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REPORT

ON THE PRACTICAL OPERATION
OF THE
LAW RELATING TO THE IMPORTATION
OF
ADULTERATED AND SPURIOUS
DRUGS, MEDICINES, &c.

BY M. J. BAILEY, M. D.

Special Examiner of that class of Merchandise in the United States
Customs at the Port of New-York.

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READ BEFORE THE NEW-YORK ACADEMY OF MEDICINE, JUNE 6th, 1849.

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1849.



R E P O R T

ON

ADULTERATED AND SPURIOUS

DRUGS, MEDICINES, &c.

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UNITED STATES CUSTOMS.

*New-York, April 21, 1849.*

TO VALENTINE MOTT, M. D.

President of the New-York Academy of Medicine.

SIR—On the passage of the bill prohibiting the importation of spurious and adulterated drugs, medicines, medicinal preparations, &c. I was requested by the Hon. Thomas O. Edwards, the able and philanthropic chairman of the special committee of the House, to which that important subject had been referred, to note the practical working of the law at the port of New-York, (where three-fourths or more of the importations of that class of merchandise are presented for entry,) and furnish, in such manner as might be most agreeable to myself, a report of the same, prior to the next meeting of the National Medical Association, in order that the information therein contained might have the greatest possible circulation throughout the country.

I cheerfully acceded to his request, and have consequently, for some time past, improved the limited leisure moments allowed me, apart from my official duties, in preparing this communication, which I most respectfully submit to the consideration of the New-York Academy of Medicine. It is made up of facts, and such views in connexion, as have thus far suggested themselves to me

and should the subject matter be deemed worthy of more extended notoriety, it will be exceedingly gratifying to me, should the distinguished body over which you preside, be the medium of communication, not only to the Medical Profession, but in any other way best calculated to aid in advancing the praiseworthy, humane, and philanthropic object for which the law in question was so promptly entertained, and unanimously passed by Congress.

I feel the more pleasure, dear sir, in laying this report before the Academy of Medicine, for the reason that it sets forth to some extent the beneficial effects resulting from the united and efficient efforts of its members—the *pioneers of the profession*, in bringing about this most important and long needed reform.

While too much praise cannot be awarded to the New-York College of Pharmacy for the long continued watchfulness and fearless zeal manifested in the detection and exposure of frauds in the preparation of medicines, and for taking the initiatory steps in memorializing Congress, &c. it is well known that the Academy of Medicine came promptly and opportunely forward, and essentially aided in setting the ball in motion; and the example being followed by the profession generally, as well as by that important and powerful phalanx, the National Medical Association, convened at the time, at Baltimore, an influence was thereby brought to bear, which proved irresistible, and without which, the reform, however desirable, could not have been consummated.

The law took effect at this port on the 12th of July, 1848; and the following is a list of the more prominent articles of drugs and medicines, with the quantities and place whence imported annexed, which I have, during the months named, rejected under its provisions: to wit—

|             |            |                       |                 |
|-------------|------------|-----------------------|-----------------|
| July, 1848, | 7,581 lbs. | Rhubarb root,         | from Canton.    |
| August,     | 750 lbs.   | Opium,                | do. Marseilles. |
| do.         | 2,940 lbs. | Jalap root,           | do. Tampico.    |
| do.         | 2,249 lbs. | Rhubarb root,         | do. London.     |
| September,  | 646 lbs.   | do. do.               | do. do.         |
| do.         | 1,414 lbs. | Gamboge,              | do. do.         |
| do.         | 545 lbs.   | Rhubarb,              | do. Hamburg.    |
| do.         | 1,400 lbs. | Senna,                | do. Leghorn.    |
| do.         | 2,900 lbs. | Spurious Yellow Bark, | do. Bordeaux.   |

