

Oil of cognac	}	Unchanged
Oil of cognac tsf. "Sachsse"		
Eucalyptol	}	Unchanged
Oil of eucalyptus tsf. "Sachsse"		
Geraniol		Greatly changed, taste insipid and fusty
Oil of geranium Spanish tsf. "Sachsse"		Slightly weaker, otherwise unchanged
Oil of lemon		Greatly changed, taste insipid, soapy
Oil of lemon tsf. "Sachsse"		Weaker, and has lost the true lemon character
Oil for marasquino		Weaker, but otherwise not much changed
Menthol		Greatly changed, the refreshing flavor of menthol disappears entirely
Menthylacetate		Greatly changed, the refreshing flavor of menthol disappears entirely
Oil of neroli	}	Weaker, but otherwise unchanged
Oil of neroli tsf. "Sachsse"		
Oil of orange, bitter	}	Slightly weaker, but otherwise unchanged
Oil of orange tsf., bitter. "Sachsse"		
Oil of orange, sweet		
Oil of orange, tsf., sweet. "Sachsse"		
Oil of peppermint (all qualities)		Falls off entirely
Oil of pine (all qualities, tsf. "Sachsse")		Unchanged
Terpineol		Slightly weaker, but otherwise unchanged
Thymol		Entirely changed; sour flavor
Vanillin		Unchanged

The preceding results prove that hydrogen peroxide—

(1) Destroys entirely the flavor of oil of almonds, cinnamic aldehyde, geraniol, oil of lemon natural and tsf., menthol, menthylacetate, oils of peppermint, vanillin.

(2) Weakens the flavor of carvacrol, oil of cloves tsf., eugenol, oil of caraways tsf., carvol, oil of cognac natural and tsf., oil of geranium Spanish tsf., oil for marasquino, oil of neroli natural and tsf., oils of orange bitter and sweet natural and tsf., terpineol.

(3) Has no influence whatever on the flavor of anethol, oil of aniseed tsf., oil of star aniseed, tsf., bornylacetate, eucalyptol, oil of eucalyptus, tsf., oils of pine tsf., thymol.

FROM "THE PERFUMERY AND ESSENTIAL OIL RECORD."

SOME OF THE BEAUTIES OF PHARMACY.

WILLIAM C. ALPERS, SC. D.

It has always been one of the greatest pleasures of my life to spend an hour among students. I like the atmosphere of the school room. There is something animating and refreshing about it. I feel tonight like a wanderer who had lost his way and suddenly sees his home in the distance, and I therefore consider it a great privilege to be with you and address a few words to you. If there were anybody in this world whom I might envy his position it is the teacher. I do not know of any occupation that is more apt to elevate than that of teaching, because there is the continuous influence from the young, the continuous emanation of the youthful spirit, the continuous contact with all that is impulsive, beautiful, cheerful, and ideal. The ardent desire of my own life to be a teacher and live among the young and remain young with them has not met with fulfill-

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ment, and I will probably remain a poor business man to the end of my days. But perhaps on this account I enjoy a short stay among students the more, and it seems to me that the spirit with which your hearts are filled, the spirit of unlimited confidence in your own strength, the spirit of unblighted hope in a bright future, the spirit of pure and noble optimism—in short, the spirit of idealism—comes from you to me as a good, dear old friend, and seems to give me a new lease of life.

Starting out with such words it seems to be difficult to come to the subject that has been assigned to me, Pharmaceutical Chemistry, and combine this study, which is supposed to be a dry and uninteresting one, with the lofty flight of my thoughts when I look into your faces. Yet I can assure you that, if practiced in the right way, there is perhaps no science that will lead the professional man into broader and wider fields of thought than can pharmacy. Pharmacy is generally considered a rather insignificant part of chemistry. It might be called a step-daughter who is allowed to run behind the others. The reason for this is probably because pharmacy is not a science in itself, but takes a little from quite a number of other sciences, and puts these different parts together, trying to make a dignified looking coat out of the many-colored patches. We have to know more or less of botany, microscopy, bacteriology, therapeutics, materia medica, surgery, physics, chemistry, and commercial sciences, and be skillful in manual work of various kinds, in order to be called pharmacists. I do not know if any of you ever had the idea of going through a course of chemistry to engage in pharmacy, perhaps not. Perhaps you think it is below your dignity, perhaps you think there is not enough reward in it. Unfortunately, too, professional pharmacy in this country is covered up, and hidden under, a conglomeration of foreign interests that catch the eye of the thoughtless, and make many people believe that there is nothing great behind it. Pharmacy, if practiced in a thoughtless, mechanical way, is indeed a drudgery, like any occupation where the worker allows himself to become a machine, continually nagging at everything around him and bewailing his own misfortune, thinking he is destined to be something better. It is impossible for me, in the few minutes that are at my disposal, to tell you all the beauties, the possibilities, the broadness, of my profession. But by way of illustration let us only go through one little prescription that any physician might order for you in the case of a cold. This prescription consists of five ingredients: Syrup of Ipecac, Syrup of Squill, Ammonium Chloride, Codeine Sulphate, Syrup of Wild Cherry. A common prescription, as it is prepared in every pharmacy almost every day. The thoughtless druggist takes down one bottle after another, measures so many cubic centimeters or drams, weighs so many grains or centigrammes, and that is the end of it. Then he goes to the next piece of drudgery, as he calls it.

But let us look at this prescription in a different light, let us follow each ingredient to its source and see what possibilities there are for instruction and enlightenment.

