of an anti-serum has reduced this to 75%, according to reports from some institutions.

Using rabbits instead of horses to make the anti-serum, and employing other advances in serum-making technic, Drs. Alexander and Heidelberger have prepared an anti-serum which increases from five to 10 times the antibody content, or disease germ fighting substances, in rabbits' blood.

Use of the new, powerful anti-serum in human cases has not yet been reported. The potency of the material has been measured in terms of antibodies, disease germ fighting substances, found in rabbits' blood, after injection of the new serum. The value of the new anti-serum for treating desperately sick babies remains to be determined.

Science News Letter, January 20, 1940

ARCHAEOLOGY

Egyptians' Art Queer? Ours Would Be to Them

DON'T look down on ancient Egyptians because they painted such flat, queer-looking pictures with no good modern perspective. They had their reasons.

The Egyptian artist aimed to explain a situation, says Dr. Dows Dunham, noted Egyptologist of the Museum of Fine Arts, Boston.

Like a modern architect drawing house plans, the Egyptian meant to get every essential detail into his drawing. Hence the stiff diagram look of Egyptian art.

The Egyptian went farther. He showed that a king was important, and his children and servants less so, by making the king a big figure and those around him small. He devised ways of drawing clothing which would enable him to show curves of the body, yet make it clear that the body was really hidden by garments. Hobble skirts worn by women in Egyptian paintings do not mean that hobble skirts were the fashion. Nor did Egypt's women wear only half a waist in their dresses, as painters' technique might lead you to wonder.

Good reason for this drawing style: Tomb paintings had a religious value, providing symbols which would enable the dead to reconstruct for use original objects used during life. A pictured door with no handle could not be opened, Egyptians reasoned.

It would bewilder an Egyptian to see a modern painting of a garden—just top halves of trees over a wall, leaving out the fish pond and flowers on the other side!

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MEDICINE—CHEMISTRY

Discovery Refutes Report Of Difference in Cancer Cells

Revolutionary Finding Reveals That Both Right-Handed And Left-Handed Amino Acids Occur in Healthy Tissues

THE OLD idea that only "right-handed" amino acids occur in the living, healthy body, and the new idea that "left-handed" forms of these chemicals are indicators of cancer, have been refuted in the latest of Uncle Sam's researches upon disease.

This revolutionary chemical discovery has just been made by Dr. J. M. Johnson, biochemist at the National Cancer Institute, and by Dr. Dean Burk, of the National Cancer Institute, in collaboration with Drs. Fritz Lipmann, Otto K. Behrens and Elvin A. Kabat at Cornell University Medical College, New York City.

The discovery refutes the widely hailed finding of a fundamental chemical difference between cancer and normal tissue. This finding was first announced by Prof. F. Kögl and Dr. H. Erxleben, of the University of Utrecht, and other scientists have since reported finding the same difference.

The difference was believed to lie mainly in the kind of glutamic acid existing in cancer tissue. Glutamic acid is one of the amino acids which are building blocks for tissue protein in the body. In cancer tissue, glutamic acid occurred in a so-called left-handed form, Drs. Kögl and Erxleben reported. This means that it could turn a beam of polarized light to the left.

Chemists ever since the time of Emil Fischer, the great German scientist who at the close of the last century discovered amino acids like glutamic acid, have taken it for granted that the glutamic acid occurring in nature was a right-handed acid, turning the beam of polarized light to the right, although the unnatural forms of other amino acids had been prepared in the laboratory. So the discovery by Drs. Kögl and Erxleben was hailed as opening the way to a chemical attack on the great killer, cancer.

Using the method of Drs. Kögl and Erxleben, Dr. Johnson extracted glutamic acid crystals from a rat cancer, from the same rat's liver, and from the liver of a healthy animal that had no cancer. He examined the crystals and, unlike Drs. Kögl and Erxleben, found the natural form in the first crop of crystals from both cancer tissue and normal tissue.

"Go back and examine the mother liquor," his chief, Prof. Carl Voegtlin, director of the National Cancer Institute, told him.

The mother liquor is the material that was left after glutamic acid had crystallized out. A little glutamic acid was apparently still present in this liquor, however. Dr. Johnson discovered in this mother liquor, from both normal and cancer tissues, not only the natural glutamic acid, but the unnatural form of it.

Dr. Burk and associates, working in the biochemical laboratory of Prof. Vincent du Vigneaud at Cornell, used another method for observing unnatural amino aciods in cancer and in normal tissue. They used an enzyme which is specific for and only acts on the unnatural, left-handed forms of amino acids. When this enzyme is added to digested cancer or normal cells in the test tube, any unnatural amino acids present are changed by the oxygen of the air into other chemicals, but the natural forms are not touched. Analyses showed that in all cancer and normal tissues examined there were the same small amounts of unnatural amino acids attacked by the enzyme.

Discovery that glutamic acid and other amino acids exist partly in their unnatural form opens the way for new lines of chemical research, although it shows that malignancy, or cancer, is not characterized by the presence of amino acids of unnatural form.

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● RADIO

Dr. Sidney D. Kramer, executive secretary of the General Advisory Committee of the National Foundation for Infantile Paralysis, will discuss the possibilities of eventual discovery of the cause and prevention of this disease as guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, January 25, 4:15 p.m., EST, 3:15 CST, 2:15 MST, 1:15 PST.

Listen in on your local station. Listen in each Thursday.