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|----------------|-------------|-----------------------|-------------------|
| September,     | 875 lbs.    | Rhubarb,              | from Canton.      |
| do.            | 758 lbs.    | Opium,                | do. London.       |
| do.            | 1,783 oz.   | Iodine,               | do. do.           |
| do.            | 1,075 lbs.  | Rhubarb,              | do. Marseilles.   |
| do.            | 4,275 lbs.  | Jalap,                | do. Vera Cruz.    |
| October,       | 788 lbs.    | Rhubarb,              | do. London.       |
| do.            | 227 lbs.    | Myrrh,                | do. do.           |
| do.            | 13,120 lbs. | Spurious Yellow Bark, | do. Maracaibo.    |
| do.            | 1,875 lbs.  | do. do. do.           | do. Bordeaux.     |
| November,      | 412 lbs.    | Myrrh,                | do. London.       |
| do.            | 1,280 oz.   | Iodine,               | do. Glasgow.      |
| do.            | 860 lbs.    | Opium,                | do. Smyrna.       |
| do.            | 185 lbs.    | Rhubarb,              | do. London.       |
| December,      | 156 lbs.    | Opium,                | do. do.           |
| do.            | 1,065 lbs.  | Myrrh,                | do. do.           |
| do.            | 12,800 lbs. | Spurious Yellow Bark, | do. Santa Martha. |
| do.            | 392 lbs.    | Jalap,                | do. Vera Cruz.    |
| January, 1849, | 1,300 lbs.  | Pectoral Paste,       | do. San Juan.     |
| do.            | 2,071 lbs.  | Rhubarb,              | do. London.       |
| do.            | 3,550 lbs.  | Jalap,                | do. Havana.       |
| do.            | 1,930 lbs.  | Spurious Bark,        | do. Antwerp.      |
| February,      | 974 lbs.    | Rhubarb,              | do. London.       |
| do.            | 1,992 oz.   | Iodine,               | do. do.           |
| March,         | 1,104 oz.   | Croton Oil,           | do. do.           |
| do.            | 4,894 lbs.  | Senna,                | do. do.           |
| do.            | 1,345 lbs.  | Spurious Bark,        | do. do.           |
| do.            | 404 lbs.    | Opium,                | do. do.           |
| do.            | 1,150 lbs.  | Valerian root,        | do. Paris.        |
| April,         | 425 lbs.    | Opium,                | do. London.       |
| do.            | 1,273 lbs.  | Myrrh,                | do. do.           |
| do.            | 550 lbs.    | Jalap,                | do. Vera Cruz.    |
| do.            | 816 lbs.    | do.                   | do. Tampico.      |
| do.            | 1,450 lbs.  | Sarsaparilla,         | do. do.           |
| do.            | 600 lbs.    | Spurious Bark,        | do. Barranquilla. |

Together with smaller quantities of various articles which have been rejected from time to time, but which it is not necessary to enumerate here—making the entire amount, some 90,000 lbs. of various drugs, &c. which have, up to the present time, been refused.

Such, sir, are the fruits, thus far, at this port, of the wise and eminently beneficial sanitary measures, so heartily approved of by every friend of humanity;—that measure, too, which met from its inception, the open, determined and unremitting hostility of a God-forsaken portion of our trading community. From the moment the question was first agitated, and during the progress of the bill through Congress, intense excitement and ill feeling was mani-

fested among certain importers and speculators who had long made the murderous traffic not only a source of profit but of wealth, and no means were left untried by them calculated to defeat the measure.

Even the public press was brought into requisition, and, as I am credibly informed, in some instances *paid* for opening upon the community, at stated intervals, an editorial broadside of vindictive denunciations under the flimsy and unwarranted guise of the law being opposed to free trade—"intentionally protective to our own manufacturing chemists," &c. and finally, closing with the very astute reasoning to the effect that such a law was entirely unnecessary, for the reason that every one could either discriminate for himself in the purchase of medicine, or go to stores in which he had perfect confidence!! The editor forgetting, in the vague cogitations of his sanctum, that the city of New-York, (furnishing, as we admit it does, apothecary establishments worthy of all confidence,) does not comprise the whole of our wide and almost limitless country;—forgetting too, that with the exception of our larger towns and villages, medicines are every where purchased and sold by merchants dealing at the same time in every other description of merchandise, and who do not even profess to have any practical knowledge of the drug trade as a separate pursuit; hence, as long as the principal markets are filled with spurious articles, the unsuspecting country merchant is liable to be imposed upon by the unprincipled dealers from whom he may perchance unwittingly obtain his supplies; and his customers at home must suffer in consequence, more or less, according to the extent of the deceptions practised upon him by the city speculator; as they have no other alternative, but to use such medicine as they find within their reach,—being, as they are, too far removed from any considerable town, to enjoy the privilege of "discriminating," or even a choice of stores to select from.

Many of my professional brethren, I opine, whose fortune it is, or has been, to practice in the country, can, from sad experience, bear witness to the truthfulness of these remarks. The power of discriminating, as far as *prepared* medicines are concerned, is indeed a rare virtue, and possessed by very few; and those who assert that any one can discriminate for himself in the purchase of medicine, betray a depth of ignorance of the mysteries of the laboratory, (to say nothing of its *trickery*, when in skilful, but unprincipled hands,) not very commendable in a public journalist who would

presume to speak understandingly of subjects requiring not only extensive scientific research, but practical knowledge.

