

Now as to the difficulty involved in changing incompatibilities in physician's prescriptions one finds quite another problem. The suggestion is always made to the dispensing student that he get in touch with the doctor and they correct the difficulty together. This theoretical plan is difficult to carry through to a satisfactory close. A number of physicians resent this attitude of the pharmacist and insist that the prescription be dispensed as written. Such a condition necessarily fosters the shake label remedy and cannot help but have a derogatory influence on future practices. If the druggist proceeds to the correction without this consultation, which many are doing, there are the self-evident encumbering difficulties. However, there seems to be no acceptable solution for this situation and the problem is most frequently settled with the already over-exercised "shake" label.

In the third factor, which pertains to the vagueness in the minds of the graduating student concerning this complex subject, one encounters a vital question. As a student, he is instructed in the various types of incompatibilities possible and he learns there are a number of general rules as to how groups of substances may or may not react. Then he learns of the exceptions to these rules, and then possibly the hundreds of special cases are brought to his attention. In the end he endeavors to correlate his qualitative chemistry, his general pharmacy, etc., to the point of recognizing and correcting these hundreds of possible incompatibilities. Time will permit him to investigate at first hand only a very few examples of this broad field. The neophyte becomes more or less imbued with the subject and graduates expecting to plunge into incompatibilities by the score; but, as a matter of fact, he meets very few.

This brings up the last point involved, that of the infrequency of occurrence. The average pharmacist, through lack of application, soon forgets his heterogeneous assortment of rules pertaining to the subject and hence pays it little attention in the scramble to make more money. A little mucilage of acacia may be added now and then, or some other simple remedy brought into use occasionally, but the "shake well" label is always handy.

Therefore, it is the author's belief that changing conditions in the field of pharmacy have relegated prescription incompatibilities to a minor rôle in pharmacy of to-day and these conditions necessitate a revision in the methods of teaching this subject.

SUPERSTITION, CREDULITY AND SKEPTICISM.

THREE BUGBEARS WITH WHICH PHARMACY HAS ALWAYS HAD TO CONTEND.

BY CHARLES WHITEBREAD.*

A belief in the interposition of supernatural powers in the direction of earthly events has prevailed in every age and country in the exact proportion to its want of knowledge. "In the opinion of the ignorant multitude," says Lord Bacon, "witches and imposters have always held a competition with physicians." Galen also complains of this circumstance, and observes that his patients were more obedient to the oracle in the Temple of Æsculapius, or to their own dreams, than they were to his prescriptions.

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There is an unaccountable propensity in the human mind, unless subjected to a very long course of discipline, to indulge in the belief of what is improbable and supernatural. This is perhaps more conspicuous with respect to medicine than to any other affair of human life, both because the nature of diseases and the art of curing them are more obscure, and because disease necessarily awakens fear, and fear and ignorance are the parents of superstition. Every disease, therefore, the origin and cause of which did not immediately strike the senses, has in all ages been attributed by the ignorant to the wrath of Heaven, to the resentment of some invisible demon or to some malignant aspect of the stars, and hence the introduction of all sorts of superstitious remedies, most of which were intended as expiations to these offended spirits, rather than as natural agents possessing medicinal powers.

Every substance whose origin is involved in mystery has at different times been eagerly applied to the purposes of medicine. A tendency to attribute every ordinary and natural effect to some extraordinary and unnatural cause is one of the striking peculiarities of medical superstition. It seeks also explanations from the most preposterous agents when obvious and natural ones are in readiness to solve the problem. Soranus, for example, who was contemporary with Galen, and who wrote the life of Hippocrates, tells us that honey proved an easy remedy for the thrush of children, but instead of at once attributing the fact to the medical qualities of the honey, he very gravely explains the virtue of the remedy by stating that it was obtained from beehives near the tomb of Hippocrates.

The introduction of precious stones into the materia medica of the past was not based upon any philosophical principle, but arose from a superstition that their beauty and value made them well-adapted receptacles for good spirits. Even those salutary virtues which many herbs possess, were, in the times of great superstitious delusion, attributed rather to the planet under whose ascendancy they were collected, or prepared, than to any natural and intrinsic properties in the plants themselves. Indeed such was the supposed importance of planetary influence, that it was usual to prefix to recipes a symbol of the planet under whose reign the ingredients were to be collected. The character which is used at the head of prescriptions, and which is understood and supposed to mean recipe, is a relic of the astrological symbol of Jupiter, as may be seen in many of the older works on pharmacy, although at present so disguised by the addition of the down stroke which converts it into the letter R, that were it not for its cloven foot we might be led to question the fact of its superstitious origin.

