rather than a stove.—But stoves might be constructed of brick or stone, even with less expense than iron, and much more salubrious. Whatever kind of stoves are used, the invisible fumes of the coals, should never be forced into the room by valves, or ovens receiving them into their cavity. The injury of the smoke of wood, to the eyes, is not so great as that of the vapours of burning coals, to the lungs.

The writer of these observations, has suffered such severe injuries to his own health, by being exposed to the effects of a stove, while pursuing a course of study at a boarding school, and he is so perfectly convinced of their unprofitableness, from the statements of others, as well as from chemical facts, that he recommends it to his fellow citizens, who are using close iron stoves, to destroy or lay them aside without delay, and warm their rooms in some other manner. Besides the noxious effluvia emitted from stoves, they generally produce a

* If stoves *must* be used instead of open fire places, they should be made of well burnt brick, or stone;—or, if made of iron, surrounded entirely with brick, so as to prevent the access of the air to the *heated iron*.

much greater degree of heat, than is salubrious; and a kind of heat, which being unaccompanied with *light*, is deleterious to life.* I must therefore condemn metallic stoves, (unless surrounded by brick, stone, or mortar,) as *positive* causes of debility, and numerous ordinary diseases, consumption, dyspepsia, &c. and consequently the predisposing causes of spasmodic Cholera.



OUTLINES

OF

A NEW, UNIFORM, PHYSIOLOGICAL SYSTEM

OF

MEDICAL SCIENCE AND PRACTICE,

FOUNDED ON THE KNOWN LAWS OF NATURE AND CHEMICAL AFFINITY.

The fundamental rules of a physiological system of Medical Science, may be exhibited in a few words, and the essential principles may be comprised in a single sentence:—Remove the exciting *cause* of disease, and nature heals herself.—or, remove obstructions and restore perspiration.

1. All the motions of animal life, voluntary or involuntary, are produced by the transmission of electric fluid from the brain, through the nerves (conductors) to the muscles, glands, arteries, veins, the heart, lymphatic tubes, absorbents, and all the active organs of a living body.

2. The cause of motion by the agency of electric fluid is *mechanical dilation* of muscular or other fibres, producing *contraction of length*, in proportion to the expansion of their *diameter* or lateral bulk.

Illustration.—Saturate a rope with water, and its length is diminished.

Or, apply electric or galvanic fluid to the nerves of an animal immediately after the extinction of life, and the muscles attached to those nerves will contract.

3. The involuntary motions are assisted by voluntary motions, by the pressure of the surrounding atmosphere, and by the gravitation of the body.

* The sulphureous exhalations, common to new cast iron stoves, may be in a great measure prevented by heating them to redness, and keeping them in that state several hours.

4. Voluntary muscular exertion, or *useful* manual labor, is attended with four important results:—1,—It augments the accumulation and expenditure of electric fluid;—vitality being in its highest perfection in proportion to the rapidity of both these results, provided that rapidity is not so great nor so long continued, as to paralyze the excitability:—2,—It accelerates *all* the involuntary motions;—3,—It assists digestion and absorption by mechanical pressure:—4,—It engages the attention, which, connected with the prospect of the fruits or rewards of labor, excites, *cheers*, and animates all the functions of life.

5. The lungs or pulmonary organs, are destined for the reception of oxygen, caloric, and electric fluid;—and for the expulsion of carbonic acid gas, and steam.

6. The proper office of the stomach is to receive and digest nourishment and drink, which ought to consist of substances which will absorb or attract electric fluid, oxygen, and caloric;—the former being derived from the brain, through the medium of the large pair of nerves called the *Par Vagum*; and the latter, both, from the lungs, through the medium of the blood, the whole three constituting the *active* agents in what is called gastric and pancreatic juice.

7. Hence, the food should never be non-electric, nor already nearly or quite saturated with oxygen, or caloric. Thus, whatever is sweet or sour, or saline, is generally unwholesome for food, but may in some cases be admissible as medicine;—all those states indicating saturation with oxygen. Although the chyle, when prepared for reception into the blood, contains much saccharine matter, yet sugar is improper for food, (in the human stomach,) on account of its incapacity to attract, absorb, and combine with *all* the oxygen deposited in the organs of digestion from the blood, hence producing acidity and other hurtful effects.

