

An inaugural dissertation on sympathy : submitted to the examination of the Rev. John Ewing, S.T.P. provost ; the trustees & medical faculty, of the University of Pennsylvania, on the sixth day of June, 1799, for the degree of Doctor of Medicine / by Arthur May, of Pennsylvania.

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AN
INAUGURAL DISSERTATION
ON
SYMPATHY:

SUBMITTED TO
THE EXAMINATION
OF THE
REV. JOHN EWING, S. T. P. PROVOST;
THE
TRUSTEES & MEDICAL FACULTY,
OF THE
UNIVERSITY OF PENNSYLVANIA,
On the sixth Day of June, 1799,
FOR THE DEGREE OF
DOCTOR OF MEDICINE.

✓
BY ARTHUR MAY, OF PENNSYLVANIA.

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Washington, D.C.
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No. 48, North Third-Street.

1799.

MAJORAL DEPARTMENT

SYMPTOM

THE EXAMINATION

OF THE

ART. JOHN BRYAN, S. D. PROPOSER

THE

UNIVERSITY OF MEDICAL FACULTY

OF THE

UNIVERSITY OF PENNSYLVANIA


On the 1st Day of June 1893

FOR THE DEGREE OF

DOCTOR OF MEDICINE

Dr. ARTHUR MAY, of Pennsylvania

PRINTED BY W. H. LLOYD



TO
JOHN ARCHER, M. B.
DISTINGUISHED
FOR GENIUS AND ENGAGING MANNERS,
WHO UNITES
THE CHARACTER OF A LEARNED PHYSICIAN, AND
ACCOMPLISHED SCHOLAR,
WITH THAT OF
PHYLANTHROPIST AND A VIRTUOUS MAN;
THIS DISSERTATION
IS RESPECTFULLY INSCRIBED,
AS A MARK OF ESTEEM,
BY HIS SINCERE FRIEND AND PUPIL,
THE AUTHOR.

Handwritten notes at the top of the page, including the word "Library" and some illegible scribbles.

PHILIP KING ESQ. M.D.
OF THE CITY OF NEW YORK

I HAVE the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the purchase of a copy of the book entitled "The History of the City of New York" by John Smith, Esq. and to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,
Your obedient servant,
J. B. HARRIS

Very respectfully,
J. B. HARRIS

TO
PHILIP SYNG PHYSICK, M. D.

SIR,

I HAVE taken the liberty to dedicate to you, the inaugural fruits of my studies in medicine ; and beg leave to express the high sense I entertain, of the favors you have conferred, by your daily and friendly instructions.

In the mean time, and in every event, I rejoice in the opportunity of testifying the sense I entertain of your merit ; and, of a notice, which I regard as the most flattering distinction of my life.

I am,

With sentiments of gratitude and respect,

Your affectionate and obliged pupil,

THE AUTHOR.

PHILIP STUBBS, M.D.

OF THE CHURCH OF ENGLAND

I HAVE the honor to acknowledge the receipt of your letter of the 10th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration. I am, Sir, very respectfully,
Yours obedient servant,
Philip Stubbs, M.D.

INAUGURAL DISSERTATION, &c.

BOERHAAVE remarks, that “physic has been loaded with many useless and fallacious hypotheses.”

False theory, in any science, inevitably embarrasses truth; but it is peculiarly remarkable, how perplexed medical truths are, and how simple in themselves, when divested of false theories. Plurality of disease, and specific remedies, have been a prolific source of error in medicine. A modern luminary has brought to light the unity of disease; humoral pathology and spasm, have given place to *wrong* action; and to *new* action yield the multifarious specifics of antiquity. Lentor, acrimony, morbid matter, specific virus, etc. in the blood, were once supposed to be the cause of disease; and the cure, of course, was some specific antidote, calculated to neutralise the peccant matter, after entering the circulation, and coming in contact with this poison in the blood-vessels: but it is well known that diseases are often cured by passions of the mind, by blood-letting, by cold; and one disease frequently cures another, in which instances it is not presumed that any medicine enters the circulation: it is evident therefore that the curative process is something very different, and it was reserved for Mr. Hunter to explain it in that celebrated axiom:—“No two actions can

take place in the same constitution, nor in the same part, at one and the same time."

