

Runnels (M. J.)

DRUGS

VS.

PUBLIC HEALTH.

BY

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NEW YORK :



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While every resource is being used to find out the best treatment of diseases, it is equally important to know the *avoidable causes of sickness*, and admonish the people to so order their lives that no ailment may result from a disregard of Nature's laws. It is evident that the medical profession has had considerable to do in relieving the suffering in the world, but it has not taken as much interest in discovering and endeavoring to remove the *causes of ill health*. So long as the people do not observe natural laws, we shall have no abatement of nervous exhaustion and the increase of broken down constitutions. It is not difficult to see that there is in preventive medicine a vast unexplored region. Public hygiene is still in its infancy. Certain forces are at work producing sickness, and a vast amount of drugs are used to counteract the evil tendencies engendered, without sufficient attention being given to the causes that have occasioned the sickness, and the removal of which will restore health with little or no medicine. We study fully the effects of disease, but do not as fully investigate the causes, which are more difficult to find. The communicable diseases, such as scarlet fever, measles, yellow fever, diphtheria, etc., are known by their manifestations, but no one has yet discovered the principle

Read at the Fifteenth Annual Session of the Indiana Institute of Homoeopathy, at Indianapolis, Ind.

upon which they invade the human system. Their mysteries many have undertaken to explain, but nothing more has been accomplished than to show how the body may be prepared for disease, as a farmer ploughs and harrows his ground before he sows the seed. It is necessary for us to know whether a certain disease is developed by inherited tendencies, or an invisible and indefinable miasm, or fermentation, or germs, or animalculæ; or, whether what we call a disease is partly or wholly due to the long continued *abuse of drugs*. The views now held by the majority of physicians regarding the origin of disease date only from the cholera epidemics of 1832 and 1849, and the well known researches of Pasteur into the processes of fermentation and putrefaction, and the minute organisms connected with them. It is but recently that physicians have seriously begun to inquire into the causes of disease, and the advancement already made gives us reason to believe that before another decade sanitary science will be taught in our public schools.

Being impressed with the fact that a great deal of the suffering in the world has been brought on by the ignorance, not only of the common people, but doctors; and that diseases regarded as mysterious and past finding out are frequently due to *excessive medication* and *poly-pharmacy*, I have undertaken in this paper to show how drugs affect the public health and increase the death rate of this country. The old school medicine of the past is not medicine properly so-called, but *medico-chemistry* pure and simple. The *chemists have led the way* and the doctors have followed, without stopping to find out how drugs act upon the healthy human organism, or to look for a natural law upon which all successful remedial treatment depends. The most violent drugs were never more used and abused than at the present time. Preparations of *Arsenic*, *Nux Vomica*, *Opium*, *Mercury*, *Belladonna* and all the most energetic alkaloids are in common use by old school doctors, both in acute and chronic diseases. There is not a day in which an observing practitioner of medicine does not see patients compelled to submit to the most powerful medicine, either in granules, or sugar or gelatine-coated pills, or fluid ex-

tracts, or alkaloids, or resinoids, or tinctures, or powders composed of rarely less than from three to a dozen of the most deadly poisons. Allopathy abounds in classic literature on the history of medicine, pathology, etiology, and diagnosis, but in therapeutics the wildest liberty of action is taught and practiced, and the *maximum*—seldom or never the *minimum*—*doses* of the selected drugs are administered, regardless of physiology and hygiene. If the attending allopath desires to give his patient rest from pain, he never stops to inquire what remedy is best adapted to the case, from the physiological standpoint of the therapist, but immediately gives his patient an anodyne, and afterward writes his *long prescription*. Today, as seen from the allopathic literature, the *subcutaneous injection of Morphia* has become almost universal, and it is employed for complaints of the most trivial character.

