female spheres of activity, or decision making, are separate in a sense, interdependent, and equal, if we can find any cross-cultural meaning in that term.

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Workload and Seasonal Variation in Birthrates Reconsidered

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A few years ago Nurge (*AA* 72:1434-1439, 1970) explored the relationship between the seasonal pattern of birthrates and workload. Examining a month-by-month record of children born each year from 1866 to 1965 in the German peasant village of Burkhards, Nurge concluded that "more babies are born in the period when there is less work to be done." More recently, Thompson and Robbins (*AA* 75:676-686, 1973) reexamined the question of seasonal variation in conceptions, employing monthly data from peasant populations in rural Uganda for 1957 to 1966 and Mexico for 1963 to 1970. Their findings did not support and in fact appeared to contradict the view proposed by Nurge which stressed the importance of workload as a major determinant of seasonal variation in conception and birthrates. Since our own work in this field (Spencer, Hum, and Deprez 1976; Hum, Lobdell, and Spencer 1977; Hum and Spencer 1975) suggested that the pattern of workload was indeed important in determining the seasonality of births, it seemed of interest to examine the basis of the claim by Thompson and Robbins (1973).

A major deficiency of Thompson and Robbins' analysis is their implicit assumption that births follow conceptions after an eight-month rather than a nine-month interval. The estimated average birth interval is 38 weeks (Guttmacher 1962). Since the number of weeks in eight months is roughly 35, only those births occurring in the last nine or ten days of the month would on average be correctly registered as conceptions eight months ago. Generally, then, births in the first three weeks of January should be attributed to conception in April, rather than May, as is assumed by both Nurge (1970) and Thompson and Robbins (1973). Choice of the correct birth interval is particularly important if one uses the methodological approach of Thompson and Robbins. They employ a multiple correlation model wherein monthly births are related to variables such as monthly workload, temperature, rainfall, and migration measures which have been lagged to coincide with conception.

We have reworked Thompson and Robbins' data for both Buddu, Uganda (1957-66), and Amealco, Mexico (1963-70), assuming a nine-month birth interval and using a multiple regression rather than a multiple correlation model. Our approach has the advantage that if more than one independent variable is significant the nature of the relationship would appear more clearly. For space reasons we shall limit ourselves to some of the main findings and results. Interested readers can contact us for complete information.

Thompson and Robbins found that rainfall was the only significant factor affecting the seasonal variation of conception in Buddu. It is noteworthy that with the assumption of a nine-month interval between conception and birth none of the factors—rainfall, temperature or workload—is significant. The proportion of variability explained by rainfall decreased from 43% assuming an eight-month birth interval ($R^2 = 0.43$) to 6% ($R^2 = 0.06$) with a nine-month birth interval. The other factors remain insignificant. Migration was not included in the analysis, since according to Thompson and Robbins migration was not important for Buddu.

In fact, an examination of the record of births in Buddu for each of the years 1958 to 1966 inclusive leads to the conclusion that the seasonal pattern was not very consistent from year to year. Of the nine years, January was the month of highest births in five cases, April twice, March and December each once. Only in one instance (1959-60) was January the month of second highest births and in this year June had an equally high number. Further there was no discernable pattern for the month of lowest births. It is of interest here that according to a X^2 test (calculated by Thompson and Robbins) there was no significant seasonal pattern in 1956, 1964, and 1965. In two of these years, January was the maximum birth month. Clearly it is not enough to say that there is a seasonal pattern for six of the years taking each year separately, since there is no guarantee (and it does not appear to be the case) that the same pattern occurs each year. This lack of seasonality was confirmed using techniques of spectral analysis which we explain elsewhere (see Hum and Spencer 1975).

If the pattern of workload had been highly seasonal in Buddu, yet births did not have a seasonal pattern, this would have cast severe doubt on our hypothesis that the level of workload is important in influencing conception. In fact, Thompson and Robbins argue that "the workload situation is complex not only because of recent agricultural innovations, but because agricultural activity seems rather evenly distributed throughout the year." Thus our hypothesis is not contradicted and the lack of seasonality in conception could result from a fairly even workload. The difference between a workload level stated by Thompson and Robbins to be high and one stated to be low may be too small to have any effect.

In the case of Amealco, Mexico, there is no doubt of the existence of a consistent seasonal birth pattern. Spectral analysis confirmed this. It is thus of interest to determine what factors are associated with this pattern. Thompson and Robbins report in their analysis, using an eight-month birth interval, that urban migration has a "strong negative association" with conception in Mexico. But in fact the direct correlation coefficient of -0.40 quoted in the text is not significantly different from zero at the 5% level. It is also true that workload has a weak direct correlation with conception ($r = -0.237$, significance level 22.9%); however, both workload and migration become important and significant when they are considered together. Thompson and Robbins seem to have overlooked this aspect possibly because it is less obvious from partial correlation coefficients than from the regression analysis.

On an examination of the figures and assuming the more appropriate nine-month birth interval, it appears that a high level of conception is associated with the lull between planting and the maize harvest (that is, August and September). April, May, and June are months of heavy work involving planting and October and November are heavy harvest months. Although workload falls again in the winter months of December, January, and February, increased conception is precluded by the migration of men to urban centers. Thompson and Robbins state that there is some disagreement on the workload level for July. It would appear that if the work in July consisted of planting continued from June, this might be completed relatively early in the month. With the use in the analysis of the longer nine-month birth interval rather than the strictly more accurate 38 weeks, conceptions attributed to any month should fall toward the latter end of the month. Thus for our purposes it seems most appropriate to assume July as a low workload month. On this assumption the regression analysis showed that workload and migration were together statistically significant variables (at the 5% level) in the explanation of the level of conception. Thus rather than disproving the importance of workload for the seasonal variation in conception, the data from Mexico tend to show that conception is in fact highest during periods of low work, provided of course that temporary migration has not caused family separations.

To summarize, because recent research has established contradictory conclusions concerning the relationship between workload patterns and seasonal variations in birthrates we have reexamined the published evidence. This reexamination, together with our own research, leads us to conclude that light workload will increase conception in rural settings but only if the men have not migrated to seek or accept temporary employment during lulls in the agricultural work pattern. Therefore, workload and migration seem to be the factors requiring most emphasis in determining seasonal variations in birthrates.

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Excess Access and Incest: A New Look at the Demographic Explanation of the Incest Taboo

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Speculation on the origin of the incest taboo is an ancient pastime among anthropologists, figuring prominently in theories of the founders, and in much recent writing as well. A review of the recent literature on the evolution of incest prohibitions may be found in Parker (1976). Our focus[1] is the demographic theory proferred by Mariam K. Slater (1959). The gist of the theory is easily summarized: incest prohibitions and exogamy rules arose because under primitive