Most persons, we admit, can judge very correctly by sight of the quality of most articles of food and clothing; but where is the man who can, by simply looking at the almost countless number of medicinal preparations, chemical and otherwise, say whether they are pure or adulterated? can, by looking at the various preparations of morphine, say whether they do, or do not contain five, ten, or even twenty per cent. of *amygdaline*?—Can detect by sight, *corrosive sublimate*, *prepared chalk*, *gypsum*, and other impurities in calomel?—Can by sight, say whether blue-pill mass contains its full equivalent of mercury, or only one-fourth or less of the requisite quantity?—Can say whether hydriodate or iodide of potash is pure, or is adulterated by the admixture of *sal acetosella*, *sup. tartrate*, and *sulphate of potash*?—Can, in the same way, detect *salicine*, *mannite*, *sulphate of barytes*, and *oxyde of zinc* in sulphate of quinine?—can say whether tartarized antimony, and antimonial powder is pure, or whether they contain ten, twenty, or thirty per cent. of *rye-flour*?—Can say whether Croton oil is, or is not adulterated by the admixture of inert *fat oils*, or whether it is not, in fact, an entirely *factitious article*?—Can, by looking at the powdered cinchona bark, say whether it is genuine powder of that species which affords the largest quantity of quinine and some cinchonine, or whether it contains thirty or fifty per cent. of the powdered *Maracaibo* or *Carthagena bark*, which affords but a trace of either of these important alkaloids, and is consequently worse than worthless for medicinal purposes—or whether it is not, in fact, composed entirely of the latter worthless variety?—Can say by looking at powdered rhubarb, whether it is that prime quality which affords from sixty to seventy per cent. of soluble matter, and some twelve per cent. of pure resin, or whether it is an article produced from the *decayed and worthless* root, (the color and smell having been heightened by artificial means,) which affords not to exceed fifteen per cent. of soluble matter and *no resin at all*?—Can by the sight detect *flour*, *starch*, *extract of senna*, *carbonaceous* and *argillaceous* earths in scammony, or can pronounce it pure?—Can say by looking at powdered jalap whether it is fresh and pure, or whether it contains ten, fifteen, twenty or more per cent. of *powdered gray sago* or other *farinaceous* substances?—Can by looking at the extract of Peruvian bark, say of what species and quality it is composed, or whether it is not adulterated with inert extractive matter?—Can tell genuine compound extract of colocynth, from a partially, or an entirely factitious

article?—And thus I might continue through the whole catalogue; for these adulterations have been made, and will continue to be made, unless *unremitting watchfulness* is exercised by the *profession*, and all *regular dealers*; but I feel that I have already sufficiently exposed the fallacy of the *ocular* “discriminating” test. Suffice it to say, that the special pleading of interested parties proved a nullity, and the righteous and humane law triumphed; for, notwithstanding the threats of *repeal*, the threats of vengeance upon the devoted head of the writer of this communication, for having furnished Congress with the requisite facts and data, on which to warrant and frame a favorable report, and the countless anathemas uttered against the active friends of the measure generally by those who on the passage of the law, doubtless, and very properly so, considered their “occupation gone,”—I have reason to believe that many, very many of the then opponents have already become convinced of their error, and have resolved hereafter to pursue a different course of trade, and in the matter of *false representations*—to sin no more.

With some few exceptions, and those of foreign houses who, from the first, have refused to be comforted, the murmurings of discontent seem at present to have almost entirely ceased, while the friends of the measure have greatly, and as far as I can learn, every where increased; and what is particularly gratifying is the fact, that several of our honest and worthy importers and dealers, whose views of free trade recognize no medium ground, and who, when the subject was first agitated, fancying they discovered in its objects some air-drawn dagger aimed at commercial rights, stood neutral, looking upon the passage of such a law as of doubtful propriety, (although they, at the same time, deprecated the base traffic,) have already confessed that their fears were groundless, and that they are now satisfied the law, instead of being calculated to embarrass and cripple trade, will essentially benefit it; perceiving as they do, that a better and higher standard of articles are called for, and a corresponding higher price paid by the purchaser without complaint; which fact, of itself, furnishes ample inducement for them to order none but genuine, and the first quality of drugs and medicines from abroad.

As an instance in point, and to show how the good seed is springing up at a distance, it may not be amiss for me to say, that some two months since one of the parties connected with an extensive drug firm, which for reasons above stated, were decidedly averse to the passage of the law in question, remarked to me that

he believed, after all, it would in the end be advantageous to the trade; and upon my congratulating him upon his so soon realizing the fulfilment of the prophecy predicted by me from the first, and asking him what prompted his conclusion, he replied, that orders *now* came in a different shape; that a short time previous they received a very heavy order from a customer located in one of the principal towns of the west to the effect, that *every* article must be of the first quality, and such as he could guarantee to his customers; that whatever price asked would be paid, *and their house held responsible for their purity*, as it was now understood that adulterated medicines, as well as worthless drugs were no longer imported. The order he said was gladly filled on those conditions, and the amount charged, affording them a perfectly satisfactory profit, was as promptly and cheerfully paid. "Their customer was satisfied; they were satisfied; all were satisfied."