The immediate and remote dangers of extending this practice are great. There is apt to be a slurring of diagnosis and a blind treatment of the most prominent symptoms. By such practice the common people are taught how to administer anodynes, and resort to them in every painful emergency, no matter how much injury may be inflicted on the nerves, and not stopping to inquire what the nature of the disease is or what ought to be done. The slovenly diagnosis and unscientific treatment of the ordinary allopath is largely resultant of his practice to hastily administer *Morphia*, *Chloral hydrate*, or some other sedative, and afterward prescribe large doses of *Quinine* and stimulants, before he has studied the minor symptoms in a case, or examined carefully the patient's family and personal history. I claim that the increasing consumption of *Opium*, *Chloral hydrate*, *Hashish*, alcohol, tobacco, tea, and coffee is due directly to the old school doctor, whose practice has daily taught the use of anodynes for centuries. The routine practice of the so-called regular physician of to-day injures by example and precept the public health to an alarming degree. The officinal and magisterial preparations of the chemists fill the shelves of the apothecaries, and, by order of the "regular" physician, are daily handed out

in maximum doses to suffering and ignorant people, who succumb under their power. Enterprising chemists are continually inventing *new mixtures* and pushing them before the notice of practitioners by sending free samples to them. A mixture is used for a time until another "elegant preparation" is brought forward, which is accepted and used by the bland Esculapius in his ceaseless round of experimentation. Therapeutics, according to this plan, is made an easy and popular method of treating the sick, even though it be unscientific and unsuccessful.

Druggists presume upon their meagre knowledge of medicine gained by handling drugs and compounding the same prescriptions from day to day, and, on the application of ignorant people, undertake to prescribe as *sub-physicians* for every ailment which human flesh is heir to. From the uncertainty of this "shot gun practice," great harm is done in the majority of cases, and to the troubles the patient complains of may be added those of *drug poisoning*. The skillful physician who afterward treats such cases must give antidotes until he ascertains the original cause of suffering. People are dying every day from unknown causes, and both physicians and ministers, called in at the last hour, are unable to give true diagnoses. The former may assign a vague reason in a given case for the untimely decease, based upon experience and general reading, and the latter may console the friends by the reflection that death occurred by order of Providence. Yet the mystery remains.

The sale of *patent medicines* makes up at least fifty per cent. of the business and profit of every drug store, and competent authorities state that "more secret remedies are prepared, sold and consumed in the United States than in any other country." The baneful effects of this indiscriminate use of drugs is not understood properly, and it is hard to teach the public that cures are very seldom made by "patent medicines," and where one is benefited by them, a thousand are permanently injured; that there is not a disease known which they are not recommended to cure, their efficacy being based often on the temporary or imaginary relief afforded in certain cases; and that pain is only a sentinel to warn us

against the approach of disease, and when the disease has invaded the system, to keep us informed of its advancement, and is not to be mistaken for the disease itself and silenced by a powerful narcotic. The common people are unable to distinguish between *symptoms* of a disease and the disease itself, and do not realize that a drug which has produced a good effect in one case may be entirely unadapted to another case. In compounding "patent medicines" the most energetic agents are used in quantities which would astonish even an allopathic physician. Such powerful anodynes, stimulants, cathartics, and diuretics as are found in secret medicines produce quickly decided effects, and for this reason "patent medicines" are popular and salable. The great harm done the public by the use of these mixtures no one can estimate, for the worst effects may not be manifest at once, but the evil habit of resorting to them in every sickness, before the physician is called, has been formed, and mental and moral ruin and death will ultimately be the result. If United States law should compel the publication of the formulas of "patent medicines," much would be done towards averting the dreadful calamity already upon us.

So far I have spoken of the relations of "regular" doctors, druggists, and nostrums to the public health, taking into consideration more especially the *quantity* and not the *quality* of medicine dispensed. A great deal has been written on the adulteration, sophistication, and substitution of drugs, but still the pharmacists carry on the evil practice with great profit; and the inspection of drugs, with a view to a standard of quality, is intentionally or otherwise neglected. The homœopathists have always refused to patronize the ordinary drug stores, for the reason that the tinctures or powders obtained there cannot be relied upon for purity; therefore they deal with regular homœopathic pharmacies which they know to be responsible. The entire business of these pharmacies is dependent upon the good opinion of homœopathic physicians concerning the purity and reliability of their drugs and attenuations. The homœopathic pharmacy is not a place where "patent medicines,"