IPECAC—Where do we get it? Our mind at once takes a trip south. We land in the jungles of South America, we see the wily natives, the descendants of the Incas, who know the value of this precious root. Their forefathers knew it before white man set foot on this continent. They pick it secretly, wash it,

pack it in bundles, and carry it on their heads to the nearest trading station. We would like to roam through the beauties of these virgin forests, we admire the brilliant colors of the birds, the insects, the flowers, that seem to allure us into the dangerous thickets. But we pass on to the second article.

SQUILL—What is it? It is the bulb of a plant growing on the coast of the Mediterranean Sea. We fly across the Atlantic, quicker than an aeroplane, and arrive in Italy and Greece. Here we find the plant that at the time of Herodotus was known as a valued medicine. In our minds we take a side trip to the Coliseum at Rome. We walk in amazement through the halls of the Vatican and the great museums of Italy, where the treasures of mediaeval art rival the wonderful relics of antiquity. Or we climb the hills of the Parthenon and recall the time of Athens' greatest power and civilization. But we have no time for these reminiscences. We come to the third article.

AMMONIUM CHLORIDE—What a number of thoughts press on our minds at once if we follow this chemical into its details and into its sources. It is impossible to express them all. Let us only consider one thing, the name derived from the Oasis of Jupiter Ammon. So we cross the Mediterranean Sea and arrive in the land of the Pharaohs. At the time of the old Egyptians the caravans through the desert made their first stop at the Oasis and worshipped their god, Ammon. Here, from the piles of accumulated refuse from the camels, under the influence of the tropical sun, the first Ammonia gas was generated, and some Ammonium Chloride found, which in those days was considered a valuable salt of miraculous powers. Thus our trip takes us to the Pyramids, and in awe and admiration we look up to the Sphinx. We would like to enter deeper into the dark continent and explore its flora and fauna. But pressure of time takes us further.

CODEINE SULPHATE—An alkaloid of opium. We leave Egypt and cross over to Asia Minor. We cast a glance at the field when in olden times the great city of Troy flourished. We think of the beautiful Helen and the deadly fight between Hector and Achilles. Then we admire the modern fields of poppies with their bright flowers, cultivated by the Armenians. We pass through the valley of roses of Cashmere and Persia, we see the wonders of India, and stop in our journey in China, watching the planting, cultivation, gathering and preparation of this drug. As we stop to look we revel in the beauties and marvels of Oriental civilization—but we must go on. The last article in our prescription is Syrup of Wild Cherry.

WILD CHERRY—It sounds like home, it brings us back to America. In a second we cross the Pacific Ocean, and arrive again in our own land, where from the coast of the Atlantic west to the Mississippi this useful tree abounds.

Thus you see, guided by the chart of this little prescription, I have taken you on a trip around the world. But only a hasty trip. I could have stopped for hours at each station and told you about the article that we looked for there. I could have spoken of the discoverers, pioneers, and botanists that discovered the plant, that cultivated it, described it—of the number of chemists that worked for hours, for years, some of them for a lifetime, at the determination of the various active principles of these plants. I could have dwelt on the development of the industries that produce the chemicals; I could have mentioned the

great number of physiologists and medical men that, in thousands and thousands of experiments, by faithful study and work, discovered, described, and determined the action of these drugs on some part of the human system. And then we can go over the greater enterprises from the prescription. Then we have the sugar, from which the syrups are made, reminding us of one of the greatest chemical industries. We need the bottle, the glass, which takes us to another extensive industry. Nor is this all. When a teaspoonful of this medicine is given by a loving mother to her feverish child, what amount of labor and thought does this teaspoonful represent! In every continent of the earth someone had to do some kind of work to contribute to it. From the lowest class of human beings, the coolies in China, to men of the highest intelligence, there is some trace of work in that dose of medicine. Such a thought makes us realize how closely related all men are, how under the influence of higher civilization all mankind approach each other to one large family, and we realize that our ultimate happiness can only lie in steady and patient dissemination of knowledge, that will make all men acquainted with and respect each other, and bring them closer together. Not armies and dreadnaughts, the arresters and destroyers of the achievements of civilization, but mutual respect and friendship will make for our ultimate welfare.

But let us come back to our little prescription and realize that the pharmacist who goes at his work in the right spirit can derive keen enjoyment, unlimited instruction, and entertainment for himself out of his daily task that others call drudgery. To him each bottle is a dear friend, each tincture or elixir is like his life-blood, each package or bottle that he sends out is like a child that he dismisses with the parting thought: Go out into the world; be of some use to someone; do good wherever you can.

! You may say that such an ideal conception of a man's daily work is not borne out by the facts and stands in sharp contrast to reality. Let us not argue this case. Consider the spirit of my words,—the spirit of the nobleness of all work. Let not your work become your master—and a heartless master it is that holds you down to lifelong slavery—let your work be your friend, your teacher. There is no work so small, so menial, that does not contain some noble, elevating element.

No matter in what branch of chemistry you may engage in later years, whether you become manufacturer on a large scale or great commercial men who branch out into all parts of the world, and become millionaires, or whether you engage in teaching or pharmacy and remain poor devils as I am, the real satisfaction of your life, the real enjoyment in whatever fate may give you, will consist in the pleasure of doing your work properly and faithfully. And I trust that this one thought, adherence to the work that you find before you, faithfulness in your vocation, will remain with you. Your sphere of influence, whether it is only within your own family and a small circle of friends, or whether you may be destined to become leaders of the masses, will be good and useful if this one thought guides you in all your doings. Do your work right; live for it; love it!