No medicinal chemical preparations of any importance have been presented to entry at this port since the law took effect. The agitation of the question for several months prior to the passage of the bill, doubtless had the effect of putting those engaged in the nefarious traffic on their guard; and as this country was the principal market for merchandise of that description, it is to be presumed that the manufacture abroad has been, in a great measure, discontinued. The worthy popular foreign manufacturing chemists who have never been known to send out from their laboratories an impure article, look, as far as I can learn, upon the law in question with much favor; and well they may, for their sales have in consequence greatly increased. This, however, is very readily accounted for, from the fact, that by stopping the importation of base adulterations and imitations, the genuine foreign articles are immediately in greater demand, for the reason, that the business of preparing the extensive variety of chemical preparations used in medicine is still in its infancy in this country. And now, while upon this subject, a matter of great importance to the profession generally, as well as to the community at large, very naturally presents itself, to wit, *home adulterations*. The strongest, and almost the only argument raised against the passage of the bill when before Congress, was, that it would be "offering a premium on home adulterations." A distinguished senator, who took this view of the case, admitted that he approved of the *principle* of the bill, and should vote for it, but maintained that the effect would be as he had stated. The friends of the measure pledged themselves to take care of our own people, if Congress would take care of the unprin-

cipléd manufacturers, speculators, and dealers abroad; and it is devoutly to be hoped that they will faithfully and fearlessly redeem their pledges at any sacrifice of time, watchfulness, and if needs be, money.

I, for one, never looked upon the passage of the law in any other light, than as the *first important step* towards the great reform so long, and so much needed; and *the profession must only so consider it*. Much yet remains to be done; something more than simple *professions* of friendship to the measure must now be brought into requisition. To suppose that we have none among us engaged, or who *will* engage in the preparation and sale of spurious and adulterated medicines, is to place a higher estimate upon the conscientious scruples of that portion of our speculating and trading community with whom the almighty dollar is paramount to all other considerations, moral, if not divine, than from my somewhat extensive observations, I am willing to concede. Even at this early day, the fraudulent work of their hands is but too visible. Within the last month or two, sulphate of quinine, in considerable quantities, bearing the label of Rosengarten & Denis, Philadelphia, has been found in market adulterated to the extent of some twenty or twenty-five per cent. The same may be said of quinine bearing the label of the London Alkaloid Company, London—likewise that bearing the label of Pelletier, Delondre & Lévilant, Paris.

Now, these frauds were perpetrated by our own people, or among our own people, and after the article, too, had come into the hands of the purchaser. The manufacturers sent them forth pure, and had nothing to do with the sophistication. Each of the firms named stand too high, and deservedly so, to warrant even a suspicion of such unpardonable baseness.

The material used for the adulteration of the quinine was found, on analysis, to be *mannite* and *sulphate of barytes*, in about equal weights. The latter article has long been used for this purpose, but not until lately has *mannite* been detected in the sulphate of quinine. It seems to have been ingeniously substituted for salicine, and a somewhat similar substance prepared from the poplar bark; which articles have heretofore been extensively used for like purposes.

The ingenuity consists in the fact, that it is much more difficult to detect the adulterations when effected by the admixture of *mannite*, than when by the admixture of salicine, &c. while the former can be furnished for less than one fourth of the latter.

I have likewise procured, and have now in my possession, a

sample of French sulphate of morphine, adulterated by the admixture of some thirty per cent. of *amygdaline*, an article, which in this combination, defies all the ordinary tests for its detection; and which, like the mannite in the quinine above mentioned, can only be found and distinctly characterized in the mother water after the solution and re-crystallization of the true saline portion of the sophisticated compound.

Some other important medicinal preparations have been spoken of as having been found worthy also to be classed with "home adulterations;" but, as I have, up to the present time, only been able to obtain samples of impure sulphate of quinine, and of sulphate of morphine, I am in hopes that the opinion expressed relative to the other articles may prove incorrect. Should I, however, find the facts and the particulars as they have been stated to me, when I receive the samples which have been promised, I shall make them the subject of a communication for some one of our medical journals; as I feel that every fraud of the kind should be promptly and fearlessly placed before the public in a manner best calculated to command the attention of the profession generally throughout the country.