The most salutary food for the human species, is probably to be found among the farinaceous, oleaginous and mucilaginous seeds, (bread unfermented,) roots, nuts, and fruits, milk, butter, cream, eggs, &c. Water, cool and pure, is, without doubt, the best and most natural beverage.

8. I have commenced my system of medicine by a brief description of the natural and artificial agents for the sustenance and preservation of life in a state of health, as an ana-

logical guide in the choice of appropriate *natural* medicines for the cure of diseases.

9. Oxygen, being every where present, wherever the atmosphere extends, is the most universal cause of disease. If the nerves and flesh are exposed to its action, inflammation and pain are the consequence. The most active poisons, oxides and salts of arsenic, lead, antimony, quicksilver, silver, &c. are principally indebted to oxygen for their poisonous properties.

10. Hence the introduction of oxygen into the stomach in a *concentrated, un-neutralized* state, is unnatural and dangerous.

11. Therefore oxidized metals, and metallic salts, are *unnatural, improper* medicines, and liable to produce more distressing, dangerous and incurable diseases than those which they *sometimes* cure.

12. The *natural* and *proper* and *safe* medicines, are precisely the reverse of those generally used; they should be almost entirely selected from the products of vegetation, carbonic, or hydrogenous, having an affinity for oxygen instead of being entirely saturated with it.

Until within a few centuries, or comparatively until within the last century, man selected his medicine principally from the products of vegetation. But an era of art has commenced. The palpable voice of nature, and the experience of preceding ages, have been set at nought, and man now corrodes and racks his delicate fibres, with almost every metal and mineral, which the bowels of the earth afford. Not contented with the metal in its virgin state, he combines with it the most furious mineral acids that nature and art can produce. These herculean agents will unquestionably destroy formidable diseases: but can it be expected that while the enemy is *blown up*, the citadel shall remain unshattered.—Calomel (a salt composed of muriatic acid and quicksilver, alias sub-muriat of quicksilver) is adopted as a catholicon, or panacea. A book has been published by a French physician, on the diseases produced by calomel. If the caution of the ex-emperor of France, to Dr. Warden, respecting the use of *mercury*, should be heeded as it ought to be, by all the practitioners of medicine, he will have paid a debt which he owes to mankind, by *preventing* eventually, the destruction of as much

human strength and life as he has been the cause of destroying in all his wars!

Why is medicine almost universally dreaded at the present day, more than diseases? Because medicine is almost entirely composed of *oxidized metals*; which too often produce more obstinate and lasting diseases than those they cure, and may properly be classed among the predisposing causes of the spasmodic Cholera.

SOLEMN ADDRESS AND ADVICE TO PHYSICIANS.