perfumeries, highly-scented soaps, paints, oils, window glass, soda water, etc., are sold. It is rather a place devoted exclusively to the inspection, preparation, and attenuation of pure drugs and the filling of prescriptions according to the most scientific method. The most intelligent people in every community are now looking to the homœopathic profession and pharmacies to bring about an entire revolution in medicine. The medical millennium is approaching. Old school empiricism and intolerance are being bound and the truths first proclaimed by Hahnemann are fast becoming triumphant throughout the world. Already the fact that very few pure drugs can be obtained from the ordinary druggist has become known outside of the homœopathic profession; and *many old school doctors who deride homœopathy, buy homœopathic medicines for their own use*. It is only within the last two years that old school organizations have begun to inquire seriously into adulterations, substitutions and deteriorations of drugs, and the United States Government has never paid any attention to this subject until recently. The National Board of Health has made an extended report within the last year. In the table showing "the principal inferiorities, such as adulterations, substitutions and deteriorations of drugs, recorded in the current literature of the United States during the past twenty-five or thirty years, but more particularly during the last ten years," 154 drugs, consisting of barks, herbs, leaves, flowers, roots, exudation products, fixed oils, volatile oils and miscellaneous drugs are given.

To enumerate the different adulterations, or substitutions, or deteriorations which have been, are now, and probably will be in the market, would be an exceedingly tedious task. In the same report above referred to, under the head of "Causes of Inferiorities in Drugs and chemicals as given in acknowledged standards of pharmacy and medicine," 212 drugs are named, and the impurities, deteriorations, adulterations and substitutions are given. I will name a few of the inferiorities which a competent pharmacist can find almost any time, as follows: *Hyoscyamus* leaves sub-

stituted by leaves of other species of *Hyoscyamus* and sometimes containing bay leaves and branches from unknown plants. *Calendula* flowers adulterated with florets of *Tugetes erecta*, *T. Patula*. *Aconite* root mouldy, tasteless, exhausted and redried, adulterated with other species of *Aconite* and the root of *Imperatoria ostruthium*. *Belladonna* root substituted by malvaceous roots. *Acetic acid* made from inferior and filthy material and adulterated by mineral and other acids. *Hydrocyanic acid* adulterated by sulphuric and hydrochloric acids. *Aether* impure and deficient in strength substituted for stronger *aether*. *Antimonii et potass. tart.*, containing tin, lead, copper, arsenic, chlorides, and sulphates, from careless manufacture and often adulterated by *Bitartrate of Potassium*. *Valerianate of Ammonium* adulterated by fixed alkalis, sulphate, phosphate, chloride and acetate of ammonium. *Arnica* flowers mixed with other yellow composite flowers, and *Arnica* root mixed or entirely substituted with that of *Genum urbanum* and other composite plants. *Cantharis* adulterated with euphorbium, rendered weighty with fixed oils, and admixed with other insects. *Muriatic acid* crudely manufactured and often so inferior as to be unfit for use. Impure *Chloroform* sold for pure. *Cinchona* adulterated by inferior barks and enriched with *Chinoidine*. *Conium* deteriorated by age and exposure and the leaves of *Aethusa Cynapium*, *Anthriscus sylvestris* and different species of *Chraophyllum* substituted. *Copaiba* adulterated by fixed oils, turpentine, resin, volatile oils, and gurjun balsam. *Cresylic acid* from coal tar, adulterated with *Guaiacol.*, carbolic acid, tar oil and fixed oils, largely used for true *Beech Tar Creosote*. *Crocus* adulterated by fixed oil, sulphate of baryta, chalk and honey. *Cubeba*, admixed with *Cubeba canina*, *Piper nigrum*, *Myrtus pimenta* and fruits of *Rhamnus Catharticus*. *Digitalis* leaves admixed with leaves of *Digitalis ochroleuca*, *Verbascum*, *Conyza squarrosa*, *Symphytum officinale* and *Inula helenium*. *Ergot* substituted by ergot of barley, oats, etc. *Ipecacuanha* substituted by other South American emetic roots. *Lycopodium* substituted by pine pollen and often adulterated with sporules of

