scribing what happened when a leopard got into his chicken coop. To me, it suggested a picture of chickens flying every which way amid great cackling and confusion. This is the picture evoked by the use of the word by Wade. A language grows through current use, and I would welcome this addition.

SERGE A. KORFF

Department of Physics,
New York University,
New York 10003

The U.S. Birthrate

In our *Science* article of 29 August 1975 (p. 693) we set forth a number of considerations which led us to conclude "that the American birth rate may have bottomed out and that the country is likely to see a rise in reproduction." Campbell Gibson (29 April, p. 500) undertakes "to review [our] interpretations and to examine data pertinent to more recent fertility trends." For one, Gibson argues that our use of California data to predict the direction of national trends was invalid. While we indeed relied heavily upon California data, we did not, as Gibson suggests, merely extrapolate California's aggregated fertility rate to the country as a whole. On the contrary, we examined disaggregated rates for the state (by legitimacy status and race, age, and parity of mother) to gain insight into the internal dynamics that might be working to push up the birthrate. Because California frequently is a forerunner of national social and economic trends, we thought the state offered a significant clue to future demographic events in the country.

Gibson's finding that California's fertility experience has not been predictive of national trends comes from his use of a model that assumes the relationship between California and the rest of the country should have been the same before and after legalization of abortion. This procedure throws away important information about the advent of legal abortion in California. As Gibson's data show, between 1960 and 1970 California and the rest of the nation experienced similar annual changes in fertility; and after 1970, when a time lag developed between California and the nation in the availability of legal abortion, a time lag also developed in the decline of fertility. We recently showed that still another time lag had developed, this one in the renewed rise in illegitimacy, which now has appeared nationally, as it did earlier in California, as the influence of legal abortion has been overwhelmed by other social forces (*1*). These trends indicate that California's experience can indeed be useful for anticipating changes in national fertility.

Gibson agrees in general with one of our major premises, namely, that postponed childbearing among young married women is likely to be made up. He offers two different birth-timing models prepared as Census Bureau projections to show how much increase would occur in the total fertility rate assuming that the currently reported lifetime fertility expectations of these women are fulfilled. Both sets of projections, series II and series II-L, assume a relatively late mean age of childbearing. Series II generally projects current timing patterns, while II-L assumes an even greater postponement. Using II-L, Gibson shows a negligible increase in fertility. His results with II, however, indicate an increase in the total fertility rate of 10 percent between 1975 and 1980. This is in fact an increase of 17 percent in the crude birthrate (*2*). Gibson characterizes this increase as "moderate," which it may be when compared with the dramatic rise of the 1950's. Even so, the magnitude of increase shown by the series II projections has important economic and social implications which cannot be dismissed.

Moreover, the series II assumptions appear incomplete in that they do not allow for the possibility of a reversion to a pattern of earlier childbearing. But in our article we presented evidence from California showing that in addition to the making up of postponed births by older women, just such a pattern of more youthful childbearing was emerging in 1974. In California the detailed 1976 data show an estimated rise in the legitimate birthrate of 2.3 percent, with rises occurring among women over and under age 25 (*3*).

The final point in Gibson's article concerns the influence of economic conditions on fertility. He argues that "a substantial increase in fertility in the face of adverse economic conditions is unlikely." In our article we reported that California's birthrate rose in 1974 despite an unfavorable financial climate, and we cited this as empirical evidence that adverse economic conditions do not necessarily prevent women from going ahead with childbearing. We recognized that economic conditions influence fertility, but we considered that this influence has limits because of the unique role, discussed by Judith Blake and Kingsley Davis (*4*), that children play in people's lives. All told, how far the birthrate will rise or fall depends on the balance of a

considerable number of noneconomic as well as economic forces. Indeed, Blake has suggested that poor economic circumstances can raise rather than lower the birthrate by reducing the opportunity costs to women of having children (*5*). Thus it can be argued that married women who have been working and delaying childbearing may see a period of reduced job opportunities as a good time to have children, expecting that a return to work will be possible later when economic conditions improve and their children reach school age.

In sum, although we believe the issues Gibson raises are important, we feel that neither his review of our interpretations nor his examination of recent data is very illuminating. Gibson seems primarily concerned with demonstrating that a *dramatic* increase in fertility in the near future is unlikely. We did not postulate such an increase, nor are we aware that anyone else has done so.

JUNE SKLAR
International Population and Urban Research, University of California, Berkeley 94720

BETH BERKOV
Maternal and Child Health Branch, California State Department of Health, Berkeley 94704

References and Notes

1. B. Berkov, *International Population and Urban Research, Preliminary Paper No. 11* (University of California, Berkeley, 1977), pp. 19–27.
2. Bureau of the Census, *Current Population Reports, Series P-25, No. 601* (1975), pp. 35, 126.
3. The following estimates reflect final 1974 birth counts and bring forward through 1976 the series we presented in our article [*Science* **189**, 695 (1975)]. See that article for definitions, sources, and methods.

Estimated birthrates, California.

Year	Age of mother				
	15–44	15–19	20–24	25–34	35–44
All live births (per 1000 women)					
1976*	67.6	54.2	113.1	85.2	13.8
1975	66.0	53.6	112.1	82.6	13.3
1974	66.3	53.8	114.2	82.9	13.3
Legitimate births (per 1000 married women)					
1976*	97.4	385.4	185.8	103.8	15.8
1975	95.2	368.4	182.4	100.3	15.2
1974	96.6	363.8	186.0	101.0	15.2
Illegitimate births (per 1000 unmarried women)					
1976*	27.8	25.6	39.5	29.7	6.6
1975	26.0	24.0	37.1	27.9	6.1
1974	23.7	22.3	33.7	25.1	5.8

*Provisional.