The question now very naturally arises, how comes this new method of sophistication, and why has this heretofore foreign practice been recently transferred to our shores? I reply, that I have good reason to believe, that we have at present those among us from abroad, who have so long been engaged in this particular line of business that they have become perfect adepts in this base and deceptive art. For some years past, an extensive chemical establishment has been in operation at Brussels, in Belgium, built up at great expense and care, and expressly designed for the manufacture on a large scale of imitations of all the most important foreign chemical preparations used in medicine; while, at the same time, an agent was travelling in this country making sales, and soliciting orders in all the principal towns on our seaboard. This personage is no stranger to me, as I had to examine and pass his murderous wares through the custom house, in large quantities, until Congress, in enacting the present righteous sanitary measure, gave me the power to reject them. The articles were prepared and put up with consummate skill and neatness; and the imitation was so perfect, that it was impossible for the unsuspecting purchaser to distinguish them from the genuine, notwithstanding that in some instances they did not contain over five per cent. of the substance represented by the label. The only *Christian* act that as

far as I am aware the agent performed while among us, was to sound the alarm in season; for since the law went into effect at this port, not a single package from that establishment has been presented for entry; but I regret to say, that if I am correctly informed, one, if not more, of the persons formerly connected with the Brusel's firm, are now in this country, engaged, to some extent, in the same iniquitous business; hence the ingenious adulterations before spoken of. I imagine, however, from certain proceedings which have been instituted, that their career among us will not be of long duration.

Thus it will be seen that as far as sophisticated chemical and medicinal preparations are concerned, we have now but little to fear from the foreign manufacturer and speculator, while we have *increased* cause for unceasing vigilance at home, not only as respects the finer preparations, but also that almost equally important class of medicines known to the trade as crude drugs, to wit: opium, barks, roots, medicinal gums, &c. &c. whether in a natural or powdered state; and while each and every article requires at all times the particular attention and scrutiny of the dispensing apothecary and physician, I will here remark, that the article sold and purchased under the entirely too comprehensive name of *Peruvian bark*, requires, in my opinion, much more attention than it has heretofore received either from the apothecary or the profession. It will be seen by the statement submitted, that the quantity of spurious and worthless cinchona barks which I have thus far rejected, amounts altogether to some thirty-four thousand pounds; and why have I rejected it? Simply because the article containing none, or but a trace of the natural alkaloids of the *true* barks, and consequently possessing no febrifuge properties, is of no more value as a medicine than any other moderately bitter vegetable substance, while at the same time, it is not only unsafe, and improper, but on account of the large excess of woody fibre it contains, decidedly dangerous to be administered in cases where the genuine bark in substance is called for.

The several barks here alluded to, although differing in physical appearance, are those generally known in the trade as the red and yellow Maracaibo and Carthagena barks; and as they resemble the true officinal barks in color, they have long been used in a powdered state for the purpose of adulterating those barks, or sold to the unsuspecting as the genuine article. This fact shows very clearly why it has long been almost impossible to find on sale in the country, or even in any of our minor drug and apothecary estab-

lishments in town, one pound of the red or yellow cinchona bark of the requisite strength and purity; or, in other words, that will afford, on analysis, a per centage of alkaloids corresponding with that produced by the genuine barks. Some samples that have been obtained afforded neither quinine nor cinchonine in any perceptible quantity!! Others less than one fourth part of the alkaloids found in the true and pure barks; and so upward, according to the extent of the adulteration. From the quality of samples that have been forwarded to me from a distance, I am satisfied that the country is filled with such base mixtures and worthless trash; and it will take some time, with all the watchfulness that the profession can exercise, to get rid of the evil; an evil that must be deeply felt in those sections where the peculiar type of their fevers calls for an almost constant use of the cinchona in one form or another.

In view of these facts, I have from the first invariably refused to admit these spurious barks, notwithstanding my refusal has subjected me from interested parties to unqualified denunciations and reiterated threats of vengeance, even to expulsion from my post, doubtless to make room for some one of more easy medical virtue. The rejection of no other article of drugs has excited so much indignation; and I regret to remark that the dishonest and unpardonable traffic is held on to by some of our speculating traders with a tenacity truly deplorable; but when I say that the spurious barks cost, delivered in this market, on an average only some *six cents* a pound, while the genuine costs *eighty cents*, it is not difficult to fathom the cause of these ebullitions of wrath so profusely showered upon me. I shall continue, however, *fearlessly* to do my duty in carrying out the intent of the law, though the heavens fall and I fall with them.

Some fifty different plants have been placed under the genus cinchona by various authors, while only the barks of three species are recognized as officinal, to wit, the true yellow or calisaya bark, (*cinchona cordifolia*.) the true red bark, (*cinchona oblongi folia*.) and the true pale, loxa or crown bark, (*cinchona lancifolia*;) all producing the natural and important alkaloids; the two first producing both quinine and cinchonine; the last, cinchonine only.