This explains at once the *modus operandi* of all medicines; any active medicine whatever, must produce a new action, when applied to the system; this new action destroys or supersedes the action of disease, and in this way effects a cure.—This accounts for many different medicines curing the same disease: the success of all physicians is nearly the same; though no two agree in theory, nor administer the same remedies.—This accounts for many different diseases being cured by the same remedy; this explains the paradox, that mercury producing but one species of action, cures many diseases of different action; ulcers, fevers, rheumatisms, lues, epilepsy, indurations, dropsy, palsy, dyspepsia, etc. are cured by the mercurial action, which supersedes the action of disease.

This accounts for cures made by opposite remedies: depletion and stimulus both induce new action, and both cure the same disease.—This explains the operation of tonics, antispasmodics, refrigerants, etc. which other theories never accounted for, in a satisfactory manner: they possess no specific qualities, but if they act at all it is by introducing into the system a new action.

This accounts for the success of empirics, who perform cures without theory: though they use but one article, yet that one produces a new action, and supersedes the action of disease.

This accounts for the success of charms, inert plants,

metallic points, etc. which make a strong impression on the credulous mind.

This accounts for one disease curing another. Mr. Hunter says, "No two different fevers can exist in the same constitution, nor two local diseases in the same part, at the same time. The suspension or cure of a gonorrhœa, by a fever, may be an instance of this. The failure of inoculation, and the power of resisting many infections, depend upon this: the great difference in the time from the application of the cause to the appearance of the disease depend upon the same principle."

Dr. Rush mentions several cases of pulmonary consumption, cured, or suspended by gout, madness, dyspepsia, head-ach, eruptions, diarrhœa, pregnancy, etc.

Dr. Wistar mentions, in his lectures, a case of gonorrhœa, frequently alternating with ophthalmia, in one of his own patients.

Dr. Barton, in his lectures, relates a case that came under his own notice of venereal chancre, and ulcers on the tongue, which were cured by yellow fever.

Mr. Adams furnishes an important fact in proof of the incompatibility of actions. "Seventy negroes were inoculated for the small pox, three days after the Harmattan winds set in; none of them had any symptoms of the disease. In a few weeks afterwards, fifty of the same were inoculated, and had the disease; the rest had taken it in the natural way."—Pleurisy cured scrophulous tumours,

in the neck of a young lady in this city. A large ulcer, on the leg of a patient in the Pennsylvania Hospital, was cured by the same state of fever.—A child of Mr. S. was cured of an eruption, by a catarrh; which ceasing, the eruption returned: some weeks after, the same fever suspended the same eruption. An empiric cures tooth-ach, by burning the ear with a hot iron: moxa, burned on the skin, behind the ear, effects the same cure. Give a dog an emetic, and whip him, the emetic has no effect. The impression of plucking out a hair, is not felt, during the impression of a blow. Small pox cures chronic diseases. Puberty, pregnancy, and old age cure epilepsy. Ophthalmia, of some months standing, was cured suddenly, by an intermittent. In ophthalmia, one eye inflamed, cures the other alternately. Issues cure carious vertebræ, by diverting wrong action. Mustard on the skin, cures rheumatism in the adjacent muscles.

In warm weather appetite fails; because the impression of heat on the skin, invites excitement from the stomach to the surface; and the system cannot bear both impressions, of heat and aliment. Appetite is suspended in the same manner, by joy, grief, expectation, etc.

A quack, in New England, cures tetanus, by intoxication. The vulgar cure the inflamed uvula, by pulling the hair on the vertex, till they tear the scalp from the cranium. A hot flat-iron applied to the skin, is a remedy of the gout in one, and cures the stiff neck in another. Reapers cure pain in the back by trampling it.

