EDWARD R. COX, M. D. (1052 West Sixth Street, Los Angeles).—I wish to thank Doctor Cunnane for the privilege of discussing this interesting view of his experiences with subnormal children.

Not everyone who has a defective child can afford the care and training supplied by a special school, and charity institutions are full to overflowing. Public school systems in the larger cities usually have special day training schools called "development schools." These, also, are generally full to overflowing. So it is shockingly true that "there is no more distressing a problem than to be the parent of a mentally defective child."

Aside from the obviously mentally defective child there is a large group which may be called a borderline type—the high-grade moron. If anything, this classification is more of a problem. In the home, too, much is expected of him. He is truly misunderstood. Parents sadly shake their heads over his shortcomings or severely chastise his lapses. In school he reaches a stage of understanding just sufficient to be resentful of the demands made upon him. His obstinacy and resentment smoulder, for few higher-type defectives are good natured. Among his playmates he becomes a good follower, and this often leads him, by way of some overt act, to the juvenile court. Here the records sadly relate over and over a sordid list of his escapades.

Many studies have been made on mentally defective children. Nearly all of them conclude that heredity plays a dominant part in its production. Movements are on foot advocating sterilization of defectives on this account. But since such movements depend upon the enlightenment of a prejudiced and generally an unenlightened electorate, this movement must necessarily be delayed. In the meantime whatever the family physician may sympathetically supply in the way of advice and counsel may make the difference between happiness and tragedy among those entrusted to his care.

THE LURE OF MEDICAL HISTORY*

PHARMACIES AND PRESCRIPTIONS OF THE SIXTEENTH CENTURY

By FELIX CUNHA, M. D.
San Francisco

THE old adage, "nothing new under the sun," keeps cropping up so frequently in actual experience that one has to give it credit for more than mere repeated coincidence. This is quite true with reference to the pharmacy or apothecary of the sixteenth century in comparison with our present-day pharmacy, if we exclude those merchandising corners where lunch counters, radios, electric toasters and what not are sold in a so misnamed drug store. But if we allude to the 100 per cent modern prescription pharmacy, a casual glance will show that it differs so little from its parent of three centuries ago that the difference is negligible.

A description of the leading pharmacy of Prague in the early part of the sixteenth century, which was very similar to the pharmacies of other large European cities during this particular time—except, perhaps, as to size and amount of stock on hand—demonstrates that even the location of certain subdivisions of the establishment are almost exactly those of today. Whether this is due to merely blind following of custom by the pharmaceutical profession at large is difficult to say, or whether an apprentice, when he became a pharmacist, kept things in exactly the same place as the teacher who taught him, after he had acquired a place of his own, and thus started an endless chain cannot be more than but guessed. Possibly also because in each pharmacy there was displayed very prominently where the junior pharmacists, apprentices, clerks, etc., could not help but be constantly reminded, a Latin motto, whose English translation was, "Place everything in order, keep each thing in order, and set all things in their proper place."

THE DIVISION OF THE APOTHECARY SHOP

The pharmacy of the sixteenth century consisted usually of a front and back shop, even as today. The front shop had one or more display windows on one side, while on the other sides were shelves, or row upon row of drawers of different depths and sizes, reaching to the ceiling, broken on some one side by a counter.

The back shop contained huge tables on which were large jugs of heavy oils and great barrels or hogsheads of crude herbs in the process of maceration. Today, of course, the drug manufacturer has taken over this particular phase of pharmacy with a claim of lessened production cost because of wholesale mass quantity. Possibly from indifference and laziness on the part of the pharmacist as an individual, the present-day drug manufacturer may attribute the birth of his business, usually it comes under the heading of progress and need.