The following are some of the descriptive names given to a large number of varieties of these plants, which have not only thus far defied the skill, examination and research of naturalists and botanists to establish satisfactorily their specific identity, but have on account of their varied and irregular foliage, location, &c. &c.

given rise to a wide difference of opinion as to the manner in which they should be classified, to wit :

|           |               |           |               |
|-----------|---------------|-----------|---------------|
| Cinchona, | condaminia.   | Cinchona, | hirsuta.      |
| do.       | lanceolata.   | do.       | ovalifolia.   |
| do.       | angustifolia. | do.       | serobiculata. |
| do.       | ovata.        | do.       | caduciflora.  |
| do.       | magnifolia.   | do.       | stenocarpa.   |
| do.       | glandulifera. | do.       | mierantha.    |
| do.       | gratissima.   | do.       | purpurea.     |
| do.       | corymbifera.  | do.       | rosea.        |
| do.       | excelsor.     | do.       | macrocarpa.   |
| do.       | phillipica.   | do.       | petalba.      |
| do.       | pubescens.    | do.       | dichotoma.    |
| do.       | glabra.       | do.       | acutifolia.   |
| do.       | nitida.       | do.       | macrocalyx.   |
| do.       | officinalis.  | do.       | crassifolia.  |
| do.       | afroinda.     | do.       | humboldtiana. |
| do.       | caribæa.      | do.       | pavonii.      |
| do.       | rotundifolia. | &c.       | &c.           |

Thus it will be seen that a wide field, but imperfectly explored, is still open, inviting the attention of the profession to one of the most important curative agents to be found in the whole range of the materia medica. Samples of the different barks should be obtained and analytically examined, and approved or condemned, as they are found valuable or otherwise for medicinal purposes ; thus narrowing down and establishing an officinal standard for those barks worthy a place in our pharmacopœias and dispensatories.

While it has been my duty under the present law to shut out large quantities of worthless crude drugs, it has been gratifying to me at the same time, to observe a steady, increased, importation of superior articles of the kind ; articles of such a quality as were not sent to this market at all, or but rarely, as long as the inferior and worthless were admitted to entry ; and the consequence is, as I have before remarked, honest importers and dealers freely admit, that the practical working of our drug law has already raised the standard of medicines very materially.

The question now very naturally and properly comes up, will these prime crude drugs, after having been powdered and prepared, be found on sale in town and country in as pure a condition as when imported ; or in other words, be found free from adulteration. I fear not, unless a strict watch is kept over the operations of the *unprincipled* portion of those among us whose mission it is "to buy, sell, and get gain ;" honestly if they can ; if not, get it.

It has heretofore been too frequently found that drugs become astonishingly reduced in strength and purity during their transition state from root, bark, gum, &c. &c. to powder. Prime fresh drugs are no doubt, (as well as worthless,) sent to the drug-mill; but some how or other, "by falling into bad company," I suppose, they are very apt during their stay to lose their virtue; and as a matter of course are returned to their owner, and sent out into the market, with a character decidedly tarnished—an article fair to look upon, but whose touch is death. Badinage apart—the business of drug-grinding or powdering requires a searching and thorough reform.

I have already alluded to the mysteries and trickery of the laboratory when in skilful but dishonest hands—but be assured sir, its conjurations and diablerie, if I may so express myself, in the preparation of adulterated chemical medicinal compounds, hardly exceed in ingenuity, deception and iniquity, the frauds committed under the roof of the drug-mill.

I have in my possession the voluntary confessions of a drug-grinder, who has retired after amassing a fortune in the business; but I will not swell this report by entering at this time into an extended detail. That duty shall be performed by making it, at some future time, the subject of a chapter in the chronicles of *imperatively demanded* reforms. Suffice it, then, to say, that most of the *farinaceous* substances, such as rye, corn, wheat, rice, gray sago, &c. &c. together with various coloring agents, are too frequently, if not constantly, to a greater or less extent, brought into requisition—to say nothing of the mixing in the mill of a large portion of the inferior with the good article; as well as the mixing two or more articles entirely dissimilar in their active principles, such a combination, for instance, as crystals of cream of tartar, alum, and whiting!! This last villanous compound, when nicely powdered, is denominated at the mill "grocers' cream of tartar;" but that it is sold and dispensed, particularly in the country, as a genuine article, I have the best of reasons for believing. No wonder, then, (if this article is used by bakers, by families in baking, and for medicine,) that dyspeptic complaints have of late years increased in a tenfold degree. I have several samples of powdered drugs in my possession in which have been detected the above mentioned adulterations.