Captain Cook, at Otaheite, was attacked with violent

rheumatism ; a physician of the natives cured him by severe friction, continued two hours. Dr. Borland, at Port-au-Prince, observed that sore legs cured diarrhæa, and diarrhæa cured sore legs.

Pott mentions two cases of gout curing hydrocele. A stroke on the scrotum cured the same disease in another person. The potential cautery applied to the neck, cured two horses of tetanus. The bite of a viper cured a dog of hydrophobia. Cold water, thrown on fighting dogs, suspends the impression of anger. Cold water dashed on a drunken man, counteracts the action of intoxication. Diseased kidneys, or liver, cause colic.

The knee of J. D. was punctured by a nail ; general pain, stupor, head-ach, fever, and symptoms of tetanus came on ; and no particular sensation of pain in the knee. Dr. Physick made an incision in the punctured part ; in a moment the pain left every other part, and flew to the knee.

A lady punctured her thumb with a needle ; immediately she was taken with convulsions ; four or five men could scarcely hold her. Dr. Physick dilated the puncture ; her convulsions subsided immediately, and she was perfectly relieved. The same operation relieved the same symptoms in a boy, whose foot was punctured by a nail.

Hunter divides “ the sympathy of the body, into two kinds : universal, and partial. By the universal sympathy is meant, where the whole constitution sympathises with some sensation, or action of a part. By partial sympathy, is meant, when one or more distinct parts sympathise

with some local sensation, or action; it is divided into three kinds: the continuous, contiguous, and remote. The continuous, is where there is no interruption of parts, and it runs from the irritating point, to be lost in the surrounding parts. The contiguous arises from the contact of separate parts. The remote is, where there appears no visible connection of parts; such as the pain of the shoulder in an inflammation of the liver."

There are several remote sympathies, or consents, which are very remarkable; existing throughout the system, like intelligences, suffering with remote parts and protecting them.

One exists between the schneiderian membrane and diaphragm, which suddenly removes irritating matter by sneezing.

There is another important sympathy, or consent, between the glottis and diaphragm, to remove the agents of suffocation.

The retina being stimulated, the iris contracts, by sympathy, to protect it from injury. When the eye is irritated, the eye-lids convulsively and involuntarily close, to guard this delicate organ. A sympathy exists between the lachrymal gland and nose; for when the nose is irritated, this gland secretes profusely: it is also stimulated by affections of the mind. There is a consent between the urethra and bladder: when the bladder contracts the urethra relaxes, and when the bladder relaxes the urethra contracts. One eye being inflamed, the other is irritated by sympathy.

Irritation at the neck of the bladder, excites pain in the glans penis. A stone in one kidney, produces pain in the other. Irritation in the lower extremities, excites inflammation in the inguinal glands.

Sympathies exist between the stomach and skin, between the eyes and genitals, between the testes and parotid glands, etc. In a word, the whole system, mind and body, is one mass of general sympathy: no sooner is any part affected, than the impression is communicated throughout the whole. Sympathy is the conductor of disease, and this same sympathy is the agent of cure. All the operations of medicines, I have ever witnessed, appeared to have been performed by the agency of sympathy.

The case is the same with the mind, as with the body: it is capable of but one action, at one time: it has its power, and susceptibility; its morbid accumulation, and is the subject of cures from counter impressions.

As the body cannot perform two different actions, at one time; so the mind cannot contemplate two different ideas, at the same time.

We can exercise but one sense, at one time. The action of vision suspends the action of hearing, feeling, tasting, etc. and vice versa. While one sense acts, the others are dormant, until roused by a stronger impression: we seem indeed to hear while we see; but this is from the quick succession of the action of different senses, which is so sudden, as to be imperceptible to our observation.

The impression of fear counteracts the impression of anger; for inveterate enemies, in common danger, forget animosity, and mutually assist each other to elude impending danger.

The impression of anger removes the impression of fear. Joy supersedes grief, and grief supersedes joy; according to the force of impression. The impression of love, suspends that of fear, and prompts to hazardous adventures.

In a word, all passions conquer, and are conquered, one by another, according to the degree of impression.

