

■ The accidental discovery of a common drug which everybody now uses.

ASPIRIN: KING OF DRUGS

We think of "miracle" drugs in terms of spectacular achievements: a life snatched back by penicillin; streptomycin curing infectious diseases against which medical science was helpless; Aureomycin and Chloromycetin pulling the fangs of ancient killers.

Magnificent though these accomplishments are, the average individual might go through life without requiring the wonder working of these drugs. But hardly a family goes a week without tapping the aspirin bottle.

This humble stand-by on the bathroom shelf is ready when children get leg aches in the middle of the night — such aches used to be known as "growing pains." Aspirin tides over sister's toothache until she can get to the dentist; and is taken freely — and safely — when any member of the family gets a cold, flu, or headache.

All evidence, in fact, indicates that it won't cure anything. But it offers merciful relief for a thousand aches and pains, and thus can probably make a stronger claim than any other drug for being the miracle drug supreme!

For very good reasons, it is the most widely used of all drugs — with a personality of its own and a record unmatched elsewhere. It is miraculously cheap and miraculously safe — so nontoxic that it may be taken without medical supervision. Aspirin even has its own built-in alarm system — ears almost always ring before serious trouble from overdosage develops.

By now, everyone is familiar with the names of such medical heroes as Jenner, Pasteur, Ehrlich, and Fleming. Not one in a million could name the discoverers of aspirin.

The story begins at the middle of the last century. At the time, the best way for a chemist to make a name for himself was to discover as many new chemical compounds as possible. It made no difference whether uses were found for them.

Thus, at the end of this period, sulfa was discovered — and allowed to lie idle for decades. In 1853 a German chemist named von Gerhardt found acetylsalicylic acid — later to be christened aspirin.

Until 1899, it remained a useless laboratory curiosity. Then a chemist working for Friedrich Bayer & Company, in Elberfeld, Germany, had a problem. Felix Hoffman's father suffered from rheumatoid arthritis and couldn't stand prolonged treatment with salicylate drugs. Would son Felix look around the laboratory for some new salicylate which might ease his pains?

Hoffman asked the help of Heinrich Dreser, head of Bayer's drug research. With a fortunate hunch, they investigated von Gerhardt's forgotten white powder. They subjected it to all sorts

of tests, and finally it looked safe enough to try on old man Hoffman's rheumatism.

It would be stretching the facts to report that he did a jig after swallowing some of the powder. Still, he did *feel* better. Hoffman and Dreser began to pass their white powder to other people around Elberfeld, and one fact kept cropping up.

If a person taking the drug happened to have a headache, the headache disappeared! Maybe they had an important discovery on their hands!

Their white powder at least deserved a name, and tentatively they hit on acetylsalicylic acid. They trimmed this down further to make the word aspirin — which was pronounceable in all languages.

Aspirin got off to a slow start. As they should with any new drug, physicians regarded it with suspicion. They wondered what ill effects it might have on kidneys, liver, heart, brain. Happily, no ill effects showed up.

They wanted to find whether aspirin really relieved

pain — or whether people just imagined it. For this job, they tested volunteers to see how much electric current it took to cause pain when applied to teeth. Then they dosed the subjects with aspirin — and tried again. This time, it took considerably more current to make teeth tingle.

Gradually, Bayer started to fill prescriptions for the paper-wrapped white powder, but real mass production didn't come until 1915 when aspirin first appeared as the now-familiar white tablet. Then scores of other manufacturers in many countries began producing it.

Aspirin was a curious drug. It didn't cure disease, but it erased *symptoms* of a vast range of illnesses. It drove fever down, dulled pain, stopped headache.

There were other curious things about aspirin. Even now, no one knows how it works. And no one knows why it has no effect on normal body temperature, but has the ability to reduce fever. Apparently, aspirin has some effect on the heat center of the brain — the body's

thermostat. But as yet no one knows its mechanics of action.

Because of the drug's great safety, most suicide attempts fail. With massive doses, most people become horribly ill. Physicians wash out their stomachs and they survive. One man was thus saved after taking 300 pills.

It can be used as a gargle for sore throats, as a paste to relieve soreness from ill-fitting dental plates, as a pill to reduce pain from rheumatism, twisted backs, and other muscular ailments. It is the most widely used remedy for one of the most common of all human maladies — headache.

By using thousands of tons of the drug, the public has given a convincing demonstration of its great safety. This isn't to advise anyone to take large doses on a continuous basis — a procedure which might mask symptoms of serious diseases. But used as its makers intend that it should be used, aspirin is in a class by itself — the most versatile drug in the world. — by J. D. Ratcliff from *Coronet*.