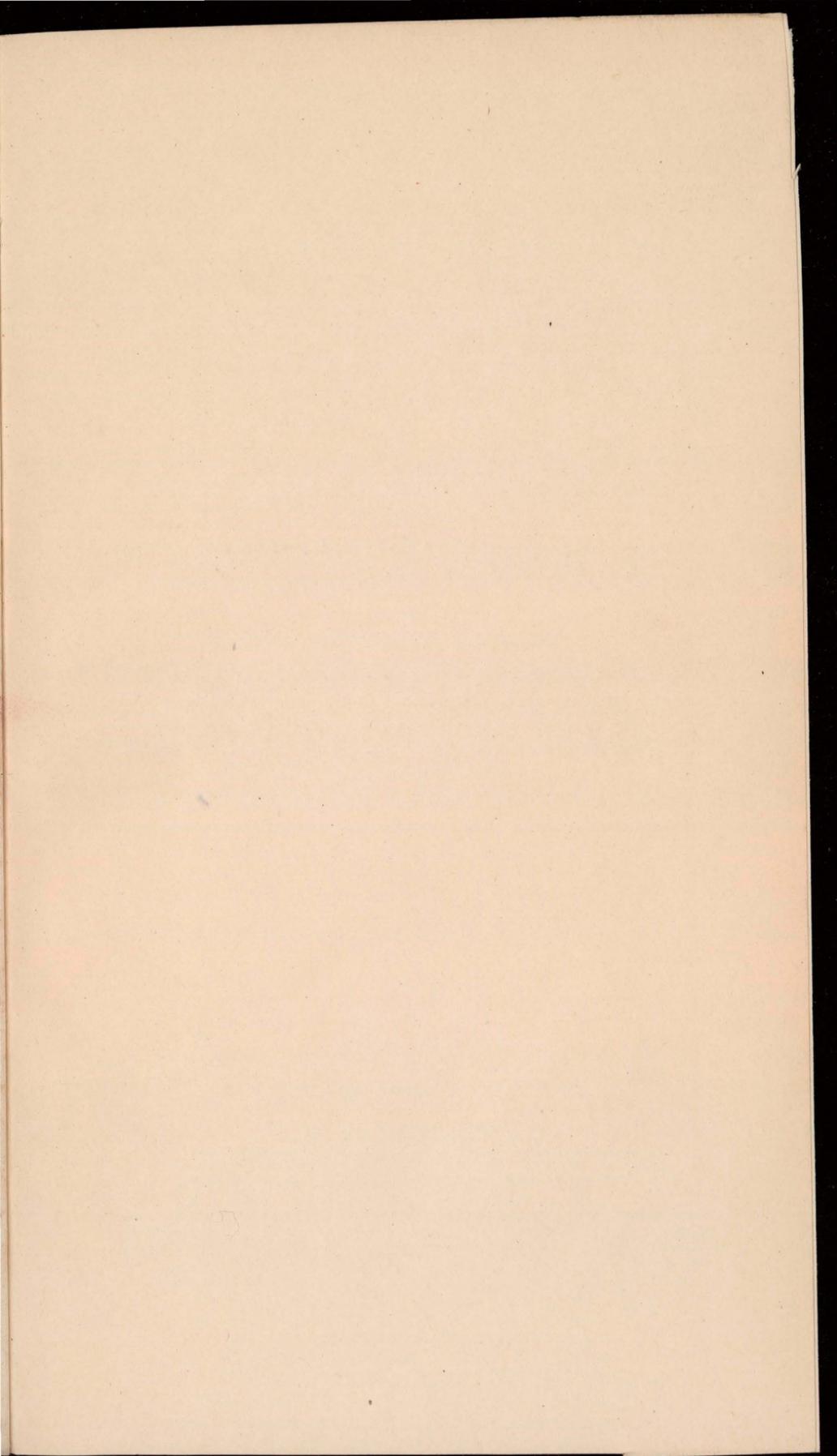
O ye sons of Pæon! restore your dismal mines, and your fuming laboratories, to the workers in *arts* and trades, and return to the *flowery* paths of *nature*. Did not Hippocrates and Galen purify and revive the streams of life, without the aid of *mines, furnaces, crucibles* and *retorts*?