The incompatibility of plurality of actions, extends from the body to the mind; and affords the strongest proof of the sameness of both. Alcohol, or opium, applied to the stomach, disorders the mind; and violence done to the brain, affects the intellects. Inflammation in the stomach, is the cause of the insanity, and delirium, which we see in yellow fever. Hysteria, hypochondriasis, mania, and all diseases of the mind, are the effect of wrong action in the body. I have seen severe bodily pain restore the mind, from anguish to gaiety, and good humour. The mind can never be said to enjoy perfect health, when disease is present in the body.

Impressions on the mind, counteract impressions on the body. The impression of joy on the mind, at the sight of friends, often relieves the patient.

S.—C. was perfectly relieved of excruciating tooth-ach,

upon seeing a particular friend, which returned as soon as she was absent.

P.—C.— being struck with the lancet, was relieved of acute colic pains, without the loss of blood.

Dr. Rush, in his lectures, mentioned a case, in which riding a bear, cured a child of the whooping cough.

The impression of fear, at sight of the dentist, often has suspended the tooth-ach.

Soldiers are wounded in battle, and do not feel the wound. A boy's arm was shot through in an affray, in Glasgow, and he did not perceive it.

Mrs. G— had a violent tooth-ach, the day she was married; but as soon as the parson came, the tooth-ach left her.

Change of climate, diet, objects, company, etc. often perform cures, by novelty of impression.

A.—M.— was always relieved of a chronic pain in the breast by the presence of friends.

The impression of reflection counteracts the impression of external objects on the senses: thus men in deep study, neither see, hear, nor feel *distinctly*.

A shock or fright, suspends the action of sneezing.

Dr. Claiborne, in his ingenious thesis, mentions de-

pressing passions, as a cause of scurvy. Good and bad news, alternately diminished, and increased the sufferings of scorbutic patients at Breda.

The muscles of the face are convulsed, by impressions on the mind, and so much under the influence of passion, that we know instinctively, at first sight, what passion predominates; nay, the capacity, disposition, and character, are exhibited in the position of the muscles. The muscles of articulation also are convulsed, by mental impressions, to such a degree, as to produce faltering, under paroxysms of passion.

We have all known instances, of impressions of the mind, destroying appetite.

Strength is incredibly increased, or diminished, by passion: the pulse is hurried, or impeded; the hair erect, secretion increased, exhibiting tears in the eyes, froth in the mouth, bile in the alimentary canal, etc. Emaciation, blushing, apoplexy, and laughter, are all instances of the sympathy, which exists between mind and body; and shew how much impressions on one, are felt and expressed by the other.

There are conflicting actions, in which the superiority of impression is not decided, and the event doubtful.

Different stimuli check the action, one of another. A labourer can drink more ardent spirits, during exercise, than unemployed; the stimulus of exercise counteracting the stimulus of strong drink.

The stimulus of food counteracts the stimulus of strong drink; for intoxication is sooner induced when hungry: in like manner, wine and segars, taken alternately, enable to take intoxicating doses of each, with impunity; the impression of one, destroying the impression of the other. You may heap stimuli on the system, I had almost said, *ad infinitum*, by varying the stimulus.

One cures a fever by a debauch, another bleeds, and both are cured perhaps. Ardent spirits cure fevers of weak action, by introducing a stronger. If the action of the fever be too strong to be overcome by the spirits, the fever is aggravated. Spirits are a kill-or-cure remedy; they leave you better, or worse: but bleeding is safe, because it breaks the force of the disease, without the possibility of increasing it. One was whipped five hundred lashes: when he had received two hundred he was more refractory than at first; but after the other three hundred, he was perfectly subdued, and felt no resentment: in like manner, small doses of jalap, gamboge, etc. increase constipation, unless the dose be strong enough to overcome it: blisters like other stimuli, aggravate fevers, unless the force of the fever be reduced below the equipoise of the force of the blister: by a similar contest between two impressions, violent fever cures salivation, and salivation cures fever, according to the force of impression.