allied species of *Lycopodium*, *Talc*, *Gypsum*, resin, dextrin, starch, and sulphur. *Moschus* adulterated and substituted by foreign substances flavored. *Quinia* salts substituted by cheaper alkaloids of *Cinchona*. *Spigelia* substituted by roots of *Phlox Carolina*. And so on, until every drug for which there is any use has been found adulterated or counterfeited. Profs. Stillé and Maisch regarded the inferiorities in drugs and chemicals as being general, and in their late work—"The National Dispensatory"—they gave, under the head of each drug respectively, the adulterations or substitutions or deteriorations found in commerce every day. Boston wholesale and retail druggists say that it is impossible to make a living by the sale of honest goods. *Pure drugs* are very expensive and there is a constant demand for cheap drugs. Pharmaceutists are meeting the demand with *inferior goods*, and the druggists buy them because they are cheap. Perhaps the druggist does not design to *injure the public health*, or to practice fraud, but is making a desperate effort to make money, without stopping to inquire into the quality of the medicines he dispenses. He may not be guilty of a malicious intention when competition in business obliges him to be energetic and economical. It should not be forgotten that among dealers in drugs and medicines those who have qualified themselves by a systematic course of study, are rarely found. About ninety-nine per cent. of them enter upon their business solely as tradesmen and with no other motive than to make money. *Ignorance* forms a large per cent. of every druggist's *stock in trade*, and the average drug handler is unable to tell the difference between a genuine drug and its inferiority or a total counterfeit. When he fills a prescription of half a dozen ingredients, he cannot truthfully state that he has put in the exact number and amount, or a dozen other drugs not named, and neither he nor the physician who wrote the prescription, can prognosticate what the effect will be upon the patient. Of course the effect will be different from that intended by the prescriber, and one large prescription after another follows in quick succession. The patient dies, not from the disease, but from *overdosing*

and *adulterated medicine*. Only the undertaker is happy. The "regular" doctor complains that the druggist and the undertaker make all the money, and presently he will carry his own medicine obtained from a homœopathic pharmacy, like his homœopathic brother. Then the numerous red, blue, and green lights displayed by corner druggists will disappear forever, the death rate will grow less and the undertaker's business will be not so extravagantly remunerative.

Dr. Field, who has practiced old school medicine for fifty years said, at the late meeting of the Allopathic Medical Society of the 3d Congressional District of Indiana :

"In the treatment of important diseases prescriptions are changed too often, frequently as often as the doctor makes a visit to his patient, proving that he either does not understand the disease, or that he has no faith in the medicines prescribed. In cities where drug stores are convenient there is great extravagance in the use of medicine. After the close of a case of severe sickness, it is not unusual to find the mantelpiece covered with pill-boxes, powders, vials and other *debris* of the wonderful skill of the attending physician. Many of the vials are but little depleted of their contents, and so of the pill-boxes and powders. There are enough left to cure several cases more of the same disease. This waste of medicine is, however, no loss to the doctor. In cases where prescriptions have been numerous it is possible that the unfortunate patient gets well in spite of the doctor.

"Many years of experience will teach some physicians economy in the use of drugs ; that one good prescription, if adapted to the case, if fairly tried, will generally accomplish all that nature requires to aid her in overcoming the disease.

"The manufacturing chemists have been very busy contributing to the welfare of suffering humanity, their own welfare included. Every living thing in nature, even to the stomachs and intestines of filthy swine, have been laid under requisition for means to save the world from an untimely grave. The name of these new remedies is legion. Like the locusts of the Orient, they

darken the very air. They come to us in swarms ; in the form of alkaloids, resinoids, globules, granules, lozenges, elixirs, fluid extracts, sugar-coated pills, medicated meat, malt, and a multitude of compounds and combinations too tedious to mention—all nicely decorated with fancy covers, accompanied with certificates of extraordinary virtues. With all these vast resources of the healing art, nobody ought to die except from old age or accident. But still some few die in spite of these new remedies. It may be owing to delay in sending for the doctor, or to the tardiness of the prescription business. Now and then one dies before the prescription can reach him.”

I desire to call attention to the fact that old druggists advertise that they keep new and pure drugs, while seventy-five per cent. or more of their stock in trade is what they first started into business with years ago, and the drugs have deteriorated by age. Druggists pretend to keep wines many years old, brought directly from the vineyards of sunny France, or some other foreign country, the fact being that all their wines and whiskies were obtained not far from home, and are not what they are represented to be. *Cheap* whiskies, wines, brandies, etc., are kept by most druggists, and are made from third or fourth-proof spirits by adding various artificial ethers, essential oils, tinctures and essences, to give flavor. Burnt sugar or caramel is added to give color, a small proportion of syrup improves the taste, and water is used to decrease alcoholic strength. *Cocculus indicus*, tobacco and aloes are used in beer and ale.

