

## 11600 P

# Consistency in Lengths of Post-Ejaculatory Quiescent Periods in Adult Male Rats.\*

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In copulating male rats, intromissions usually follow each other in close succession until a vaginal plug is ejaculated.<sup>1</sup> Thereafter, for a brief interval the male is quiet. During the first hour and a half of copulation the quiescent periods typically last from 5 to 10 minutes in potent males that have fully recovered from previous sexual activity. In long tests (2 to 3 hours) the periods gradually lengthen.

Differences in the lengths of quiescent periods for different animals with approximately the same number of ejaculations are much greater than those for the same individuals; in short, there is a degree of consistency that gives to each rat a somewhat characteristic temporal profile of copulatory activities and pauses. Table 1 presents coefficients of correlation between post-ejaculatory quiescent periods or pauses for 57 male albino rats tested in the Stanford laboratory.<sup>2</sup> The males were between 9 and 11 months of age. Thirty-three of them had a 3-hour test and 24, a 2-hour test. Some, but not all, had reached copulatory satiation at the end of their tests; hence some arbitrariness had to be exercised in determining the number of post-ejaculatory pauses to be studied. For this pre-

TABLE I.  
Correlations Between Lengths of Successive Post-ejaculatory Quiescent Periods in Male Albino Rats. Below each coefficient of correlation, in parentheses, is given the standard error of that coefficient.

Post-ejaculatory pause	Post-ejaculatory pause				Number of rats
	1	2	3	4	
2	.69 (.10)				57
3	.68 (.10)	.83 (.08)			55
4	.44 (.14)	.63 (.12)	.74 (.10)		45
5	.32 (.21)	.75 (.15)	.70 (.16)	.65 (.17)	23

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<sup>1</sup> Lataste, F., *J. de l'Anat. et Physiol.*, 1883, **19**, 144.

<sup>2</sup> Stone, C. P., and Ferguson, L. W., *J. Comp. Physiol.*, 1940, **30**, No. 2.

liminary report we have dealt with only the first 5 pauses, because the number of animals qualifying for consideration of the sixth pause was only 9, a number certainly not representative of the original group.

Correlations for adjacent ejaculatory pauses, for the most part, are somewhat higher than those that are one or more pauses remote, which is what one usually finds in psychobiological functions. For adjacent periods the obtained correlations are similar in magnitude to correlations reported for frequency of copulation by adult male rats in successive tests of from 15 to 30 minutes duration.<sup>3, 4</sup> Also, they compare favorably with measures of consistency of learning scores by rats in maze<sup>5</sup> and serial light discrimination problems,<sup>6</sup> wherein the results from one part of the trial series are compared with those from parts which follow. The authors know of no correlations between any measures of a highly complex psychobiological function in rats that exceed those given in Table 1. Thus, it appears that we have in this post-ejaculatory pause a psychobiological "indicator" which may have a wide range of usefulness in fundamental studies of individual differences. Extensions of the present study along the following lines seem warranted: (1) methodological research to increase the consistency of post-ejaculatory pauses beyond that herein reported, as still higher consistency is desirable for studies of individual differences; (2) investigations of the predictive value of these pauses for other less readily obtained measures of sexual potency; and (3) correlational studies of lengths of post-ejaculatory pauses and other variables, such as chronological age, previous sexual experience, spontaneous motor activity, perseverance and work output, strength of drives in other spheres (*e.g.*, hunger, thirst, sociability), and amounts of male hormone in the blood stream. Space does not permit our elaborating on the significance of such studies, but we hope to deal with some of them in forthcoming papers.

*Summary.* Correlations between lengths of post-ejaculatory periods of inactivity in adult male rats were found to range between .65 and .83 for adjacent pauses. These correlations are remarkably high for complex psychobiological functions and are not exceeded by those for any other complex functions similarly studied. It seems probable that these post-ejaculatory pauses may be used as a basis for many fundamental studies of individual differences in male rats.

<sup>3</sup> Stone, C. P., Barker, R. G., and Tomilin, M. I., *J. Genet. Psychol.*, 1935, **47**, 33.

<sup>4</sup> Anderson, E. E., *J. Comp. Psychol.*, 1936, **21**, 447.

<sup>5</sup> Stone, C. P., and Nyswander, D. B., *Ped. Sem.*, 1927, **34**, 447.

<sup>6</sup> Stone, C. P., *Ped. Sem.*, 1928, **35**, 557.