4. J. Blake, *Popul. Stud.* **22**, 2 (1968); K. Davis, *Econ. Dev. Cult. Change* **25**, (Suppl.), 169 (1977).
5. J. Blake, *Population Monograph Series No. 10* (Institute of International Studies, University of California, Berkeley, 1971), pp. 155–60.

The evidence to date does not support the generalization that California's fertility trends are predictive of national fertility trends. A time lag in the reduction of fertility did occur reflecting the time lag in the availability of legal abortion; however, the resulting divergence and subsequent convergence in fertility trends appear to have been confined to the period 1970 to 1974 (*1*, p. 501). Time lags between California and the remainder of the United States in policy or legislative or judicial decisions affecting fertility could of course occur again. If, as Sklar and Berkov suggest, "California frequently is a forerunner of national social and economic trends" influencing fertility, then the similarity in annual changes in fertility between California and the remainder of the United States in the period 1960 to 1970, when the national general fertility rate declined by 26 percent (*2*), needs to be explained.

Since Sklar and Berkov believe "that postponed childbearing among young married women is likely to be made up," the assessment of national fertility prospects in their article would have been more convincing if they had transformed the fertility expectations of these women into projections of annual fertility, based on either their assumptions about the level and timing of future fertility, or on an adaptation of the series II projection (*3*). Regarding series II, Sklar and Berkov agree to the characterization of the 10 percent increase in the projected total fertility rate from 1975 to 1980 as moderate "when compared with the dramatic rise of the 1950's" (*4*), when the total fertility rate increased by 22 percent from 1950 to 1957 (*2*). More important in the present context, the projected increase is moderate when compared with the 27 percent decline from 1970 to 1975 (*2*).

Sklar and Berkov state that series II assumes "a relatively late mean age of childbearing" and that "a pattern of more youthful childbearing was emerging in 1974." Neither of these assertions is supported by data at the national level. In series II, the annual mean age of childbearing from 1975 to 1985 is in the range 25.7 to 26.0, which is close to the lowest level in the past 50 years (*5*, p. 126). The mean age of childbearing for women born from 1950 to 1960 (that is, 15 to 25 years old in 1975) ranges from 25.6 to 25.9, which is in the lower half of the 24.8 to 27.9 range experienced by women born from 1900 to 1950 (*5*, p. 122).

Table 1. Annual birthrates in the United States per 1000 women 14 to 24 years old by single year of age, 1973–1975. [Data from (*6*)]

Age	Year		
	1973	1974	1975
14	7.4	7.2	7.1
15	20.2	19.7	19.4
16	38.8	37.7	36.4
17	61.5	59.7	57.3
18	83.1	80.5	77.5
19	98.5	96.2	92.7
20	108.8	107.0	103.4
21	115.0	113.6	109.7
22	120.8	119.2	115.1
23	125.1	123.3	118.8
24	126.6	125.2	120.7

Table 2. Cumulative birthrates in the United States per 1000 women from exact age 15 to 25, 1973–1975. [Data from (*6*)]

Exact age	Through the year		
	1973	1974	1975
15.0	7.4	7.2	7.1
16.0	27.3	27.1	26.6
17.0	65.6	65.0	63.5
18.0	126.6	125.3	122.3
19.0	210.1	207.1	202.8
20.0	311.7	306.3	299.8
21.0	430.6	418.7	409.7
22.0	566.7	544.2	528.4
23.0	720.5	685.9	659.3
24.0	888.2	843.8	804.7
25.0	1066.1	1013.4	964.5

Annual birthrates and cumulative birthrates from 1973 to 1975 (the latest year for which data are available) for women under 25 are shown in Tables 1 and 2. Without exception, the data show a decline in both annual and cumulative birthrates among young women.

The differences between Sklar and Berkov's assessment and my assessment of fertility prospects in the United States cannot be quantified until they quantify when and how much they expect fertility to increase. If they believe that the series II projection of fertility in the next few years is too low, it would be enlightening to see their analysis of fertility prospects presented in the form of annual projections. In the meantime, the conclusions stated in my article (*1*, p. 502) remain unchanged.

CAMPBELL GIBSON
Population Division, Bureau of the Census, Suitland, Maryland 20233

References and Notes

1. C. Gibson, *Science* **196**, 500 (1977).
2. Bureau of the Census, *Current Population Reports, Series P-25, No. 63* (July 1976), p. 3.
3. *Ibid. No. 541* (February 1975).
4. Sklar and Berkov observe that the 10 percent increase in the projected total fertility rate represents a 17 percent increase in the crude birthrate. It also represents a 21 percent increase in the annual number of births (*3*, p. 7). As they note, such an increase "has important economic and social implications." The issue here, however, is the level and timing of fertility among women in the childbearing ages; thus for analytical purposes the appropriate annual measure to consider is the total fertility rate.
5. Bureau of the Census, *Current Population Reports, Series 25, No. 601*
6. R. L. Heuser, *Fertility Tables for Birth Cohorts by Color: United States, 1917-73*, DHEW Publication No. (HRA) 76-1152 (National Center for Health Statistics, Rockville, Md., 1976), tables 4A and 6A; National Center for Health Statistics, *Vital Statistics of the United States, 1974 and 1975*, vol. 1, *Natality*, in preparation.