Credulity is closely allied to superstition, yet it differs very widely from it. Credulity is an unfounded belief in what is possible, although destitute of proof and perhaps of probability; but superstition is a belief in what is wholly contrary to the laws of the physical and moral world; thus, if we believe that an inert plant possesses any remedial power, we are credulous, but if we were to imagine that, by carrying it about with us we should become invulnerable, we should in that case be superstitious. Credulity is a far greater source of error than superstition, for the latter must be always more limited in its influence, and can exist only, to any considerable extent, in the most ignorant classes, whereas credulity diffuses itself through the minds of all classes.

This mental imbecility is not characteristic of any age or country, in spite of the fact that the United States is accused of possessing more than its share of cre-

dulity, and until comparatively recent times it was not uncommon to hear it called the "Paradise of Quacks." If we refer to the words of Aetius, written nearly 1400 years ago, we discover the existence of a similar infirmity with regard to medicine. This author collected a multitude of nostrums, particularly those that had been celebrated, many of which he mentions with no other view than to expose their folly, and to inform us at what an extravagant price they were purchased. We accordingly learn from him that the collyrium of Danaus was sold at Constantinople for 120 numismata, and the cholical antidote of Nicostratus for two talents. In short, we find an unbounded credulity with respect to the powers of inert medicines, leading down from most ancient times to the elixir and alkahest of Paracelsus and Van Helmont, to the tar water of Bishop Berkley, to the metallic tractors of Perkins, and the nostrums of our own times. The writings of Scribonius Largus, a Roman compiler of medicines who lived in the first century after Christ, disclose ample evidence that the practice of keeping medicines secret for fraudulent purposes prevailed in a most marked degree in that distant time; while the sacred orations of Aristides satisfy us that the conduct of the Asclepiads was the very prototype of the cruel and remorseless frauds so wickedly practiced by the unprincipled quacks of the present time.



Fig. 1.—Perkins' Tractors.

A metallic contrivance devised by Elisha Perkins, Norwich, Connecticut, 1740-1799, for the cure of disease. Consists of two short, conical, pointed instruments, each flattened on one side, one having the appearance of brass, the other of steel. They were applied by drawing the points over the affected parts for about 20 minutes at each sitting.—*Courtesy of U. S. National Museum.*

Credulity is belief without reason. Skepticism is its opposite, reason without belief, and is the natural and invariable consequence of credulity. For it may be generally observed that people who believe without reason are succeeded by others whom no reason can convince. Suppose, for instance, that a credulous person experiments with a nostrum, or one of our modern "royal roads to health," upon which unworthy and extravagant praise has been bestowed. When such a person discovers that the alleged medicine, or form of treatment, falls entirely short of the efficacy ascribed to it, the chances are that he will not only abandon the use of that particular medicine, or method of cure, but in the future will be unwilling to concede to the healing art in general that degree of merit to which in truth and justice it is entitled, and thus be converted into a skeptic.

There is a saying that there is some good in everything, and many of the practices which superstition has at different times suggested, and credulity has made possible, have not been entirely absurd. In fact, some of them have even possessed, by accident, natural powers of considerably efficacy, while others, although ridiculous in themselves, have actually led to results and discoveries of great practical importance. One of the most remarkable instances of this kind is that of the

sympathetic powder of Sir Kenelm Digby, Knight of Montpelier. Whenever any wound had been inflicted, this powder was applied to the weapon that had inflicted it, which was, moreover, covered with ointment, and dressed two or three times a day. The wound itself in the meantime was directed to be brought together, and carefully bound up with clean linen rags, but, above all, to be let alone for seven days, at the end of which period the bandages were removed, when the wound was generally found perfectly united. The triumph of the cure was ascribed to the mysterious agency of the sympathetic powder which had been so carefully applied to the weapon, when as a matter of fact scarcely necessary to state, the promptness of the cure depended upon the total exclusion of impurities, and upon the curative operations of nature not having received any disturbance. The result, beyond

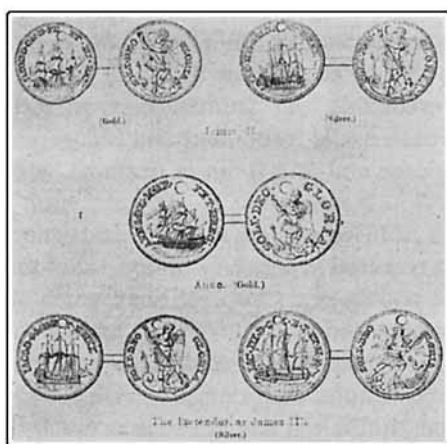


Fig. 2.—Touch-pieces.