Mind and body are one common system, and the vital power of both is one common mass: an impression on any part of mind, or body, vibrates through the whole, and undulates to the remotest boundaries of both. Iron filings, on water, represent vital power; accumulations

represent disease ; a magnet applied, represents a blister, emetic, cathartic, new disease, or any counter impression ; which, by destroying morbid accumulations, diffuses, and equalises the vital power, in which good health consists.

It matters little whether the medicine administered, be emetic, cathartic, diuretic, diaphoretic, sialagogue, or vesicatory ; it is necessary only to produce an action, new, and superior, in force, to the action of the disease. Emetics, cathartics, and blisters, have formed part of the materia medica, time out of mind ; and have proved valuable medicines, by whatever theory prescribed. Sydenham employed emetics, to expel morbid matter ; Cullen to relax the spasm of the extreme vessels ; and we to excite a new action : the cure is made by all : each gives his own explanation of the *modus operandi* ; but the proper medicine is used by all, and all are successful.

Sydenham is surprised, that “ the patient is relieved by an emetic, when he found the matter thrown up, neither considerable in bulk, nor of any bad quality.” Wallis says, that “ Sydenham did not know, that an extremely small portion of morbid matter, could produce sudden and surprising effects, from local action, so as to derange the whole system.”

Hunter’s incompatibility of actions, teaches us, that emetics perform cures, not by evacuation, but by the artificial disease they excite.

Again, Sydenham imagines, that, “ the great use of

emetics is, the expelling the offensive humors." Wallis says, "this should rather arise from determining the flux of humors to the skin." The action of the emetic, supersedes the action of the disease, and changes the state of the system: Cullen says, "vomiting is useful, by its operation on the muscular fibres of the stomach; these excite the action of the extreme arteries, on the surface of the body." Cullen, Sydenham, Wallis, etc. saw the fact; they observed that emetics remove complaints; and the *modus operandi* was explained by false theories, till Hunter told us, that, "no two actions can take place, in the same constitution, at one and the same time;" from which it appears, that all medicines produce all their effects, by instituting a new action.

By new action is meant, an action that is new, not with respect to degree, but with respect to mode; and which is the effect of irritation: action new in degree, is the same action increased, or diminished; which variation of increase and diminution, is the effect of stimulus. Walking faster or slower, is still walking; is still the same action, differing only in the degree: dancing and running are new actions, and differ in mode.

Stimulus increases the same action; irritation produces new mode of action; this every active medicine does; therefore all medicines are irritants. Stimulus is the effect of aliment, condiments, wine, opium, etc. As opium classes with aliment, and as food is not an article of the shops, the *materia medica* is left with but one class, viz. irritants: as all irritants produce but one effect, viz. a

new action, i. e. alter action; they would be properly termed alterative.

A few mechanical or chemical agents, have gotten into the materia medica, viz. corrosives, diluents, emollients, astringents, anthelmintics, errhines, demulcents, antacids, antalkalines, etc. The operation of corrosives, is as mechanical as that of a scalpel: diluents and emollients are mere culinary agents; when water mollifies clay, it is not thought to be a medicine; and when heat contracts, and consolidates the same clay, no one calls heat an astringent medicine: any mechanical irritation of the schneiderian membrane, is an errhine: and any mechanical irritation of the primæ viæ, by cowhage, iron filings, powdered glass, etc. proves anthelmintic.

The mechanical agents and stimulents expelled, there remain but emetics, cathartics, blisters, tonics, antispasmodics, refrigerants, diaphoretics, and expectorants, all of which may be reduced to one class. The effects of all are produced by every one of them, by apportioning the dose. Tartar emetic, in large doses, is emetic; in small, diuretic; and in moderate doses, cathartic; in like manner, jalap, digitalis, squills, etc. may be so managed, as to prove cathartic, emetic, diuretic, diaphoretic, etc. by varying the dose. All medicines therefore are irritants, producing but one action, and differing only *quoad majus et minus*; however different the effects ascribed to them.

