faintly perceptible lesion to extensive tissue destruction and death.

Cultivation in tissue culture and in the chorio-allantoic membranes of the chick has demonstrated that under such conditions embryonic tissue is peculiarly susceptible to a variety of infectious agents, particularly filterable viruses. That a similar situation exists with respect to the mammalian fetus *in utero* may be inferred from our studies. Certainly the susceptibility of the guinea pig fetus may exceed that of the postnatal representative of the same species, as we have seen especially in connection with the vaccinia virus. It is reasonable to expect also that fetal reactions to infectious agents will be found in certain cases to differ not only in degree but also in kind. In these respects, then, the fetus may be said in effect to constitute a new experimental animal for bacteriologic procedures.

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THE ISOLATION FROM COTTONSEED OIL OF AN ALCOHOL RESEMBLING ALPHA TOCOPHEROL FROM WHEAT-GERM OIL

EVANS, Emerson and Emerson have reported the isolation from wheat-germ oil of an alcohol, alpha tocopherol, having the properties of vitamin E.[1]

The same procedure has been followed in the preparation of the corresponding alcohol from cottonseed oil. Olcott[2] has demonstrated that a biologically potent concentrate could be prepared from cottonseed oil. Although this oil has only 0.7 per cent. non-saponifiable matter, as compared with 5.0 per cent. for wheat-germ oil, the commercial production of cottonseed oil makes it a readily available source material.

Four allophanates were isolated:

(1) m.p. 240°—regenerated alcohol biologically inactive as vitamin E.
(2) m.p. 158°–160°—regenerated alcohol, biologically active, believed to be identical with alpha tocopherol.
(3) m.p. 134°–135°—regenerated alcohol biologically active. Further investigation to be made.
(4) m.p. 80°—regenerated alcohol biologically inactive.

The 158°–160° allophanates from cottonseed oil and wheat-germ oil appear to be identical for the following reasons: (1) The two compounds have the same melting point; (2) There is no depression in mixed melting points; (3) Both compounds exhibit a maximum absorption in the ultra-violet between 2,900 and 3,000 Ångstrom units; (4) The alcohols regenerated from the two allophanates show similar biological activity.

An attempt is being made to isolate one or more of these compounds from a lettuce-oil concentrate.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A FURTHER IMPROVED PROSPECTING PICK

BROWN described[1] an improved prospecting pick as ". . . a perfect tool of the kind, of drop forged highest grade 85 carbon tool steel, with a perfect eye extended so as to secure the full purchase power of the handle. . . ." The writer thoroughly tested one of these picks on various formations in the Blue Ridge and Massanutten mountains in Virginia in the summer of 1932. We agree with Brown that the pick has good dimensions and balance, and that it is a serviceable tool. It may be all that is desired for certain kinds of work, but "perfect" is a descriptive term which should be rarely used.

We believe we have improved upon this perfect tool by applying a relatively small amount of a very hard alloy of cobalt-chromium-tungsten,[2] which serves as the cutting or digging edge for both the spatula and pointed end of the pick. On the point of the pick the alloy was applied only to the outer triangular face, the one opposite the handle. On the spatula end only the outer face was treated, and here the hard-facing material was carried to the chisel point. The location of the hard-facing material on the ends of the pick in this fashion resulted in a saving of material—approximate thickness 1/16 inch—and also made the

[1] H. M. Evans, O. H. Emerson and G. A. Emerson, *Jour. Biol. Chem.*, 113: 319, 1936.

[1] B. Brown, SCIENCE, 75: 291, 1932.

[2] H. S. Olcott, *Jour. Biol. Chem.*, 107: 471, 1934.

[2] Haynes Stellite is the trade name applied to an alloy of cobalt-chromium-tungsten. One pick was very kindly modified, as described, by the Haynes Stellite Company, Kokomo, Indiana.