

Our present efforts in preventive medicine have wrought miraculous results but they are all centered upon environmental prevention. If "an ounce of prevention is worth a pound of cure" in one direction it should be in the other. Nature is showing us many ways by which to resist the poisons of microbes. Let us learn our lesson from her. We must become able to poison our poisoners and to inhibit the effects of their poisons upon our cells. The druggists have a duty here that is as great as that of the doctor. He should discourage all reckless talk about the poisonousness of drugs by teaching his customers, when he has an opportunity to do so, that there are no such things as poisons *per se*, that strychnine, in proper physiological amounts, is no more a poison than is bread or meat, egg or cheese, and that soluble poisons, properly diluted, are more likely to be beneficial than harmful. Unless this is done there may, at any time, arise a wave of ignorant hysteria that will destroy—as it has already hampered and hindered—medical science in its work of aiding the deluded men and women who are sponsors for restricting and troublous laws.

NOTES ON PRIMITIVE PHARMACEUTICALS, SUGGESTED BY THE
BRONZE SEALS, OR AMULETS, FROM INDIA, WHICH HAVE
BEEN ON EXHIBITION AT THE NEW YORK COLLEGE
OF PHARMACY.*

BY ADELAIDE RUDOLPH, NEW YORK.

These seals, originally numbering seven, have given rise to a good deal of speculation. Nobody, yet, has been able to say definitely whether they be wholly religious in character, and the figures which are inwrought in their bases merely symbolic of deities worshipped by certain Hindu sects, or whether they belong to the more general class of amulets, which are still so largely used in India as a protection against witchcraft, sickness, accidents, and other evils and ills of life.

Miss Lucia C. G. Grieve, who lent them to the library, a member of the American Oriental Society and at one time a student of Sanskrit, thinks that they are mostly religious and symbolic in character. It was during a two-year residence at Satara in the Maratha country of the Bombay Presidency of India that she made the collection, buying the seals from time to time of the itinerant fakirs, or "boxwallas." The story told her about these particular seals was, that they had formerly belonged to priests who officiate at the sacred tanks and holy bathing places, to which pilgrims flock throughout the length and breadth of the country, and were, when heated, used by these priests to stamp upon the bodies of the pilgrims, after ablutions, a mark, which could not be lost or stolen, that should protect from the much dreaded "evil eye," and from other disastrous influences.

The two or three Hindus of New York to whom I showed the seals were inclined to support Miss Grieve's opinion—that they are purely religious and symbolic in character, though they discredited the part of the story which relates to branding the flesh. They thought it more likely and more conformable with Hindu customs in general that the stamps should be used to impress symbolic designs on the sandal-paste, or the clay or mud from sacred rivers or bathing

* Read before Section on Historical Pharmacy, A. Ph. A., City of Washington meeting, 1920; seals and amulets were exhibited.

places, with which good and devout Hindus decorate their faces, especially the forehead between the eyebrows, after the bath. This explanation of their use seems to accord also with their present appearance, because one can see the remains of some pasty or chalky substance still clinging to the bronze. The custom, however, prevailing in Burma, of *tatoing* the body with mystical squares, cabalistic diagrams, and weird figures for charms¹ does not by comparison make the brief *branding* of such figures seem "too cruel to be believed." In Burma, also, charms are often embedded in the flesh.¹

The real difficulty in interpreting their character and use appears when one studies the figures. To what particular god or goddess of the Hindu pantheon are the centipede, the beetle (or, it may be, a conventionalized scorpion), and the square and pentacle sacred? The conch, probably, is religious and symbolic; for we find in a paper, published in the *Journal of the Anthropological Society of Bengal*, 1907, p. 79, that the "*sankha* or conch" is one of the symbols of Vishnu, and of his eighth incarnation, Krishna, and is impressed by means of a copper or brass seal on a particular kind of earth which is believed to be the relic of the sandal-paste prepared by the milk-maids who were the attendants of the god Krishna and his beloved Radha. On the other hand, conchs are used sometimes, apparently, merely as charms. In the Madras country, Miss Grieve saw conchs placed on the headstalls of the oxen, which she notes in parentheses are the "*steeds par excellence* of that region," to protect them from the evil eye.

So, too, with regard to the "pentacle," composed of two triangles. The triangle in varying combinations is used by the *Shaktias* (whose bible is the *Tantras*). Many of that sect live in and about Satara, so that articles used by them would frequently come into the hands of peddlers. Yet, two triangles interlaced or superposed in the form of the pentacle constitute a stock figure of the magical art among many peoples who are still in a condition of primitive culture. One writer says that, in Bombay, when the pentacle is enclosed, as is the seal which we have, in a series of circles and curves, it prevents a child from crying; also, that it is used as a charm against scorpion stings and fever.

Of what religious import, if any, are the characters neatly wrought in the square? Nobody yet has been able to tell us, because nobody yet has been able to say whether they are numbers, letters, or signs. It looks very much like those "magic squares," which are so common, which contain numbers, or letters and signs for numbers, that, added, give the same sum-total in every direction—up, down, or across the sides, or diagonally. Magic squares are much used in India as specifics for diseases. A Hindu writer in the *Journal of the Anthropological Society of Bombay*, 1910, gives a list of forty-four amulets of this character, which his father, in 1862, had him copy out of a much esteemed commonplace book. "To me," he says, "the sole interest lies in the fact that the amulets here shown in figures are from the collection of my dear Father who had great faith in their efficacy." Some were prescribed to be worn, others to be put into the bed near the afflicted patient, and others to be written on paper and the water drunk in which they had been washed.

The incantation, or charm, inscribed in Marathi on the heart-shaped stamp which looks like a seal ring, may be easily read by one who knows the language.