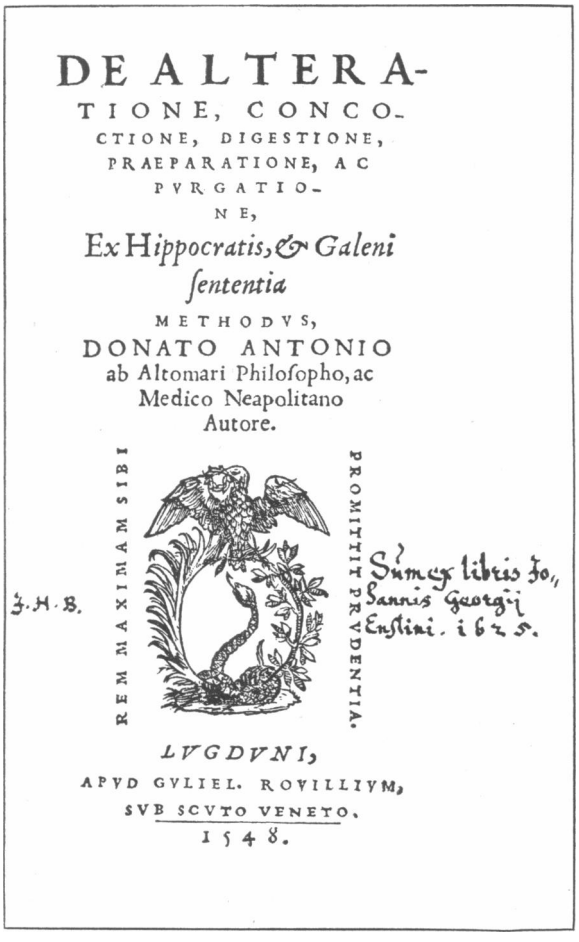
Across one end of this back room there would be a counter-table, or compounding bench, at which the actual work of rolling pills, mixing powders, liquids, and salves was carried on, and the ingenious implements necessary for these procedures were found here. A pair of scales, the most important implement of all to a pharmacy, was within immediate reach. In this particular time scales were usually hung from the ceiling, and were placed somewhat above the counter.

On shelves above, or on the counter, were the various graduates, mortars and pestles, measuring jars requisite for compounding, plus the bottles of various shapes and sizes used as containers.

THE PRESCRIPTION BOTTLES

The subject of prescription bottles of olden times is quite interesting. I recall seeing in 1929 in the Dorotheum in Vienna (the Government-owned and controlled pawn shop), a collection of approximately four hundred bottles used in pharmacies during the fourteenth, fifteenth and sixteenth centuries, as medicine containers. There was no regularity of size, shape or content; standardization was to come with modern improvement later, but it was as fine a collection of Bohemian, Italian and Greek glass as one would ever see anywhere. All were of hand-poured and hand-moulded glass, no austere rigid straight lines, no pointed corners, all was well rounded, and done by hand. There was no conformity to a type; each was different, no two were alike,

*A Twenty-Five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of CALIFORNIA AND WESTERN MEDICINE. The column is one of the regular features of the Miscellany Department, and its page number will be found on the front cover.


DE ALTERA-
TIONE, CONCO-
CTIONE, DIGESTIONE,
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PVRGATIO-
NE,
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METHODVS,
DONATO ANTONIO
ab Altomari Philoſopho, ac
Medico Neapolitano
Autore.
REM MAXIMAM SIBI
PROMITTIT PRVDENTIA.
LVGDVNI,
APVD GVLIEL. ROVILLIVM,
SVB SCVTO VENETO.
1548.

Fig. 1.—Title page of one of the commonly used materia medicas of the time.*

neither did they run to uniformity in content. To consider an example, a two-ounce container would hold fourteen drams or eighteen drams. Whether the recipient of a fourteen-dram vial paid the equivalent of a two-ounce mixture, and was thus cheated, or whether the bottle was so made without any ulterior pecuniary motive in view, can again be only guessed at.

DISPLAY OF THE PHARMACEUTICAL DIPLOMAS

One of the most important and most conspicuous features of the pharmacy was the prominent display of the diplomas of the proprietor and his qualified assistant, usually one. These were always most ornate and covered with a great many gold seals and wax seals, with many ribbons of bright color attached. Then there was his grant from the king and the privilege of the civil authorities for him to do business, "cum privilegio regis." In 1934 is not the sheepskin with pharmaceutic degree framed and posted in a prominent place in every drug store, and is not the certificate of the State Board of Pharmacy "with the privilege of the state" also displayed, plus the small piece of paper denoting that the proper tax has been paid to the civil authorities in order that the doors may be open for business?