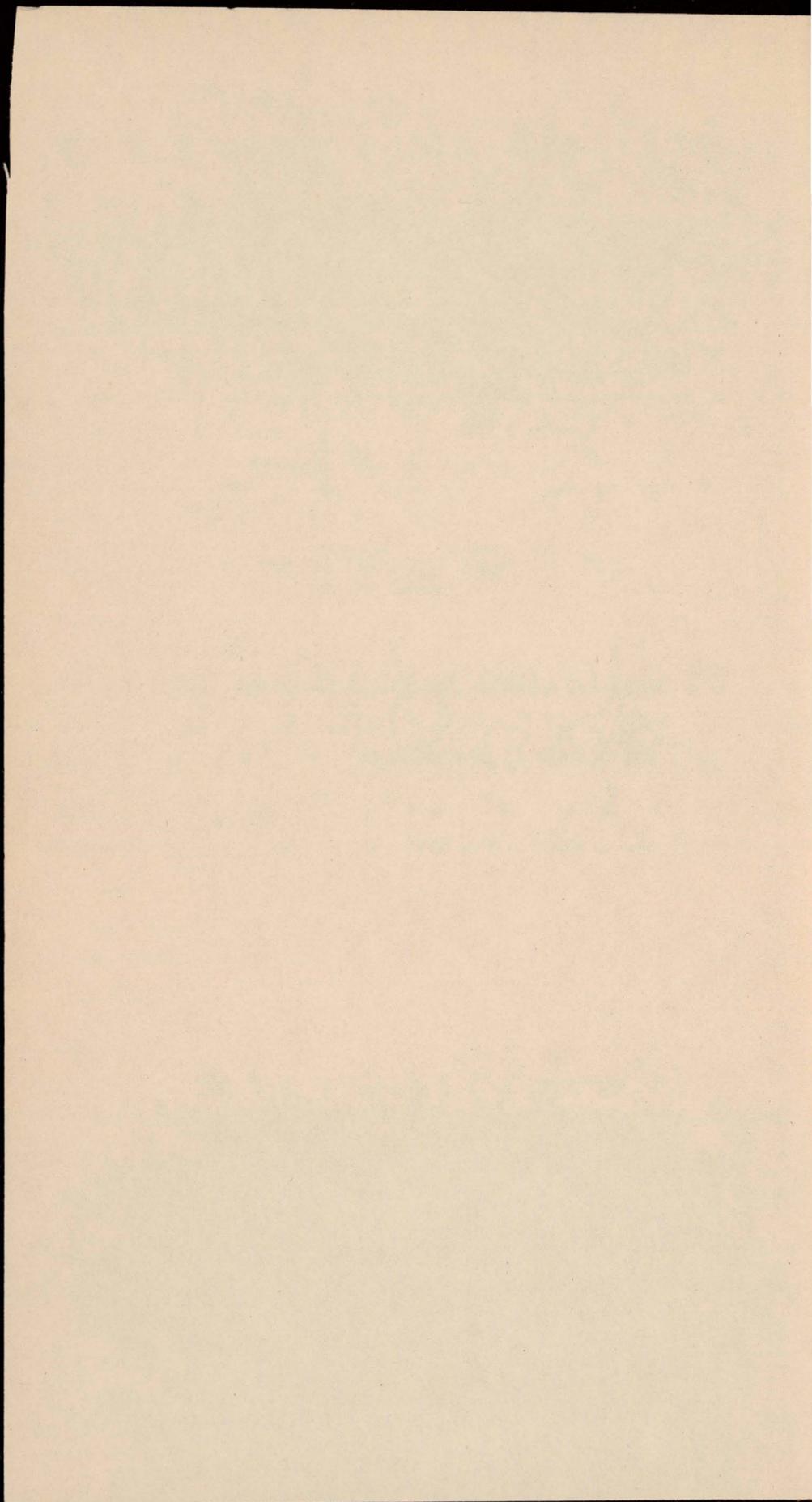
A SERIOUS ADDRESS TO THE HUMAN FAMILY.