Types of touch-pieces presented to patients after the ceremony of royal touch for the cure of scrofula, or "King's Evil." The touch-piece was worn as an amulet suspended from the neck. Royal touch is said to have originated with Edward, The Confessor, 1004-1066, and to have been practiced by succeeding kings and queens of England down to Queen Anne (1664-1714).—*Courtesy of U. S. National Museum.*

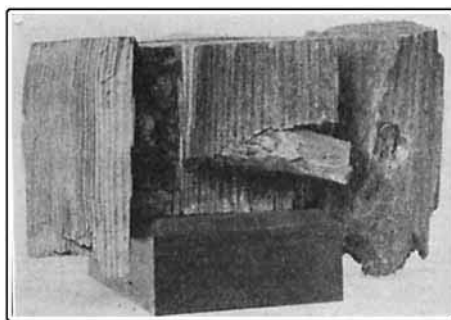


Fig. 3.—Transference of Disease.

A specimen illustrating one of the many forms of disease transference. Section of a tree grown on government grounds near the Naval Hospital, Norfolk, Va. The tree had been tapped, human hair inserted in the hole and the hole then plugged and sealed with clay.—*Courtesy of U. S. National Museum.*

"If you can get a few strands of your enemy's hair, bore a hole in a tree, put them in and plug up the hole, you can thus give him a headache which cannot be relieved until the hair is taken out of the tree."—*Encyclopedia of Superstitions.*

doubt, furnished one of the first hints which led surgeons to the improved practice of healing wounds by the method which later on was called the first intention.

Smallpox inoculation was practiced in India and Turkey on a superstitious principle long before it was introduced as a rational practice. It appears that the greatest obstacle which vaccination encountered in India was a belief that the natural smallpox was a dispensation of a goddess, or rather, that the disease was an incarnation of the evil goddess herself, into the afflicted person. The fear of offending this goddess, and of exposing themselves to her resentment, necessarily rendered the natives of the East averse to vaccination, until a superstitious impression, equally powerful, with respect to the new practice, was happily effected. The new belief was that the goddess had voluntarily chosen the new and milder method of mani-

festing herself to her votaries, and that she might be worshipped with equal respect under the new method.

The cures effected by royal touch, which are usually cited as proof of the power of faith over disease, or of mind over the body, seem to have been produced by very different causes. It seems that it was a part of the duty of the royal physicians and surgeons to select such patients afflicted with scrofula as evinced a tendency toward recovery and as the touch of the king, like the sympathetic powder of Digby, secured the patient from the mischievous importunities of art, so were the efforts of nature left free and unhampered and the cure of the disease was not retarded by the operation of adverse remedies.

Superstition is diminishing with enlightenment, but we still have with us, and in larger numbers than the average person might suspect, those who wear a bent horseshoe nail around the finger, carry a horse-chestnut on the person, and depend upon madstones and numerous like objects to cure or prevent disease. And it is apparent to all that if it were not for the credulous, the manufacturers of secret nostrums, who viciously prey upon the sick by the use of fraudulent and exaggerated claims, could not continue to thrive until exposed and forced out of business by the state and federal authorities.

It must be admitted that at that period in history when reason first began to throw off the yoke of unlicensed authority, it required superiority of understanding, as well as intrepidity of conduct, to resist the powers of the superstitions which had so long held the world in captivity. There was a need of skeptics then, and there is some need for them yet, but it may be well for those who cherish and cultivate a spirit of skepticism, merely from the idea that it denotes the exercise of a superior intellect, to remember, as some one has said, that "unlimited skepticism is as much the child of imbecility as implicit credulity."

Those engaged in any branch of health work learn quickly enough that the old foes of medical progress—superstition, credulity and skepticism—are still rampant. The superstitious continue to try out their magic cures or preventives. The credulous resort to the use of the vicious secret nostrums, while the skeptics just delay action for no good reason except a general disbelief in most everything. After adding other causes of people's dilly-dallying with such an important matter as health, such as carelessness, disregard of personal or community health, false economy, etc., it seems wonderful that medical science is accomplishing so much with so many hindrances.

