

calling events that happened during a drinking episode and having a return of memory when told about the event. The latter is consistent with our finding that subjects who learned material while intoxicated had difficulty recalling it spontaneously when sober, but, after one relearning trial, performed as well as the other subjects. This suggests that the memory deficit associated with changed state may reflect an impairment of retrieval rather than of registration and retention.

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References and Notes

1. D. A. Overton, *J. Comp. Physiol. Psychol.* **57**, 3 (1964).
2. —, paper presented at American College of Neuropsychopharmacology Meeting, 12–15 December 1967.
3. L. T. Crow, *Physiol. Behav.* **1**, 89 (1966); D. A. Overton, *Psychopharmacologia* **10**, 6 (1966).
4. T. Storm, W. K. Caird, E. Korbin, in preparation; T. Storm and W. K. Caird, *Psychon. Sci.* **9**, 43 (1967).
5. Breath samples, collected ½ hour after completion of drinking and at the end of each session, were analyzed by the Photoelectric Intoximeter.
6. Interference refers to the detrimental effect on learning a new task of having previously learned a similar task.
7. L. E. Marks and G. A. Miller, *J. Verb. Learn. Verb. Behav.* **3**, 1 (1964).
8. D. S. Palermo and J. J. Jenkins, *Word Association Norms: Grade School through College* (Univ. of Minnesota Press, Minneapolis, 1964).
9. B. J. Winer, *Statistical Principles in Experimental Design* (McGraw-Hill, New York, 1962); Winer (p. 93) calculates F_{max} by dividing the largest treatment variances by the smallest variances and comparing the results to a table (p. 653).
10. A. L. Edwards, *Experimental Design and Psychological Research* (Holt, Rinehart, and Winston, New York, 1966), p. 107.
11. The rote-learning task included a relearning session on day 2. After one relearning trial, differences between the groups largely disappeared and, by the third relearning trial, all groups had reached asymptote.
12. D. W. Goodwin, J. B. Crane, S. B. Guze, *Brit. J. Psychol.*, in press.
13. Reduced numbers of observations resulted from mechanical difficulty and subjects becoming too intoxicated to perform the tasks.
14. Supported, in part, by PHS research grants MH-09247 and MH-13002, and training grants MH-07081 and MH-05804.

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Fossil Hominid Taxonomy

Although the editors of *Science* cannot check on every detail of every report, it still seems as though some process of review should exist which could eliminate the more unfortunate blunders. I refer to the creation of yet another level of confusion in the recent

report by Leakey, Protsch, and Berger (1). Information on the date of Bed V at Olduvai Gorge, Tanzania, is valuable and welcome, but the chart on page 559 represents the addition of one more set of undocumented claims to an area which continues to suffer from such.

Homo habilis appears at two levels on the chart even though the questions concerning the validity of even one such application (2) have never received a satisfactory answer. To this already disputed area Leakey now adds yet a new taxon, *Homo leakeyi*, without citation, justification, or discernible reason (3).

This appears to be just one more example of unwarranted name-giving indulged in by students of the hominid fossil record in the absence of definitive study, adequate information, or objective criteria. The chaos which this creates in phylogenetic studies has been specifically recognized (4). Informed editing should have removed such sources of confusion, leaving the genuine contribution to stand alone.

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References and Notes

1. L. S. B. Leakey, R. Protsch, R. Berger, *Science* **162**, 559 (1968).
2. J. T. Robinson, *Curr. Anthropol.* **6**, 403 (1965); T. Bielicki, *ibid.* **7**, 576 (1966).
3. What is apparently being referred to is Olduvai hominid 9 which G. Heberer [*Z. Morphol. Anthropol.* **53**, 171 (1963)] has tentatively called either *Homo leakeyi* n. sp. or *Homo erectus leakeyi* n. subsp., noting that a decision concerning which name it is to be given cannot yet be made. Even if there were reason to believe that the specimen represented a new taxon, which is doubtful, Heberer's procedure would appear to be at variance with both Article 72(b) and Recommendation 15 of Appendix E of the *International Code of Zoological Nomenclature* [N. R. Stoll et al., Eds. (International Trust for Zoological Nomenclature, London, 1961)].
4. E. L. Simons, *Science* **141**, 879 (1963); D. Pilbeam, *Nature* **219**, 1335 (1968).

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Brace has expressed concern about terminology used in our correlation chart listing various names that have been used for hominids found at Olduvai Gorge (1). We took these names from Oakley's *Frameworks for Dating Fossil Man* where they appear in a compilation at the end of the book which contains the various names brought into play over the years for the same find (2). This publication has seen wide distribution among interested scientists and must have been known to Brace.

Table 1. Correlation of hominids, strata, and dates at Olduvai Gorge (4).

Bed	Geological sequence	Absolute age (yr)
VI	Recent	
Caliche Recent		
V	End of Upper Pleistocene	10,400 ± 600 *
	Major find: <i>Homo sapiens sapiens</i>	
Va	Upper Pleistocene	
IV	Upper to Middle Pleistocene	
	Major find: <i>Homo sp.</i> , <i>indet.</i>	
III	Middle Pleistocene	
II	End Villafranchian	
	Major find: <i>Homo habilis</i> ; <i>Australopithecus</i> (<i>Zinjanthropus</i>) <i>boisei</i> ; <i>Pithecanthropus sp.</i>	
I	Villafranchian	2.03 ± 0.28 × 10 ⁶ † 1.75 × 10 ⁶ ‡
	Major find: <i>Australopithecus</i> (<i>Zinjanthropus</i>) <i>boisei</i> ; <i>Homo habilis</i>	
Lava	Pliocene	4 × 10 ⁶ ‡
Tuffs		

* Radiocarbon dating (1). † Fission track dating (5). ‡ Potassium-argon dating (6).

It goes without saying that we prefer certain names to others, and the problem of nomenclature is only too familiar to those concerned with the subtleties of taxonomic considerations in the face of statistics involving small numbers. Our own choice is indicated in Table 1. With respect to the validity of *Homo habilis* and Brace's allegation that "criticism of *Homo habilis* has never received a satisfactory answer" we refer to two papers which appeared some time ago. They should go a long way to answer any challenge (3).

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1. L. S. B. Leakey, R. Protsch, R. Berger, *Science* **162**, 559 (1968).
2. K. P. Oakley, *Frameworks for Dating Fossil Man* (Aldine, Chicago, ed. 2, 1966); specifically, the term *Homo leakeyi* appears on p. 294.
3. P. Tobias, *Nature* **209**, 593 (1966); L. S. B. Leakey, *ibid.*, p. 5030.
4. L. S. B. Leakey, Ed., *Olduvai Gorge 1951–61*, vol. 1, *Fauna and Background* (Cambridge Univ. Press, Cambridge, 1965); P. V. Tobias, "The cranium and maxillary dentition of *Australopithecus* (*Zinjanthropus*) *boisei*," in *Olduvai Gorge*, L. S. B. Leakey, Ed. (Cambridge Univ. Press, Cambridge, 1967), vol. 2.
5. R. L. Fleischer, P. B. Price, R. M. Walker, L. S. B. Leakey, *Science* **148**, 72 (1965).
6. G. H. Curtis and J. F. Evernden, in *Olduvai Gorge 1951–61*, L. S. B. Leakey, Ed. (Cambridge Univ. Press, Cambridge, 1965), vol. 1, p. 90.

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