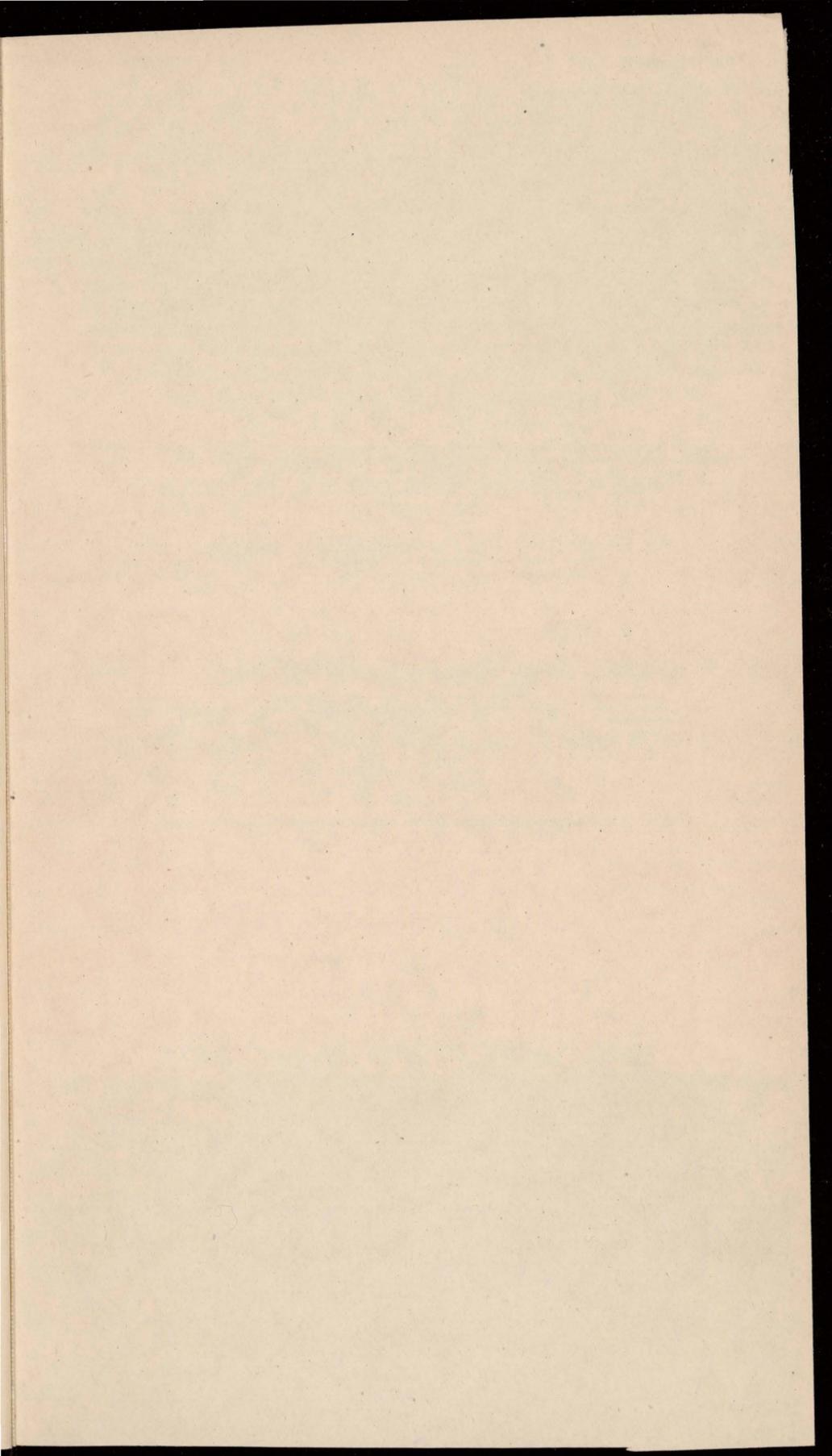
While you remain ignorant of the chemical properties of your food, your drink, your medicines, the air, gasses, metals, minerals, and earths, and of the nature and qualities of animals, from the elephant to the smallest microscopic animalcule, and of vegetables; or in other words, while you remain ignorant of physiology and the laws of nature, your health and lives are in jeopardy *every minute*.

