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## L Type of Growth in Gonococcus Cultures.\*†

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It was described in a former note that in cultures of various Gram negative bacteria tiny secondary colonies similar in many respects to the L1 colonies of *Streptobacillus moniliformis* develop.<sup>1</sup> The appearance of these colonies is always preceded by the transformation of the bacteria into large swollen forms. More recently it has been observed that the secondary colonies develop from these large forms.<sup>2</sup>

A similar course of events was observed in gonococcus cultures. In certain cultures the cocci before disintegrating swell up into large deeply stained spherical bodies similar in every respect to the large bodies of Gram negative bacteria. If such cultures are kept one or two days at a temperature between 25 to 30°C, one notes below the colonies in the agar a slight secondary growth very similar to the L type of growth observed in colon bacillus and influenza colonies. It consists of small granules and fine filaments which usually degenerate in 24 hours. In gonococcus cultures this peculiar secondary growth does not develop as abundantly nor as distinctly as in the cultures of Gram negative bacteria, and without the experience obtained with the latter it would probably have been overlooked. The main evidence in support of the supposition that this slight transient growth corresponds to the development of the L type colonies is the essential similarity of the whole process in different bacterial cultures.

The observation of this process in gonococcus cultures possess some importance inasmuch as it is the first example of the occurrence of this process in a species of bacteria besides the Gram negative bacilli. Attempts to demonstrate a similar secondary growth in the colonies of Gram positive cocci, especially in the colonies of streptococci, have been unsuccessful thus far.

The process described in this note has nothing to do with the presence or absence of pleuropneumonia-like organisms in the cul-

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<sup>1</sup> Dienes, L., Proc. Soc. EXP. BIOL. AND MED., 1939, **42**, 636.

<sup>2</sup> Dienes, L., Proc. Soc. EXP. BIOL. AND MED., 1940, **43**, 703.

tures. The occurrence of such organisms with the gonococcus has been indicated in a preceding note.<sup>3</sup> The pleuropneumonia-like organism grows independently of the gonococcus, and mixed cultures are easily separated. The tiny secondary colonies develop only in connection with the large swollen bacterial forms and thus far all attempts to grow them separate from the parent organism have failed. Morphologically, the secondary growth is very similar to a young growth of the pleuropneumonia-like organism.

## 11497 P

**Developmental Relationship Between Pars Intermedia of Pituitary and Brain in Tadpoles.**

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An inhibitory control of the growth and functional activity of the pars intermedia of the hypophysis of the tadpole through the infundibulum has been suggested by the author to account for the finding of overgrowth and excess activity of this gland in grafts, and after infundibular lesion.<sup>1</sup> In his careful work with pituitary grafts in the salamander, however, Blount<sup>2</sup> reported an intensity of pigmentation only in proportion to the number of grafts and no overgrowth in the grafts. Since in Blount's work successful grafts were secured only when brain was transplanted with the gland, whereas in this author's work with tadpoles the graft took successfully independently of the presence of brain it was thought that the circumstance of the presence of brain with the primordial graft might account for the difference in the characteristic growth picture of the graft in these two cases. This theory would be consistent with the first mentioned hypothesis of inhibitory control of the p. intermedia through the infundibulum. To test this, a series of grafts of the pituitary was made with and without brain.

The experiment was performed on *Rana pipiens* tadpoles. The

<sup>3</sup> Dienes, L., PROC. SOC. EXP. BIOL. AND MED., 1940, **44**, 468.

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<sup>1</sup> Etkin, W., and Rosenberg, L., PROC. SOC. EXP. BIOL. AND MED., 1938, **39**, 332.

<sup>2</sup> Blount, R. F., J. EXP. ZOOL., 1932, **63**, 113.