* From the author's collection of Medical Incunabula and old medical books.

REGULAR AND BIZARRE REMEDIES

The drawers and shelves were well stocked, and a stock sheet of such a pharmacy named such items as: alum, salt, sulphur, arsenic, spermacetic, saltpeter, vitriol, sal ammoniac, antimony, turpentine, wax, etc.

Among some of the more bizarre remedies peculiar to the times were crabs' eyes, human skull, asses' hoof, dried toads, cast-off skins of snakes, etc. This latter was supposed to be a particularly efficacious remedy for dropsy; of course, the modern individual smiles at these remedies and thinks what abysmal ignorance must have existed in this dark, distant past. But perfectly well educated and supposedly intelligent people in the upper strata of society patronize the Oriental dispensers of concoctions just as weird in all our large cities today and a walk through any Chinatown in a large city will give a glimpse of show windows full of dried lizards, pickled sea horses, etc. Also these ancients were open and above board, they called things by their proper names. There was no attempt to disguise anything obnoxious or revolting by means of a flowery name. The more obnoxious, the better the medicine.

In this department of drawers was a section devoted to herbs, barks, seeds and roots, dried flowers of many different kinds and sorts. Those most widely used were saffron, ginger, sage, wormwood, rhubarb, julep, myrrh, aloes and elder. Powdered aloes is today taken out of a similar drawer and sold over the counter in many a pharmacy, particularly in foreign sections of large cities, and nationally known pharmaceutical houses in 1934 were detailing an eye wash to physicians made from an infusion or distilled from elder blossoms. One of the most popular and widely used herbs in the sixteenth century was known as St. John's wort, and which, in order to be efficacious could be gathered only on St. John's Day. It was used to cure epilepsy and to drive out evil spirits from the sick.

There was also a section devoted to imported drugs. Considerable commerce existed with the Americas, usually by way of Spanish and English galleons, so that quinin, coca, sarsaparilla, and tobacco were part of the stock.

Under the compounding bench or counter were great earthen jugs and oil jars containing lard, marrow, goose fat and chicken fat.

In curious boxes made of horn, china, zinc, and of silver were kept ointments, salves, balsams, and solid extracts, gums, resins, etc.

There was also a special compartment or drawer for plasters, another for blistering agents, and another for liniments.

Then there were shelves for the famed nostrums and patents of the day, the quick sellers or quick movers, the Lydia Pinkhams, Perunas, etc., of the time. Most of these were high in spirit content, either rectified spirits or wine, surely not differing widely from recent times.

There was also a stock of strong acids, aqua fortis, oil of vitriol, etc., then oils, petroleum, essential oils and numerous "waters." Two were

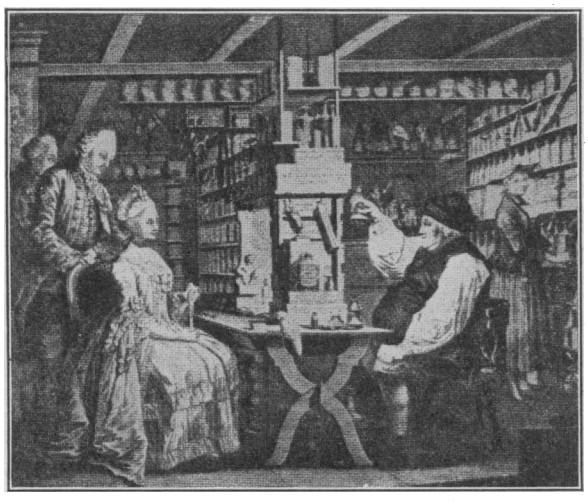

Fig. 2.—The urinalysis, a prominent feature of the pharmacy of the time.

very popular, an "aqua benedicta" or holy water, and an "aqua mirabilis," or "water of wonders."

The most popular concoction of the time, however, was a very complex and obnoxious mixture called "theriac." It contained anywhere from fifty to ninety-seven ingredients (one particularly popular), belonging to animal, vegetable and mineral kingdoms, the number of ingredients depending only upon whose particular theriac it was, in other words, what brand. Possibly, incompatibility of drugs was not of particular moment in that day.