We have learned that many diseases, including those which are exacting the heaviest toll, are curable if early warning signs are heeded promptly. The health authorities and association workers are doing much to acquaint the people with danger signals which precede serious conditions of health. The "have a physical examination on your birthday," and "see your dentist twice a year" slogans are sending home the thought that it is good policy to ascertain periodically how the body is functioning, while the "your druggist is more than a merchant" slogan and others like it direct the people to the source upon which they should rely completely in matters pertaining to the dispensing of medicines. The past few decades have been filled with medical discoveries of the highest importance. With these discoveries have come successful methods of combating heretofore uncontrollable diseases. More research along medical and health lines is being carried on than ever

before. The colleges are preparing graduates more fully equipped to practice medicine, dentistry, pharmacy and all branches of health work, and hospital service and nursing have reached points approaching the ideal.

The accomplishment of reducing the death rate of tuberculosis in the United States in a comparatively short time from 201 to 81 per 100,000, and the success which has followed the application of scientific methods to the prevention of typhoid fever, diphtheria and many other diseases, are examples of what is being achieved by coöperation.

An enormous amount of work is being done to teach the public that the help of each individual is needed if the best result is to be obtained. Well thought out campaigns are being carried on against disease, and much money is being spent to impart the simple knowledge that delays are dangerous when health is involved. In view of all that is being done, it is somewhat discouraging at this late day to know that there are educated people in this country who possess madstones, and like magic charms, and have faith in them as curative and preventive agents; to see friends who should know better than to patronize the venders of worthless secret nostrums; and to hear the skeptics condemning generally accepted methods of treatment.

The bugaboos of progress—superstition, credulity and skepticism—are not new enemies of physicians and pharmacists, and the task of health workers in the future, as in the past and present, must be not only to conquer and control diseases, but to train those who retard progress to think right and act promptly when their health or that of others is concerned.

HUGH MERCER BOOK OF 1769.

The Hugh Mercer Apothecary Shop of Fredericksburg, Va., has received an old volume which bears the book plate of Dr. or Gen. Hugh Mercer with his coat of arms, and under it written, in Dr. Mercer's handwriting, "Hugh Mercer 2-6 February 1769." On the title page appears again "Hugh Mercer." The book was given by E. Y. Guernsey, of Bedford, Ind., at the request of William E. Carson, of Riverton, Va., chairman of the Virginia commission on conservation and development.

Mr. Guernsey, a director of the Indiana Federation of Art Clubs, has found that the book passed into the hands of Gen. Thomas Posey, who carried it to Indiana, and from General Posey it passed to Governor Jennings, Indiana, who was born in Rockbridge County, Va. Governor Jennings' Indiana home was in Charlestown, where Mr. Guernsey procured the book.

General Thomas Posey, of the Fredericksburg region, was a member of the No. 4 Masonic Lodge here at the same time that General Washington, Weedon, Woodford, Wallace and Mercer were members. He was a member of the Virginia Committee of Correspondence, a brigadier-general in the Revolutionary War, United States Senator, Governor of Indiana,

1816-1818, and Indiana Agent at Shawneetown, Ill., where he died in 1818.

The book bears marginal notes in the handwriting of General Mercer. The title page of the book reads: "Chronological Tables of the World—Commencing with the Creation and Ending with the Nativity of Jesus Christ—Comprehending Ye Space of 3950 years. Digested into Ye Same Method with Ye Chronological Tables of Col. W. Parsons. By the Reverend Mr. Adam Blandy, M.A., and late Fellow of Pembroke Coll: Oxon."

ALEXANDRIA CITIZENS SEEK TO PURCHASE THE BUILDING FORMERLY OCCUPIED BY LEADBEATER PHARMACY.

George A. Ball, of Muncie, Ind., has donated \$1000 to the Association for the Preservation of Alexandria Antiquities; other amounts have been donated and a final effort will soon be made to raise the necessary amount for retaining the equipment purchased for the AMERICAN PHARMACEUTICAL ASSOCIATION as a Museum. The ASSOCIATION agreed to leave this material in Alexandria, provided the Alexandria organization acquires the building by purchase and maintains the Old Apothecary Shop as a museum.