¹ Hastings, "Encyc. Religion and Ethics."

It recites the holy name of Rām (Rāma), than which no name is held more sacred throughout India. But was it used simply as a distinctive mark of an ecstatic follower of the renowned hero of the Rāmāyana and the seventh incarnation of the god Vishnu, or was it to be used or worn as a charm to protect one against diseases and other evils? "A Rām 'kavac' [amulet] is worn in a gold case, usually by females, for protection against evil spirits, who cannot face the name of Rām," says a writer in one of the *Memoirs of the Asiatic Society of Bengal, 1906*.

Of course, for accuracy, questions like those above ought to be answered more definitely before we appropriate these particular seals for our showcase as examples of the forerunners of modern pharmaceuticals. We may, however, contend that religion and the healing art were so closely connected in the beginning that the means for cultivating either are often hardly distinguishable. Were not priests the earliest physicians, and the sanctuaries of the gods the earliest hospitals? So, naturally, the prayers and objects offered to the gods in praise and thanksgiving would come to be regarded as able to protect from harm the worshipper who offered them—a sort of boon for return service, you understand. If so, may we not use these seals as illustrative of the earliest forms of drug store paraphernalia, even though these particular ones were not designed for such purposes?

Even the copper, or bronze, of which the seals are made has been held, not only sacred, but remedial in character from time immemorial—possibly reminiscent of the wonderful impression made on the men of the Stone Age by the introduction of copper for utensils, implements, and what not, which ushered in the Age of Bronze. They must even have tried to shackle the "Stone-Age demons" of the diseases which hurt them most, with bands of this wonderful new material; for a tradition seems to have persisted, going back to some such distant period of time, that rings of copper worn in the ears, or on the arms or legs would cure rheumatism. In the Punjab, India, they say that copper ear-rings will scare away the spirit which brings sciatica. And here, in America, I can boast of having among my acquaintances an intelligent and well-educated woman, who wore a copper band, welded close about her upper arm, to cure rheumatism of the shoulder. Somebody had prevailed upon her to try this old popular specific; and, though skeptical at first, she was almost convinced finally that it did do some good. At least she suffered no more pain in her shoulder.

We may recall that many of the magical objects mentioned in medieval lore were said to have been made of brass. The fly was of brass with which Vergil (reputed as a great necromancer in the Middle Ages) expelled every fly from Naples by setting it up on the city gate.

And this leads us into the subject of sympathetic magic or medicine, which the centipede and other representations of insects or vermin on the seals might illustrate. "Like produces like, or an effect resembles its cause" is a good homeopathic doctrine, which has obtained, apparently, among all peoples of primitive culture. It was the image of a fly with which Vergil frightened the flies away from Naples. The Persians, it is said, scare away cockroaches by writing the name of the cockroach king "Kabikaj" in places infested by his subjects. In the library at Cambridge, England, may be seen a Persian manuscript thus defended against their attacks, this royal name being inscribed thrice on its cover.¹ A patient

¹ C. W. King, "Talismans and Amulets," *Archaeol. Jl.*, 4, 26, 1869, p. 235.

bitten by a dog used to eat the hair of a dog. A person stung by an adder was advised to kill the animal, or else to fry the adder and strike the place bitten with the hot flesh, or else to make an ointment from its liver and apply it locally. A cure for the scorpion's bite may be conjectured from the following verses:

'Tis true a scorpion's oil is said
To cure the wounds the vermin made.¹

What more likely, then, than that the figure of the centipede branded into the flesh should afford an enduring protection against the bite of that poisonous creature, which infests the houses of India, and that the other figures, whatever they represent, should act as exterminators of their kind in the same way?

To cut this paper short, then, which, on such a subject, might be prolonged to any length—may we not still keep these seals in our showcase as suitably illustrative of the earliest pharmaceuticals and the forerunners of all departments of a modern drug store?—the centipede and other insect figures, to represent vermin exterminators, roach salts, etc.; the pentacle and conch shell, baby's rattle and other sundries; the magic square and inscribed charm, the worthy, or unworthy ancestors of the prescription department? Even the cosmetics and face powders will be represented, if we consider the use to which the stamps are put as regards decoration, which reminds me to say that it is believed that all decoration originated in fear, and was considered prophylactic before it was regarded as purely ornamental.

Allow me a final note—in admonition to the trade:

Do not let the "consumers" of your communities know how easily they could cut down the H. C. L., not only by wearing their old clothes another two years, but by adopting such primitive pharmaceuticals as are still cultivated by a goodly portion of the population of India—that great and mysterious country, so authoritative among Westerners for its efficiency in occultism.

THE NEXT STEP IN PHARMACEUTICAL EDUCATION.*

BY R. A. LYMAN.

On September 1, 1923, all schools of pharmacy holding membership in the American Conference of Pharmaceutical Faculties have agreed to advance their entrance requirements to a four-year high school course. The National Association of Boards of Pharmacy have also fixed that date as the one on which they will require a four-year high school course as a prerequisite for taking a board examination. Credit is also due to the latter association for having recommended this date several years earlier than that finally chosen by the Conference. The Boards also deserve the highest praise of all true friends of pharmacy for having at their last meeting passed resolutions fixing definite dates in the near future when they will require, in addition to the high school requirements, registration in and completion of a two-year course in pharmacy as a prerequisite to an examination for the practice of pharmacy. It is hardly necessary to say that practi-

¹ Max Kahn, "Vulgar Specifics and Therapeutic Superstitions," *Pop. Sci. Monthly*, 1913.

* Presented before joint session, Section on Education and Legislation, A. Ph. A., American Conference of Pharmaceutical Faculties, and National Association of Boards of Pharmacy, City of Washington meeting, 1920.