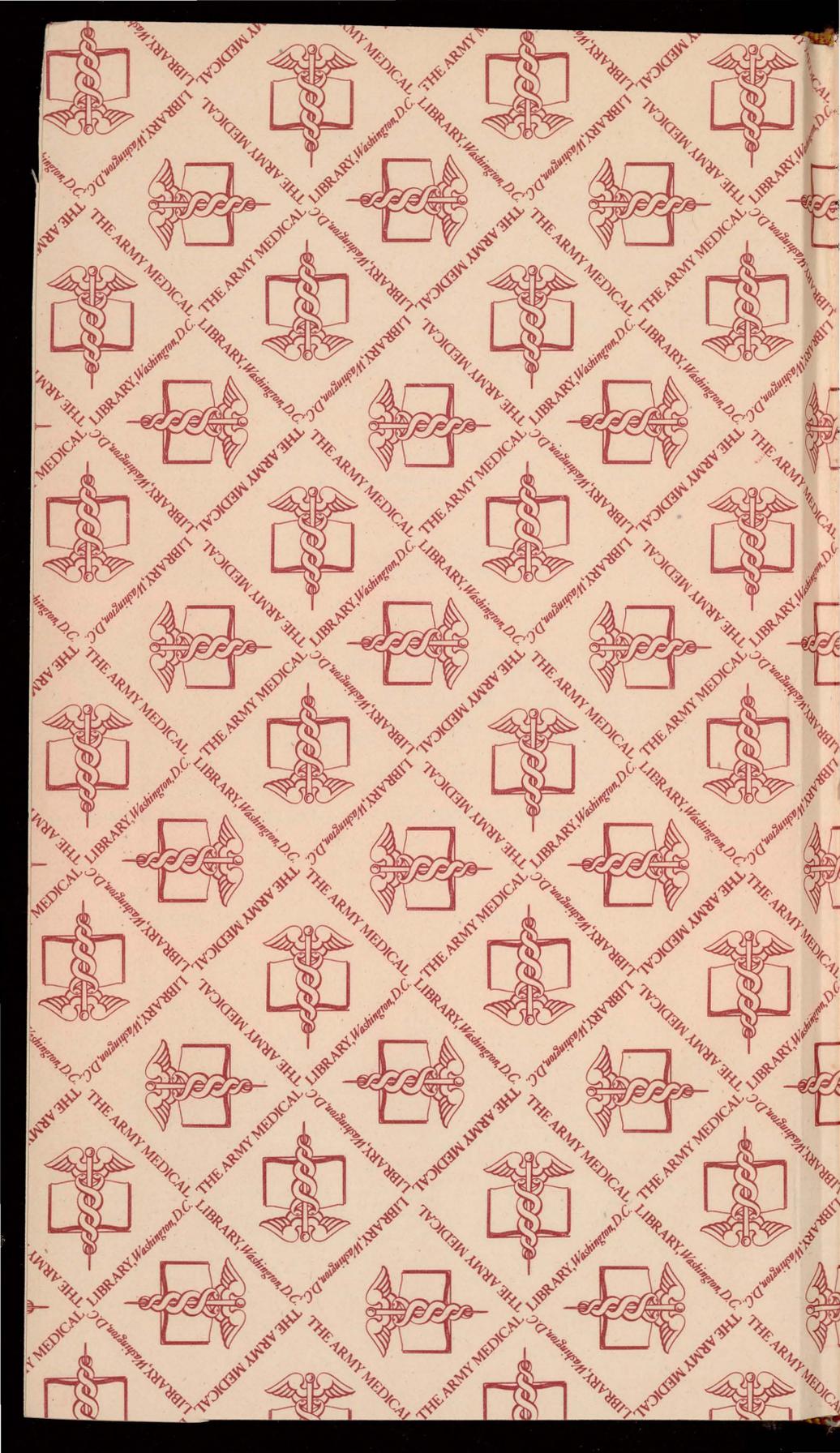
Therefore, abolish and discard your vain, ridiculous, useless, contemptible, *costly* customs and fashions, *immediately*, and apply the savings thence resulting, to the universal establishment of free scientific circulating libraries, schools, and lectures;—and then let every individual, of both sexes, of suitable age, *rich* or *poor*, devote two, three, or four hours daily, to the acquisition of useful knowledge, and six hours to gymnastic exercises, or labor.

Study chemistry and botany, and you may be your own physicians;—study moral philosophy and the bible, and you may be your own preachers;—study laws, and practice justice, and you may be your own lawyers: thence, at once escaping the dangers of mineral medicines, the delusions, pains, and terrors of vice and superstition, the endless vexations of litigation, and lastly, the incalculably *enormous, intolerable* expense of the whole.









Torrey, Jesse, *Dissertation on the causes, preventives, and remedies of plague...*, WC T694d 1832

Condition when received: The booklet bore a number of pages with deep creases that obscured the text as follow: pp. t.p., 41-42, 43-44, 45-46. In addition, the top edges of 51-52 and 11-12 bore losses. A black accretion obscured the word "ravaging" on page 59.

Conservation treatment: Each crease was humidified using a methylcellulose poultice (A4M, Talas). Each was pulled and massaged with a Teflon spatula. The pages were brought into plane between blotters using methylcellulose to reinforce flatness of the sheets. The paper losses were filled using kizukishi paper inserts (Japanese Paper Place) and secured with wheat starch paste (*zin shofu*, Bookmakers). The accretion was removed mechanically with a scalpel and remaining black traces were reduced with a polyvinyl eraser (Staedtler).

Conservation carried out by Rachel-Ray Cleveland
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