Significant sex differences were found in one category only—quadrupedal posture. This finding is important since the observations were made during the birth season and it might be expected that older pregnant females or females with newborns would be less active than males. In contrast, however, there was a general decrease in activity with age regardless of sex. A significant interaction between age and sex was found only in the high-position category (F, 11.90; df, 3/222; $p < .001$); female yearlings tended to be found in high positions more frequently than did males, whereas the opposite was true for older monkeys. Mean distance of the observed monkeys was 7.04 m, and there were no significant differences beyond the .05 level of confidence due to age or sex (age F, 2.18; df 3/222; sex F, .71; df 1/222). However, this refers to sampled monkeys only and no data were obtained on age or sex differences in all monkeys surrounding the observer.

Age differences in overall frequency of overt activity are not very surprising, but considerable research remains to be done before we know all of the specific forms of activity that change, or the relationships between various changes, or the physiological and behavioral mechanisms that produce such changes. This study was of course concerned with the first two, logically prior, problems. There are many possible reasons for the observed general reduction of overt responsiveness with age. The activities of young monkeys have not been fully channeled into social behavior patterns (such as grooming); they are more varied and remain somewhat diffuse with respect to objects. The characteristic arousal levels of young and old probably differ, and minimum environmental stimuli certainly produce more immediate changes in the overt activity of the young. Also, in a highly dominance-oriented social order, monkeys learn to communicate through subtle cues which need not involve gross motor activity. Indeed, learning to live in the group may depend upon the ability of young monkeys to learn to inhibit locomotor activity in favor of alert watchfulness in a relatively still posture. The more frequent head movements in the older monkeys would certainly support such a notion. Finally, since the study was conducted during the birth season, yearlings and 2- and 3-year-olds had been rejected or forced away from the mother to some extent in favor of the newborn, and this may have led to a concomitant increase in exploration and locomotion.

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References and Notes

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3. Supported in part by NSF grant GB 2233; the Center was supported by NIH grants FR 00165, FR 05235, and H 5691. During the period of this study, I was a guest worker of the Laboratory of Perinatal Physiology, NINDB, National Institutes of Health, San Juan, Puerto Rico. I thank Dr. C. B. Koford and his staff for their cooperation.

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Galactose Metabolism

In H. M. Kalckar's otherwise satisfying exposition of the present state of knowledge of the galactose pathways [*Science* **150**, 305 (1965)], the statement is made that reaction 4 (UDPG + PP $\gtreqless$ G-1-P + UTP) is "required in order to label the carbon of the glucose metabolic pool" and is important in assessing the block site in routine screening of galactosemics. That is clearly not true, as inspection of reactions 1–3 will show, since labelled G-1-P arises through displacement from UDPG by Gal-1-P. Assessments of block sites for UDPG pyrophosphorylase are important in so far as they reveal lesions in the route of synthesis of galactosides from other hexose precursors.

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Razzell's point is correct. The formulation depends somewhat on the kind of system one is dealing with. In the *Science* article, I had so much territory to cover that I did not take space to elaborate on the function of these enzymes.

In a model system the first three steps (catalyzed by galactokinase, Gal-P/G-1-P uridyl transferase, and UDP-Gal-4-epimerase, respectively) suffice to introduce the carbon-14 of galactose into the glucose metabolic pool, as Razzell points out. However, in intact cells, the UDP-glucose levels are usually whittled down constantly by anabolic reactions (for instance, Leloir's type of enzymes, which catalyze glycosyl transfer in the service of oligo- or polysaccharide synthesis). In incubation experiments over more extended periods (that is, over more than a small fraction of the generation time of the cells used), step No. 4 becomes therefore also important for the rate of incorporation of carbon-14 from galactose into the glucose metabolic pool. For earlier discussions of some of these problems see *Advan. Enzymol.* **20**, 111 (1960). An article dealing with the kinetics of incorporation is in press (Robinson, Kalckar, Troedsson, Sanford, *J. Biol. Chem.*)

I use this opportunity to recommend a slight but important change in terminology when equations dealing with uridyl transferases are concerned. Instead of writing: Gal-1-P + UDPG $\rightleftharpoons$ G-1-P + UDPGal for reaction 2, write: Gal-1-P + URPPG $\rightleftharpoons$ G-1-P + URPPGal. "URPPG" still reads uridine diphosphoglucose, of course. The formulation may provide better orientation for teaching. I have even tried more detailed equations indicating the fate of the carbon and phosphorus as well as of the oxygen (of the phosphate) in the uridyl transferase reactions [see H. M. Kalckar and H. Klenow, *Ann. Rev. Biochem.* **23**, 527 (1954)]. However, I believe that the suggested formulation usually suffices.

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