THERIAC

Because of the tremendous expense attached to the compounding of "theriac," poor people were unable to avail themselves of it, so fifty or sixty ingredients would be left out and a "poor man's theriac" concocted, usually of the cheapest herbs. The real "theriac" usually contained portions of those parts of animals not usually mentioned in polite society. Gonadal therapy, however, has come to the fore in endocrine prescribing in recent years aided by the skillful teaching of certain well-known firms distributing multitudinous literature, blotters and calendars. Of course, the modern pharmaceutical firm compresses these organs (pulverized and dried) into a small tablet, which is inoffensive to the most delicate of sensibilities, while the pharmacist of the sixteenth century gave his testicular or ovarian extract straight and raw.

SOME REMEDIES FOR SCIATICA

To illustrate some prescriptions of this time, let us cite one which was most popular for the relief of *sciatica.*

℞ Three new-born dogs
Two living moles
Thirty-two earthworms
Folii laurel
Folii rosemary
Folii mint
Folii sweet marjoram } Of each a handful
Folii lavendar
Folii thyme
Folii St. John's wort

Boil these ingredients in three pounds of oil mixed with sufficient common wine to cover all, boiling until the wine is entirely evaporated, strain all of the liquid from the solid, and to this liquid add one pound each of liquid wax and goose fat. Allow to cool and solidify. Sig. Apply freely over the affected area.

A prescription for *rabies,* guaranteed a specific.

℞ Take the liver of a mad dog and soak in wine for six hours, then dry in oven. Pulverize. Sig., To be taken in wine or spirits.

For rheumatism:

℞ Eighteen live toads—close their nostrils and dry in the sun perfectly, then pulverize them.

℞ of this powder ʒ iv and arsenic ʒ ss

Root of diptanus allus	ʒ iv
Root of tormentilla erecta	
Pearls	ʒ i
Red coral—pulverized	ʒ i
Emeralds	ʒ i
Saffron—qs to color	
Musk and amber qs to impart fragrance	

Pulverize all of these ingredients very fine and make into a paste with aqua rosae and gum tragacanth. It is essential that this should be done when the moon is in the sign of Scorpion. Cut out tablets of this paste and dry well, cover with red silk and to be worn from the neck with a red string but must not touch the bare skin.

Note.—If the toads are not perfectly dried there will be an offensive odor and they will not pulverize readily.

A high priced specialty pharmacy would engrave on one side of such a tablet a snake, and on the other maybe a scorpion by using a special tablet board. An early incidence of attempting to identify one's own product by trademarking it.

A FEVER REMEDY

The next is a prescription whose use today would delight Californians, California farmers, Californians Inc., etc., and perhaps should be called to their attention.

It was a widely used remedy for *fever.*

℞ Salt—from an ocean bay preferably	ʒ iv
Hops—fresh	ʒ iv
Currants—white	ʒ iv
Raisins	ʒ iv

Mix and diligently beat into a brittle mass, spread upon linen and without adding water spread upon the wrists of the patient three times daily.

A famous elixir was composed as follows:

℞ Cinnamon	ʒ x
Ginger	ʒ v
Zedoary	ʒ iv
Nutmeg	ʒ iii
Elder root	ʒ iii
Calamus	ʒ ii

Dissolve these ingredients in a concoction of lemon juice mixed with strong hot wine. A half pint to be taken before meals.

The above is supposed to be a prescription revealed in a dream to Doctor Guaronarius by the Virgin of Loretto or St. Nothburga, who is still venerated in a tiny chapel in the little village of Achensee, Germany.

A PRESCRIPTION FOR THE BLACK PLAGUE

I shall cite only one more rather unusual prescription because it was recommended during the plague, but whether ever concocted is not told.

℞. Take the fresh cadaver of a red-haired, clear-skinned criminal, about twenty-four years of age, who has been killed preferably by hanging or by being impaled, or broken upon the wheel,

and upon which corpse the sun and moon have shone but once.

Cut into slices, sprinkle with myrrh and aloes, macerate in strong wine, add musk to fragrance. Allow this mixture to digest for one month in a water bath at a very low temperature, stirring once daily.

