

*Studies on Enzyme Action—Lipase.*

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(Communicated by Professor W. D. Halliburton, F.R.S. Received January 16,—  
Read February 1, 1906.)

In a recent number of the 'Proceedings of the Royal Society'\* Dr. Henry G. Armstrong published a paper with the above title. I beg leave to draw attention to the work† I have performed on the saponification of fats by castor-oil seeds, and, without entering into detail, to state my general conclusions. These are as follows:—

(a) By mechanical means it is possible to separate the cytoplasm of the castor-oil seeds from all the other cellular elements, particularly from the aleurone grains.

(b) Pure cytoplasm prepared as above alone has the property of hydrolysing fats; its power is considerable.

(c) It acts on the fats in the same way as an enzyme, and follows all the laws of enzyme action.

(d) Nevertheless the active substance of which cytoplasm is but probably the support is not an enzyme; this substance, which I proposed to call "lipaseïdine," is destroyed by water as soon as it is no longer protected by fats.

(e) It is possible to repeat *in vitro* with isolated cytoplasm hydrolysis of the fatty matter such as occurs in the seed at the time of germination.

\* 'Roy. Soc. Proc.,' B, vol. 76, p. 606.

† These were published in a series of notes in the 'Comptes Rendus de l'Académie des Sciences':—"Sur un procédé d'isolement des substances cytoplasmiques," 'Compt. Rend.,' 1904, vol. 138, p. 1112; "Sur le pouvoir saponifiant de la graine de ricin," 'Compt. Rend.,' 1904, vol. 138, p. 1175; "Étude de l'action lipolytique du cytoplasma de la graine de ricin," 'Compt. Rend.,' 1904, vol. 138, p. 1288; "La propriété lipolytique du cytoplasma de la graine de ricin n'est pas due à un ferment soluble," 'Compt. Rend.,' 1904, vol. 138, p. 1352; "Mécanisme d'action du cytoplasma (lipaseïdine) dans la graine en voie de germination; réalisation synthétique de ce mécanisme," 'Compt. Rend.,' 1904, vol. 139, p. 143; and later in a general memoir, "La saponification des corps gras," 'Revue Générale des Sciences,' 16ème Année, No. 23, 15 Décembre, 1905, pp. 1029—1037.