Physicians of the old school often express their want of confidence in the action of remedies, and they are accustomed to write prescriptions with many ingredients, on the theory that one of a dozen drugs will certainly hit and cure a case. It is not uncommon to find in these long prescriptions antagonists and incompatibles. One substance refuses to unite with another in solution, without chemical change, and the formation of an entirely different substance from either, or one agent antidotes the other, and the result is *nil*. Acids, acidulous salts and metallic salts will antagonize *Alkalies*. *Alkaloids of Belladonna, Stramonium and Hyoscyamus* are decomposed by *Caustic*

alkalies. *Carbonate of Ammonium* is incompatible with vegetable and mineral acids, lime water, earthy salts and acidulous salts. *Acetate of Ammonium* is incompatible with acids, potash, soda and their carbonates. *Benzoate of Ammonium* is incompatible with liquor potassæ, acids, and persalts of iron. *Muriate of Ammonium* is incompatible with alkalies, alkaline earths and their carbonates and lead and silver salts. *Sulphurous* and *Sulphuric acids* decompose sulphites and hyposulphites. *Iodine* is incompatible with vegetable alkaloids, metallic salts and mineral acids. *Corrosive sublimate* is incompatible with *Turter emetic*, *Nitrate of Silver*, *Acetate of Lead*, *Iodide of Potassium*, and alkalies and their carbonates. *Alum* is chemically incompatible with alkalies and their carbonates, and *Acetate of Lead*. *Blood root* is incompatible with alkalies, tannic and gallic acids, and most of the metallic salts. *Nux vomica* is incompatible with *Conium*, *Tobacco*, *Opium*, *Belladonna* and *Physostigma* and is antagonized by *Chloral*, *Tobacco*, *Bromide of Potassium*, *Ether*, and *Chloroform*. *Digitalis* is incompatible with *Cinchona*, *Acetate of Lead*, *Sulphate* and *Tincture of the Chloride of Iron*. *Quinine*, *Digitalis* and *Ergot* antagonize the action of *Valerian*. *Opium* is antagonized by alkaline carbonates, lime water and the salts of iron, lead, copper, zinc, mercury and Fowler's Solution. *Bromides* are incompatible with acids, and acidulous and metallic salts. *Conium* is incompatible with caustic alkalies and tannic acid, and is antagonized by *Nux vomica* and its alkaloids. *Jaborandi* is incompatible with caustic alkalies, the persalts of iron, and salts of metals generally, and is antagonized by *Belladonna*.

Enough of the incompatibles and antagonists are here given from Bartholow to show how careful a physician who writes *long prescriptions* must be to combine synergistic remedies. Chomel said, "It is only the second law in therapeutics to do good, the first being not to do harm." But few physicians of the old persuasion make this Golden Rule the *guiding principle* in their faith and practice. To prove how frequently doctors make mistakes and write incompatibles and antagonists together, one

should obtain permission to *examine the list of cancelled prescriptions in any old drug store.* The frightful revelations there made will convince the scientific physician that *drugs are oftener the means of death than of life.* The collusion of physicians and druggists in the practice of "beating" patients by over-charges for medicines under prescriptions and other alleged tricks of the profession only needs to be named to be condemned. I believe that drugs injuriously affect the public health, not only through everything the people use as medicine, but the physical degeneration of the human race is helped on to a considerable degree by the general practice of drugging almost every article of diet and everything used for the comfort of our bodies.

The poisonous adulteration of food and the intermixture of injurious compounds with the essentials of life is being carried to such an extent that interference is called for, and a thorough investigation should be made. The European governments have long exercised restrictive measures. The German government, in 1878, had 231,478 samples of different articles analyzed and obtained 3,352 convictions; and in 1879 Great Britain analyzed 16,772 samples and 2,978 adulterations were found; while the British Parliament passed a law about four years ago for the inspection of all teas, and those adulterated to be destroyed; 7,000 chests were burned last year in British India. *Prussian Blue, Prussic acid and Chromate of lead* are used to adulterate teas. Coffee is adulterated by lamp black, Chromate of lead, logwood, mahogany, roasted acorns, baked liver and numerous other articles.

