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The laboratory methods of the “pure” scientists began to come into their own early in the 20th century. The result was that the first 51 years of this century - particularly the last 25 - zoomed into a revolution which affected you, me and our children more than any series of revolutions, wars or discoveries ever has affected the human race.

Probably the most dramatic of the new methods of science to fight disease with chemicals came in 1909 when Paul Ehrlich in Germany announced his magic bullet 606, or Salvarsan, would destroy the deadly spirochetes that caused syphilis. This was indeed a monumental discovery. As revolutionary as the new magic bullet was, the treatment generally was long and costly, and it wasn’t until the widespread use of penicillin in the 1940s that the treatment of syphilis was simplified.

By that time, however, syphilis - like many other diseases such as tuberculosis - had ceased to be a great public menace because of widespread public-health education in prevention and prompt treatment.

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In 1926 Doctors Minot and Murphy discovered a half pound of liver daily would control most cases of pernicious anemia, a dread blood and nerve disease which had been fatal until then. Today we know the substance in the liver which set the red blood and nerve cells right was vitamin B12. Only a few micrograms of this vitamin will supplant the raw liver needed for control of pernicious anemia.

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What of the future? What can we expect of medicine within our lifetimes?

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Here’s the newest in what probably concerns you the most—your heart. First of all, heart surgery has advanced to a point where operations can be performed while an artificial heart pumps blood. The most difficult of heart operations can be done with a minimum of risk.

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The answer to the country’s No. 2 destroyer, cancer, may come more quickly than most doctors thought possible even a year ago. Today, early recognition and prompt treatment with X rays, radium and surgery are saving millions. Yet 200,000 continue to die yearly from cancer in the U. S. Other treatments offering promise of control for certain types of cancer are injections of hormones and immunization.

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What about our century’s particular sickness—neurosis? Almost everybody has that in varying degrees and manifestations. To most, it’s evidenced by despondency, anxiety or feeling of insecurity. Happiness or peace of mind is as important to our bodies as penicillin is for specific diseases. Yet it’s obvious that we can’t all go to expensive psychiatrists.
The outlook for a quick, easy cure is hopeful, at least for 70 percent of us neurotics. The man who introduced shock therapy for the insane, Dr. L. J. Meduna, has come up with another device for curing psychoneuroses. It’s carbon-dioxide gas. Breathed twice a week for several weeks, it’s been amazingly effective in producing permanent cures, Doctor Meduna reports. I personally can report that his patients are extremely enthusiastic about CO2 therapy and the doctor’s findings have been supported by studies at the Veterans Administration in Chicago.

How can the common soda-water gas, carbon dioxide, achieve the fantastic result of curing your neurosis? It does it by suppressing the harmful, neurotic stimulations which infiltrate our brain cells. CO2 raises the brain cells’ ability to resist these abnormal stimulations.

Almost equally miraculous is the treatment of the truly insane with histamine injections. Based on the theory that insane people suffer from too little oxygen in the brain cells, the new histamine treatment which opens up the arteries is producing cures in schizophrenic and other mental disorders. Sometimes, in stubborn cases, histamine is used along with the electro-shock treatment.

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Instead of being trundled about in tanks, life-sustaining oxygen is now piped into some hospital rooms
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JUNE 1952
From patient's reactions to flickering light of a photometer, above left, a doctor can detect even the likelihood of cardiovascular troubles. The tiny capillaries in the eyes reflect impending diseases. Above, an electroencephalograph, a device that can distinguish normal from abnormal brain patterns, is helpful in diagnosing epilepsy and schizophrenia.

Guided by a counter which picks up gamma radiation from radioactive iodine that collects in thyroid glands, device below traces glands' size and shape. A normal gland is “pictured” on the opposite page.
Building up more knowledge of the human brain, this equipment studies physiological aspects of its cells.

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Sketch of the "brain" of device, left, that outlines size and shape of thyroid glands

Heavy concentration of pen strokes, caused by greater gamma radiation from iodine, forms picture of the thyroid glands
Deep-therapy X-ray, 25 million volts of it, is delivered by the University of Illinois betatron for treating cancer victims. Below, another cancer fighter is this General Electric device using radioactive cobalt to combat deep cases of the dreaded disease shock, even had been dreamed of.

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(Continued to page 234)

**Fountain Brush**

Using the same solution over and over again, a fountain brush cleans oily, greasy or dirty parts. With the solution flowing through its nylon bristles, the brush dislodges particles while the solution floats them away. The solvent, clean at all times, is filtered twice before it is pumped through the brush. Only three gallons of solution are needed for a steady flow. Another tank holding 2½ gallons of solution can be used for soaking parts. The unit generally is placed on the workbench and plugged into any 115-volt electric outlet.

**Submarine "Speedometer"**

Although the details are still secret, the Navy has revealed a new instrument that accurately measures a submarine's speed and distance traveled. These factors are now recorded by dead-reckoning analyzers that indicate latitude and longitude, from which position and speed are figured. The device was developed at the University of Cincinnati's Science Research Laboratory.

**Do You Remember . . .**

... When photographers made flash shots with a tray of powder held high above their heads? When flash photography was so dangerous every camera case included a first-aid kit for burns? When exposures were judged by eye and a photographer might mention he used a lens opening "about the size of a dime?" Two of America's foremost authorities on photography take a long and fascinating look at its development in an Anniversary Feature in July. The illustrations include some of the finest photographs ever made.

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From Pills to Penicillin
(Continued from page 115)

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