Emetics are exhibited to remove offending matter from the stomach; but experience teaches, that they cure diseases not seated in the stomach: as sarcocèle, buboes,

dropsy, headach, etc. in short, emetics cure many diseases, remote from their seat of action ; not by entering the circulation, nor by evacuating peccant matter ; but by making a counter impression on the system.

Cathartics are given to remove deleterious humors, which are supposed to be the immediate cause of the disease ; but cephalalgia, podagra, rheumatism, and most other diseases, however remote from the operation of the medicine, are equally relieved by their counter impression ; and not by any action produced in the circulation.

Blisters have been applied to resolve mucous concretions in the blood, and to eliminate the corrosive ichor from the fluids : but sinapisms, which produce no discharge, prove as salutary ; because they make a new impression, which is all that a blister can do.

Inert nostrums, specifics, etc. are supposed to possess certain qualities, by which they cure certain diseases : no doubt they do effect cures, and some very important ones ; for though inert, and possessing no real virtue in themselves ; yet the mind is so strongly impressed, with the expectation of relief, that they act on the imagination, as a blister on the skin, by making a new impression.

In this way, the miracles wrought by liquorice, bread-pills, etc. are to be explained. *Conceit can kill, and conceit can cure* ; and is an active agent in the cure of diseases : this is the only medicinal ingredient in many celebrated specifics ; for it is conceit that performs the cure, while the nostrum gets the credit.

The class of tonics are said to possess a peculiar quality, by which they give tone to the moving fibres : perhaps no medicine in nature possesses any such quality : perhaps tonics do no more than make a new impression, which suspends the diseased action, until the system takes on healthy action ; in which the tone consists.

Blood-letting proves a tonic in the fainting state of fever. In a recent case of remitting fever, the patient could not sit up without fainting ; the slightest exertion, moving the hand, speaking, or even noise in the room, induced a disposition to faint : after losing eight ounces of blood, she was able to sit up : cathartics were administered, and eight ounces of blood lost next day, in consequence of which she was enabled to walk.

Had bark been given in this case, with the same success, the cure would have been ascribed to its tonic power.

When the blood-vessels are distended, more than is consistent with a state of ease ; by diminishing their contents, blood-letting excites the new action of contraction. Besides this, blood-letting acts mechanically, in the cure of diseases, in which it differs from medicines : it removes the surcharge of blood, as we remove extraneous bodies, a thorn from the flesh, sand from the eye, a stone from the bladder, worms from the intestines, musket balls from wounds, etc. Analagous to these operations, blood-letting removes the offending matter, reduces the excitement of the system, and renders it susceptible of a new impression.

Antispasmodics relax spasms ; not by any relaxing qual-

ity, but by interrupting the wrong action, and permitting the return of natural action.

Refrigerants possess no cooling quality in themselves; yet they certainly abate the heat of fever, indirectly; their new action counteracting febrile action, and suffering the system to re-establish the functions of health.

May not the operation of diaphoretics, diuretics, expectorants, emmenagogues, sedatives, and every class of the materia medica, admit the same explanation; that all medicines effect but one and the same thing, viz. a new action, suspending the action of disease, and permitting the return of health?

This theory does away all divisions, and subdivisions of the materia medica, into classes; and reduces them all to the class of alterantia: admitting no tonics, no refrigerants, no antispasmodics, etc. the whole materia medica consisting of but one article, and the whole practice of physic of but one simple remedy, viz. a *new action*.

This theory, if true, simplifies medicine, and enables to practice with confidence; for nothing more being necessary, than to produce new action, which is in no case impracticable, we are never disappointed.

It is probable, that all medicines produce all their effects, by inducing a new action, and not by entering the circulation. In the days of humoral pathology, all medicines were supposed to direct their course immediately to the blood-vessels, and there to produce their salutary effects.