Since stringent measures have been adopted in England, adulterated teas have been largely shipped to this country, where they can be disposed of without molestation. The French government has taken measures to stop the sale of toys which are colored with poisonous substances, and which have been declared dangerous to the health of children, and have recently passed a decree prohibiting the sale of all eatables from "soldered cans." Tin and lead are found in poisonous quantities in a great variety of canned vegetables, fruits and meats. Seven-eighths of all the sugar sold in Chicago is glu-

cose made from corn starch and oil of vitriol. Sugars are full of acids; chloride of tin and chloride of calcium—active poisons—are frequently found in them. Syrups are made largely from glucose, and chlorides of tin; calcium, iron and magnesia have been found in them in poisonous quantities.

The cream of tartar in commerce is adulterated by *Terra alba*—white clay powdered—to the extent of seventy-five per cent. Stomach ailments, such as heart-burn, dyspepsia and indigestion, and kidney complaints result from such foreign substances in food. *Terra alba*, copper, chromate of lead, red lead, vermilion, Prussian blue, arsenic and glucose are used in confectionery; alum and sulphate of copper may be found in bread; baking powders contain Kaolin, plaster of paris, whiting, terra alba and alum; cheese is vitiated by potatoes, beans, oleomargarine, vermilion, red chalk, sulphate of copper, *Arsenic* and *Corrosive sublimate*; quicklime, boiled starch and alum have been detected in lard; *Sulphuric acid*, *Verdigris* and *Sugar of lead* have been discovered in pickles; vinegar is rarely found pure, and is often adulterated by *Sulphuric acid*, *Arsenic* and *Corrosive sublimate*; and milk is rendered impure by a variety of articles. About 90 per cent. of all the milk sold in Boston has been found to be adulterated. Bad water obtained from barn-yards and dangerous sources is largely used to dilute milk. *Aniline* colors in fruit, jellies, preserves, sausage and wine are intended to deceive the public, and to render salable inferior goods.

We import annually nearly three million pounds of *Arsenic*. Two thousand eight hundred human beings can be fatally poisoned by a single pound. What becomes of this large supply of *Arsenic*? Mr. Angell says, "It is used in wall-papers, paper curtains, lamp shades, boxes, wrapping papers for confectionery, tickets, cards, children's kindergarten papers, artificial flowers, dried grasses, eye shades, and numerous other articles. One chemist finds eight grains of *Arsenic* to each square foot of a dress; another ten grains of *Arsenic* in a single artificial flower. Among the articles frequently made dangerous by this or other poisons may be named ladies' dress goods, veils, sew-

ing silks, threads, stockings, gentlemen's underclothing, socks, gloves, hat-linings, linings of boots and shoes, paper collars, babies' carriages, colored enamel cloths, children's toys, various fabrics of wool, silk, cotton, and leather in various colors." Prof. Lattimore says, "We now wear *Arsenic* in our apparel, eat it in sweetmeats, drink it in syrup, and write with it as ink."

I am credibly informed by merchants and chemists that the above representations concerning the poisoning of everything we handle, taste or wear, are facts which can be verified at any time by a thorough examination. Dishonest chemists are employed by manufacturers to convince the public that glucose and oleomargarine are harmless substances. Thousands of dollars are paid to prominent chemists every year to sanction the adulteration of food and medicine. There *seems* to be no moral or legal restraint to the reprehensible practice of manufacturing, buying and selling adulterated goods to the great injury of the public health.

Money is uppermost in the minds of men and "the spirit of murder lurks in the very means of life."

We boast of our churches and educational institutions, but we fail to influence men to practice the Golden Rule, and to stand firmly on the rock of solid honesty. We send missionaries to teach the heathen, while we have, in every community and at our own doors, those who are lost to all sense of right living. Having before us such an astonishing revelation of fraud in the essentials of life, can we wonder that infant mortality is so great, that there are so many invalids in this country, and that so very few people live three-score years and ten? It will soon be impossible to put upon our tables any article of food purchased from the stores that will not contain some harmful substance, or active poison; injurious and poisonous compounds will continue to be used in food substances, and in the manufacture of wearing apparel, drugs, liquors, wall papers, and many other articles, until the Legislatures of the States and Congress take hold of the subject as has been done with great success in Great Britain, France and Germany.—*Reprinted from the New York Medical Times.*