

entific journal. Most of the topics mentioned by the Rosses are dealt with more extensively in the expanded version than was possible in our original *Science* report, and we believe we adequately answer the questions raised by the Rosses.

One overriding major issue, however, should be kept fully in mind in this debate. In the sciences there must be a meaningful relation between empirical evidence, analytical methods, and general theoretical propositions. Theories must be falsifiable, and a peculiar attribute of the "Protein School" is that the various members consistently modify their positions to remove their theory further and further away from the possibility that it could be falsified. Thus, in 1974, one of the senior spokesmen of the Protein School, Marvin Harris of Columbia University, summarized the general position accordingly: When asked, "... how do you explain warfare among the Yanomamö?" he replied "I think there may be a shortage of protein there..." (1), a contention prompted by the then-valid claim that the first author of the *Science* report had not presented quantified data on protein consumption during the course of his previous field studies. Our *Science* report was an attempt to provide such data, and the field research conducted by the second author was specifically designed to answer that criticism. Astonishingly, after our report in *Science* was published and clearly showed that there is considerable reason to doubt that a protein shortage exists, Harris argued, "... it is not surprising that the small settlements studied by Chagnon and Hames enjoy high per capita fish- and game-protein levels" (2). This new position is found in the above criticism of our report by the Rosses, adumbrated also in a recent publication by E. Ross (3) that describes efforts to reconcile scientific disagreements by recourse to evidence as "... vacuous empiricism..." How does one falsify the "scientific" claim that a *shortage* of animal protein in native Amazonian diets leads to tribal warfare when *high* per capita protein consumption also leads to the same effect? We would indeed, using the logic of the Protein theorists, find it difficult to provide a compelling alternative to this kind of preemptive theorizing!

As for an alternative approach to the relation of material resources to human biocultural evolution, we believe the second part of our forthcoming article will adequately address this issue. The general bodies of theory relevant to this issue have been laid out in Chagnon and Irons

(4) (reviewed in *Science*, 14 December 1979, p. 1294) and in the general field of evolutionary ecology, summarized in such texts as Krebs and Davies (5) (reviewed in *Science*, 24 August 1979, p. 781). Ecology, finally, derives from the field of biology—whether or not it is modified with the adjective cultural—and the "cultural ecology" of the Protein School seriously violates many principles of ecological theory as these are widely understood by biologists.

We sincerely hope that the theory to be presented in the forthcoming essay by J. Ross (cited in reference 10 of the Rosses' critique) on Amazon warfare unambiguously presents propositions that can be verified or falsified by empirical data.

NAPOLEON A. CHAGNON
RAYMOND B. HAMES

Department of Anthropology,
Pennsylvania State University,
University Park 16802

References

1. M. Harris, *Cows, Pigs, Wars and Witches: The Riddles of Culture* (Random House, New York, 1974), p. VI.
2. *Nat. Hist.* 88 (No. 7), 36 (1979).
3. E. Ross, *Curr. Anthropol.* 20, 151 (1979).
4. N. Chagnon and W. Irons, Eds., *Evolutionary Biology and Human Social Behavior: An Anthropological Perspective* (Duxbury, North Scituate, Mass., 1979).
5. J. Krebs and N. Davies, Eds., *Behavioural Ecology* (Sinauer, Sunderland, Mass., 1978).

Erratum: In the caption to the picture accompanying the review of *Solar System Plasma Physics* by Michael C. Kelley (18 Jan., p. 297) the date of the launching of Explorer I should be January 1958.

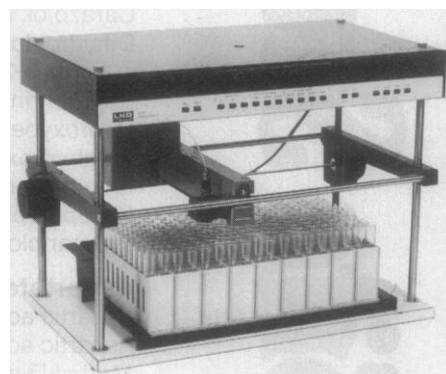
Erratum: In the list of recent recipients of the National Medal of Science (News and Comment, 25 Jan., p. 387), Lyman Spitzer, Jr., should have been identified as professor of astronomy at Princeton University.

Erratum: In the report "Aboriginal Indian residence patterns preserved in censuses and allotments" by John H. Moore (11 Jan., p. 201), Table 1 was inadvertently omitted:

Table 1. Distances from mothers' to married children's allotments for first-generation descendants of Sand Creek family heads.

Choices	Distance (miles)	
	Daughters (N = 23)	Sons (N = 14)
Near	0.5	0.5
	0.5	1.0
	0.5	3.1
	1.0	
	1.0	
	1.3	
	1.6	
	1.9	
	2.2	
	2.4	
	2.4	
	2.8	
	3.0	
	3.7	
	4.5	4.5
Far	5.5	18.0
	5.5	18.8
	9.0	21.2
	15.1	21.3
	16.6	25.0
	19.3	25.2
	35.0	31.5
	36.6	32.9
	37.1	41.4
		46.9
		47.5

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