It was then that Boerhaave found mercury in the di-
 ploë, which had been absorbed from "the callous skin
 of the bottom of the feet:" to this day, it enters the
 bones, in the imaginations of many. Mr. Hunter, whose
 anatomical knowledge far excelled that of Boerhaave;
 whose observations, whose genius, whose opportunities,
 and whose assiduity, were equalled by few, declares, that
 "mercury never gets into the bones, in the form of a
 metal; although this has been asserted by men of emi-
 nence and authority in the profession: and even the dis-
 sections of dead bodies have been brought in proof of
 it; but my experience," says he, "in anatomy has con-
 vinced me, that such appearances never occur. Those
 authors have been quoted by others, imaginary cases of
 disease have been increased, the credulous and ignorant
 practitioner misled, and patients rendered miserable."

Ferris tells us, that Dr. Hamilton told him, that "he
 once detected the globules of mercury, by slow evapora-
 tion, in the milk of a woman, who had taken that medi-
 cine in considerable quantities." Dr. Physick, in a paper,
 read to the academy of medicine, has rendered it highly
 probable, by experiments, and several observations, that
 mercury never enters the circulation.

Saunders relates an experiment, made upon a dog;
 "two drachms of crude mercury were injected into the
 crural vein; in two days after, he had evident marks of
 fever, which continuing two or three days, a dyspnœa
 supervened; this was followed by a cough, and symptoms
 denoting an affection of the lungs, which increased till
 he died. The lungs were found in a tubercular state,

and many of the tubercles had suppurated, and formed vomicae: each tubercle contained a globule of mercury."

If such are the effects of mercury in the blood-vessels, the great quantities used every day, with impunity, are a convincing proof, that mercury never enters the circulation.

Experiments too often conform to the theory which the experimenter had previously adopted.

Darwin attempts to prove that nitre enters the circulation; but I have seen his experiments repeated, and the presence of nitre could not be detected in the blood.

Dr. Seybert, whose accuracy in chemical investigation may be relied on, has made experiments with sulphur; and in the trials he made he did not detect it.

In the experiments of the royal society, we are informed that blue stone, exhibited in the food, was detected in the chyle; but we are induced to doubt the accuracy of these experiments, when Fordyce asserts, that, "green vitriol exhibited along with the food, or thrown into the intestines, after the animal has been opened, while chyle was forming, and absorbing, gives no color, on infusion of galls being applied to the chyle; nor if galls be thrown into the stomach along with the food, nor if any infusion of them be in like manner thrown into the intestines, when an animal is opened, during the time that the chyle is flowing into the lacteals, do they give any color, upon a solution of green vitriol applied to the chyle; the galls

might be supposed to be digested, but the green vitriol could not, neither can we well believe, that the galls could be digested, when thrown into a portion of the jejunum, of about a foot in length, tied at both ends."

The same author says, that, "the poisonous juices of several animals, which being infused into a wound, prove almost instantly fatal, may nevertheless be thrown into the stomach; not only of many other animals, but even into the human stomach, without the smallest detriment." "I myself," says he, "knew a black servant of Mr. Pitt, who was fond of soup made of rattle snakes, in which the head, without any regard to the poison, was boiled along with the rest of the animal."

Girtanner says, that, "poisons, medicines, etc. act only on the irritable fibres: and frogs, which live a long time after the heart is cut out, and which are consequently deprived entirely of blood, are killed as quickly, by the poison of the viper, as if their blood had not been let out."

Mr. Hunter mentions a fact, of venereal matter being taken into the stomach, without communicating the disease.

The milk of cows, eating large quantities of stramonium, is used with impunity.

It is urged, that cathartics, administered to a nurse, operates upon the child: this effect is not produced by the medicine entering the circulation; but by the system suf-

fering a new action, which, by disordering the secretions, renders the milk unsalutary and purges the child.

Ferris says "it is a fact, that purgative medicines, taken by nurses, produce their specific effects on the infant; and that strong spirits induce intoxication and convulsions." But that these effects are not produced through the medium of the blood-vessels, is evident from his next fact, viz. "sudden passion in a nurse, is often a source of such a change in her milk, as to disorder the infant, and sometimes prove fatal."

Cullen says, "that powerful medicines act only on the stomach, appears from those cases, in which their effects appear, before they can be supposed to have reached the mass of blood."