This is a very important subject, and one, too, which the profession throughout the country, as well as the medical staff of the army and navy, whether on duty at a distance, or at home in hos-

pital practice, should lose no time in investigating; for how is it possible for the physician to do justice either to his patient or himself, however judicious and correct his prescriptions may be, as long as there is so much uncertainty as to the strength and purity of the curative agents he may recommend? I cannot but believe that many, very many valuable lives have been lost, owing to this lamentable condition of things. Would our medical writers say more of the *active principle* of the various remedial agents, as well as *strength, purity* and *uniformity*, and less of the endless, and not unfrequently *Utopian* methods of application, they would, in my opinion, render a much greater service to the profession and their fellow men.

All crude drugs lose a greater or less per centage of their weight in drying and powdering; and the deficiency is too frequently made up, or more than made up, as the case may be, by the addition and admixture of the farinaceous and other ingredients above named. Good opium, for instance, containing the usual moisture, when fresh, loses during the process some fifteen or twenty per cent; but as full weight, or increased weight must be returned to the owner, the knight of the mill obeys instructions, and mingles in his hopper such proportion of foreign substance as the cupidity of his customer requires; and thus I might continue through the preparation of the whole tribe of crude drugs.

For the sake of humanity, I would fain hope that there might be some few exceptions to this general rule; but, if so, I have reason to believe that they are exceedingly rare. It will thus be seen that *this* species of "home adulteration," like that of the sophisticated chemical preparations already spoken of, is an evil of great magnitude, and one that calls equally loud for reform. Not only justice to the community at large, justice to the profession, but justice to the *honest importer* and *dealer* demands the prompt application of an efficient remedy to these villanous and murderous practices.

This well known and unpardonable conduct on the part of unprincipled traders has been the only cause of dissatisfaction manifested by any of the honest importers since the passage of the law in question. They say, and with reason too, that while they are not only compelled, but *desire* to import none but genuine drugs and medicines from abroad, they deem it but common justice that our own people should be prevented from taking the very articles which they have selected with so much care, and imported at an advanced outlay of capital, and converting them into base and dan-

gerous compounds, similar to those which the law prevents the importation of.

This business of home adulterations is no new discovery. It has too long been practised among us with impunity, for the reason that previous to the present drug law it was almost impossible to fasten the fraud upon any particular individual. The almost invariable reply of the dealer to any complaints of his customer that articles previously purchased did not prove genuine, as recommended, was, "I am very sorry, but they were just as imported"—leaving it impossible for the purchaser to say whether the truth had been told him or not. The case is now happily otherwise. By the passage of this law, that *loophole* of escape, ("just as imported,") is closed, taking it for granted, by the way, that the special examiners, at the different ports, do their whole duty.

Thus it will be seen that hereafter it need not be a difficult task to trace such adulterations, &c. as may be found in the market to their guilty source. But, says one, "How shall the good work of detection and reform in these matters be commenced, in order to be effective?" In reply, I would respectfully suggest, that the National Medical Association, at their next meeting, should appoint a committee composed of *two* or more from each State, whose duty it shall be to closely scrutinize powdered drugs, and *all other* medicinal preparations found on sale throughout the country; and of those suspected, let them purchase small quantities, and subject the same to analysis; and if they prove to be of inferior strength, or to have been fraudulently prepared, let the fraud be promptly exposed through the columns of our numerous medical and other journals; and let the committee report all particulars at the next annual meeting of the Association.

This course will not only bring public opinion to bear upon the subject, which sometimes proves all-powerful, but what is of great importance, will place the profession in the possession of such *facts* and *data* as will be absolutely *indispensable* to insure success, should they, as a last resort, for the purpose of entirely eradicating the evil, be compelled to make a united appeal to the different state legislatures of the union for the enactment of such laws, penal or otherwise, as may be deemed most judicious, and at the same time most effective. I am inclined to believe that a movement of the kind would be attended with the most beneficial results. Very few wholesale and jobbing drug houses, with a knowledge of such a *surveillance* over them, would be apt, in my opinion, to risk their reputation and the success of their business by sending forth from their establishments spurious and adulterated medicines, with an

almost moral certainty of the fraud being exposed and fastened upon them. The same fear of detection and exposure at the sacrifice of their business, would induce the country dealers to order no articles of medicine from the principal markets but such as they could guarantee, as *genuine*, to their customers. Furthermore, under such a *régime*, faithfully administered, the *demand* for adulterations and worthless medicines would cease, and consequently their manufacture.

Should, however, the power of public opinion not prove sufficiently omnipotent, the strong arm of the law must be brought into requisition.

The last number of that valuable and ably conducted work, the American Journal of Pharmacy, speaking of the effects of the present drug law, holds the following language:—"The general government has nobly done its part—it remains for the state legislatures and executives to look into this important subject, and ascertain what there is for them to do that will benefit the public interests over which they are appointed to watch;" and most cordially do I respond to the truthfulness of the remark. The Journal again, in the same article, very properly insists that as one remedy for the evil complained of, the business of dispensing medicine should be confided exclusively to those properly qualified; and goes on to say, that as "long as herbalists, grocers, and general store-keepers can vend not only drugs, but active and important pharmaceutical preparations, of whose composition and strength they are ignorant, and of whose qualities they are unable to judge, there is a ready market for adulterations."

