in *D. dregeana* (Transvaal), *D dumetorum* (Kenya), *D. hispida* (Sumatra), and in three unidentified species (Northern Rhodesia and Transvaal). Some alkaloid was found in *D. elephantipes* (South Africa). Wehmer (Pfanzenstoffe, 1939) mentions three Old World Dioscoreas (*alata, hirsuta,* and *aculeata*) that contain alkaloids. *D. alata* is a well-known valid species, but the names *D. hirsuta* and *D. aculeata* have been applied to several species so that it is impossible to identify the plants to which he refers. In addition, Henry (Alkaloids, 1949) mentions dioscorine in *D. hispida* (*D. triphylla* var. *reticulata*) from the Philippines and Malay Peninsula.

The qualitative testing procedure consisted in extracting the sample with boiling ethanol (70–80%), evaporating, dissolving in water, and filtering. One portion was acidified and tested with Mayer's reagent. Another portion was tested with silicotungstic acid. A confirmatory test was made by making the extract alkaline, extracting with chloroform, extracting the latter with 1% hydrochloric acid, and again using Mayer's reagent and silicotungstic acid.

The above data are offered as evidence that alkaloids probably do not occur in Dioscoreas native to the Western Hemisphere, but that they do occur in some species native to other parts of the world.

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The Conversion of Glycine to Serine by Human Liver Tissue[1]

THE recent report by Nardi (*1*) on the *in vivo* conversion of glycine to serine has prompted us to report some data which have been obtained in the course of investigations in our laboratories. Since this reaction is now well established in animals it is of some interest to report that human liver tissue is also capable of converting glycine to serine.

Human liver slices were incubated with carboxyl-labeled glycine as already described (*2*). The protein obtained was hydrolyzed with 6 *N* HCl and fractionated on Dowex columns (*3*).

The results are summarized as follows:

	μM/100 mg of protein	Specific Activity (counts/min/μM)
Serine	17.6	540
Glycine	39.8	280
Alanine	31.8	25–50

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Aspartic acid, threonine, glutamic acid, proline, cystine, valine, methionine, isoleucine, and leucine were all recovered with no detectable radioactivity. The counts in alanine were too low to permit accurate determination of its specific activity. There is no doubt, however, that significant radioactivity was present in protein-bound serine, and that its specific activity was appreciably higher than that of protein-bound glycine.

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A Hypothetical Role for 6-8 Thioctic Acid (Lipoic Acid) in Vision

WALD and Brown (*1*) have shown that the bleaching of rhodopsin is accompanied by the liberation of 2 SH groups/molecule of retinene liberated. Similarly, the formation of rhodopsin from retinene and opsin requires the participation of SH groups. It is possible that a disulfide link is formed in the course of rhodopsin synthesis. Wald (*1*) considers it likely that the liberation of these sulfhydryl groups plays an essential role in the initiation of the electrical processes of vision.

These observations seem directly related to Calvin's considerations of the role of 6-8 thioctic acid (lipoic acid protogen) in photosynthesis (*2*). According to Calvin, grana contain 1 molecule of 6-8 thioctic acid/1000 chlorophyll molecules and Calvin feels it likely that the activated chlorophyll molecules transfer their energy to thioctic acid, breaking the —S—S— bond with the initial formation of an $\overset{\cdot}{\mathrm{S}}\quad\overset{\cdot}{\mathrm{S}}$ free radical.

The recent observations of Reed and DeBusk (*3*) on the role of thioctic acid (actually the thiamin complex) in pyruvic acid oxidation are also pertinent. These workers have evidence that the —S—S— group is converted, after an acetyl transfer reaction, to 2 SH groups which are subsequently oxidized by DPN, regenerating the original disulfide linkage.

If Calvin's viewpoint has any validity, then it would appear from a comparative biochemical viewpoint that 6–8 thioctic acid should play a similar role in vision. Rhodopsin should contain one molecule of 6-8