Madder enters the circulation, it is granted; so may any bland matter; but nothing that is bland, is a medicine; and we contend that no medicine enters the circulation. The health of the system requires, that the absorbents refuse every thing that is acrid: should the lacteals convey into the blood-vessels acrid substances, as pepper, mustard, acids, etc. indiscriminately from the alimentary canal, immediate death would be the consequence.

As iron enters into the composition of all animal and vegetable substances, it is probable that iron is not at all acrid, and may be received by the lacteals.

Turpentine, asparagus, musk, garlick, opium, thyme,

etc. are supposed to enter the circulation, because their odor is perceived in the secretions; but odor is no proof of the presence of odoriferous bodies; for it is well known, that aroma is a most subtile and diffusible substance, that it extends and penetrates where no other quality of the plant can follow. Water impregnated with the aroma of a plant, possesses no quality of the plant. The odor of musk does not bespeak its presence: one grain of musk exhales millions of particles, every moment, for months, and perfumes ten thousand tuns of matter, without suffering any considerable diminution of weight.

Indigo, saffron, opuntia, and a variety of other substances give their color, taste, and smell to the chyle; and even the bones are colored by some; but in every instance where it can be ascertained, that such substances gain admission into the circulation, they appear to have no power to disturb the common and natural actions.

If therefore medicines do not enter the circulation to produce their effects on the system, it follows that all active agents in medicine, act by impression, and have but one effect, viz. a new action; and that specific action is ascribed to medicines without foundation. Tartar emetic differs from neutral salts, digitalis from rheubarb, gamboge from jalap, only *quoad majus et minus*; all producing the same essential effect. There is a small variation in the operation of different articles; but this variety exists throughout nature, and is necessarily attached to all things in existence. The case is the same with every article of food and drink: animal, vegetable, and every article of food has its peculiarity of operations; yet none

will deny, that the primary effect of all is nutrition. Spirits, wine, beer, cider have each their peculiarities of operation; yet all tend to produce the same effect, viz. intoxication.

In disproving the specific qualities of all medicines, the sialagogue effect of mercury presents the greatest difficulty; but Dr. Barton has simplified this part of pathology, and has shewn in his lectures, that salivation is a property common to many other articles as well as mercury, and particularly mentions the following as deserving a place in the list of *general* sialagogues, viz.

MINERALS.

1. Mercury. 2. Nitric acid. 3. Muriatic acid. 4. Antimony. 5. Lead. 6. Copper. 7. Arsenic.

VEGETABLES.

1. Citric acid. 2. Seneka. 3. Camphor. 4. Squills. 5. Hemloc. 6. Opium. 7. Solanum Dulcamara. 8. Datura Stramonium. 9. Digitalis. All which produce similar effects on the system, though in different degrees: they all salivate: mercury excites fever, so do they all; mercury causes foetor of the breath, the same circumstance attends the exhibition of all the other sialagogues mentioned; but it is a peculiar foetor, and this peculiarity may be the effect of the different degree of the sialagogue quality.

As wine is more diffusible than food; opium than wine; so is mercury more diffusible than the other sialagogues.

As the operation of all medicines is found to be so similar, and as salivation, which was formerly ascribed specifically to mercury, is now found to be the common effect of so many agents; is it not probable that salivation is the effect of that irritation which characterises a medicine? and may not the same exploring observation continued, discover the sialagogue quality in every active article of the materia medica? All medicines operating the same, and all diseases being cured by the same, viz. a new action, any active article producing this effect, would be a complete succedaneum to the enormous quantity of drugs, contained in the shops of the apothecaries: but not contented with mere necessities, we become epicures in medicine, as well as in food, and perplex the science, by introducing an unnecessary farrago, to perform the simple office of one *action*.

All this might be illustrated more fully; but perhaps we have insisted too long, upon what may be thought depending, in some measure, upon conjectural reasoning. It, no doubt, may suffer the criticisms of nosologists, empirics, and medical monopolisers; but an attempt to simplify our science, will not be opposed but supported by every liberal and scientific mind, and censure from every other quarter, may be expected.