

MODELS AND APPROXIMATIONS FOR SYNCHRONOUS CELLULAR GROWTH

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1. Introduction

To recall the notion of a synchronous culture, it will suffice to reproduce one of the many graphs in the literature illustrating the results of experiments with such cultures. Figure 1 is from Mitchison and Vincent [6], reprinted with permission of Mitchison, and shows cell numbers in a synchronous culture prepared by a technique of density gradient centrifugation. Alongside this figure we may place an idealization (Figure 2).

In common with many other authors, in evaluating their technique for preparing synchronous cultures, Mitchison and Vincent refer to the "degree of synchrony" it produces. Leaving aside the question of numerical measurement of this degree, "perfect synchrony" would be represented by Figure 2, while "asyn-

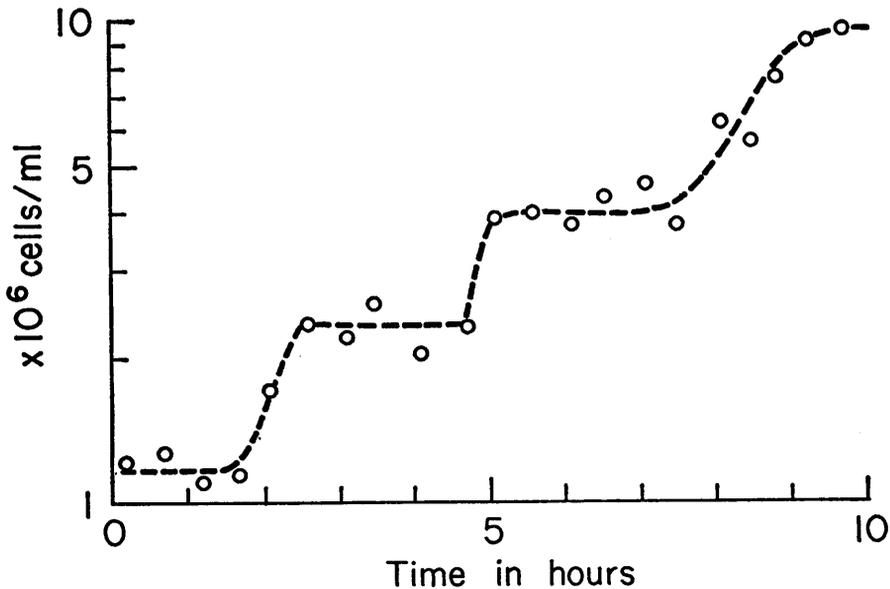


FIGURE 1