There can, we think, be but one opinion as to the importance of the reform here indirectly recommended; and the sooner we have, in this country, (as have long existed in most parts of Europe,) stringent laws regulating the retailing of drugs and medicinal preparations, the better it will be for the community at large, as well as for the profession generally.

It is worthy of remark, that the practical working of our drug law has already awakened a commendable spirit of scientific inquiry, not only among the profession, but among our regular dispensing apothecaries. They now begin to discover that a more intimate knowledge of *analytical* chemistry than has heretofore been generally cultivated is indispensable to a satisfactory exercise of their professional duties; and it is truly gratifying to observe that many are now engaged in perfecting themselves in that important and interesting science, with a devotion worthy of all praise.

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A small manual, in pamphlet form, if you please, (for distribution,) containing a full description of *all* the known sophistications in medicines, and also plain instructions, free from unnecessary technicalities, as to the most simple and certain method of detection, would be of surpassing value to the profession throughout the country; and under the auspices of the New-York Academy of Medicine, or the National Medical Association, I am sure that many of our eminent chemists would gladly aid in advancing so important and praiseworthy an object.

It must be admitted, that thus far, in this country, too little attention has been paid to analytical chemistry as a necessary qualification of those who are expected, at all times, to speak understandingly, not only of the quality and *identity*, but *quantity* of the active principle contained in all medicinal agents, whether crude or prepared, simple or compound, that may fall under their notice; but as the progress of medical reform, with us, *must* hereafter be onward and upward, urged forward, as it is, by the most brilliant lights of the profession—men who are destined to occupy the highest niches in the temple of fame; it is to be hoped that our medical institutions will soon make such addition to their requirements and means—notwithstanding it may subject the student to a somewhat greater expenditure of time and money—as will enable the professor of chemistry, without pecuniary loss, to afford his class such extended and increased facilities as with proper attention will not only render them proficient in the science of analysis, but expert manipulators. Again, should each institution supply itself with an extensive, conveniently arranged, and well selected cabinet of *materia medica*, for the use of the professor of that science, and to which he would direct the attention of his class, while it would enable him to lecture from *samples* of the substances either crude or prepared, as the case might be—immense benefit would, in my opinion, result therefrom.

I cannot, myself, see any good reason why it is not as important that a medical student should before graduating become as familiar with the physical appearance, composition, peculiar qualities and strength of each and every remedial agent he must, of necessity, be called upon to prescribe, as it is for him to acquire that intimate knowledge of everything pertaining to osteology and myology, which is very properly deemed indispensable.

With all the various works on medical botany and *materia medica* which our countrymen have produced, we have no *American* work containing a full and satisfactory analysis of medicinal plants, &c. &c.; and if we desire to see a *full* and *perfect* analysis

of the vegetable substances, &c. used in medicine, we are of necessity compelled to have recourse to the published labors of the analytical chemists of a foreign land—to such names as Berzelius, Vauquelin, Vogel, Meissner, John, Tromsdorff, Geiger, Bucholz, Brandes, Pelletier, Caventau, &c. &c. ; but let the above suggested requirements and facilities be established, and reasonable encouragement afforded to those desirous of distinguishing themselves, and many years will not elapse before we can boast, not only of *American* analysts of note, but works of intense interest and greatly needed on the medico-botanical resources of this our glorious country—a land of almost unlimited extent, embracing every known geological, and mineralogical formation, and blessed with every variety of soil and climate.

We shall then, also, be enabled to have an *American* analytical standard of medicinal agents, embracing the widest range of the *Materia Medica*; one which will prove of inestimable value to the profession, and of lasting honor to those who zealously and *unflinchingly* push on the column of medical reform.

And now, dear Sir, in closing this, I fear too long and tedious report, (for the theme is almost inexhaustible,) I cannot but indulge the hope that the Academy will kindly pardon the hasty and disjointed manner in which it has been written; and, should the facts and suggestions it contains be found important and effective in the cause of reform, and serviceable to my profession—the noblest, the most arduous and self-sacrificing profession on earth; I shall feel amply compensated for any trouble I have taken in its preparation, in the pleasing and gratifying reflection that I have, even in some slight degree, aided in advancing the welfare of my fellow men; and as far as the detached moments of leisure at my command would permit, satisfactorily performed the duty requested of me.

With great regard, very truly and respectfully, your obedient servant,

M. J. BAILEY,

Special Examiner of Drugs, Medicines, &c.