It certainly did not behoove a red-head to be a criminal during a plague epidemic.

A CHINESE HERBALIST PRESCRIPTION

One is apt to accept these prescriptions as evidence of abysmal ignorance, of a barbaric order, and smile with superior sophistication at the erudition of our present day; but merely as a comparison I should like to cite a prescription used by a very famous Chinese herbalist within very recent time, and taken by a great many people of supposedly modern enlightenment and education. It is really worthy of comparison. It was one of those "good for what ails you."

℞ Dried lizards Saffron Rubber bark Peppermint Gamboge Licorice Beans—black (a peculiar type) Dried locusts Water bugs Silk worms Pith of a Chinese tea Slippery elm bark.	A small handful of each boiled in one quart of water until one pint remains.

Sig.—A tablespoonful to be taken t. i. d. p. c.

But to leave prescriptions, and return to the actual pharmacy again: although there was no sandwich counter, nor cigar and cigarette department, there was a considerable portion of space devoted to milady's toilette. Cosmetics were even then a large part of the stock in trade, and a thriving business done in aids to the beauty, complexion creams and lotions; but the particular favorite of the ladies was a cucumber cream. Hair dyes and lotions guaranteed to grow hair existed even then, and formed a part of the stock.

OTHER ITEMS

An important business was done in love powders, aphrodisiacs mostly, composed of cantharides, bought with the idea of exciting amorous passion; and also powders for the quenching of such desires.

There was even a candy department; cane sugar in lumps, and broken up was as much desired by the younger generation then as today. Honey, conserves which were made very stiff and then cut into small squares and combinations of sugar, honey and conserve with various flavors, comprised the candy of the time.

There was also a stationery department where sealing wax, paper, ink and pens were sold.

Liquors, spirits and cordials were handled in the pharmacy.

The laboratory, where examinations of the urine were made and diagnoses given from these examinations, formed one of the most lucrative of activities.

In a corner or under the prescription bench were the equivalents of our pharmacopeias and national formularies, the great "herbals" of the day, pharmaceutical treatises, materia medicas, exceedingly rare and difficult for the collector to acquire today because practically priceless.

This is a brief description of the well-kept pharmacy of three hundred years ago. You will note that, with but very minor differences, it is the pharmacy of today. I use the word "pharmacy," not drug store. Again nothing new, merely the old over again. Fundamentals do not change.

450 Sutter Street.

CLINICAL NOTES AND CASE REPORTS

DIATHERMIC TONSILLECTOMY BY ELECTROCOAGULATION

By R. C. McLaughlin, M.D.
Los Angeles

A CONSIDERABLE number of people presenting themselves for tonsillectomy have been curious as to the method of electrocoagulation, to the end that a few physicians have adopted it as another means of satisfying the demands of the public, principally because of its conservativeness. Perhaps the majority of otolaryngologists have not favored this procedure; a few are quite enthusiastic, however, and feel very well satisfied with their results.

The method is attractive to the lay mind since it spells to it, at least, no loss of time from work, involves less pain, and to their minds it is not included in the category of a surgical operation. The complex of fear usually accompanying a surgical operation is not so great in the method of electrocoagulation. Furthermore, the attractions of this method are frequently noticeable in newspaper columns.

Following an experience with some fifty-five cases, certain conclusions regarding both its advantages and disadvantages may be stated briefly as follows:

ADVANTAGES

1. Tonsillar remnants may be removed with as little trauma or inconvenience as possible.
2. Patients who require tonsillectomy, and who are partially or wholly disabled with such diseases as tuberculosis of the lungs or glands (scrofula), cardiac lesions, hemophilia, etc., make suitable subjects.
3. In certain individual cases where the tonsils, acting as a foci of infection producing pathology in other parts of the body, may be treated and sterilized effectively by electrocoagulation without their complete removal.
4. Hemorrhage is less frequent by this method.
5. Perhaps some economic advantages.

DISADVANTAGES

1. For their complete removal tonsils require frequent treatments at intervals of seven to ten days and lasting over a period of six to eight weeks. It has been my experience that some patients become impatient of this lengthy treatment, despite their initial enthusiasm, and require con-