On Terms

Misdescribing the Carneau: A Perplexing Plurality

Suzanne Gleeson and Kennon A. Lattal
West Virginia University

By several wingspans, the preferred subject in studies of operant behavior is the pigeon (*Columba livia domestica*; Grossett, Roy, Sharenow, & Poling, 1982). As we will show, the most frequently used breed of pigeon in operant behavioral research is the White Carneau. Indeed, the phrase, "the subjects were *n* White Carneau pigeons," is one of the most repeated in the *Journal of the Experimental Analysis of Behavior* (*JEAB*). But wait . . . something is amiss! When a French term is used to modify an English noun in an English sentence, it is subject to the rules of English grammar, in which the modifier of a plural noun is not plural itself. Thus, we have crêpe de chine dresses, chiffon cakes, and omelette pans. Should we not also have Carneau pigeons?

In his authoritative volume, *The Pigeon*, Levi notes that the breed originated in northern France where "its name was originally *Carniau*, *Caniau*, *Cainiau* . . ." (1941/1968, p. 51). He uses the terms "Carneau" and "Carneaux" as singular and plural nouns, respectively, and "Carneau" as the adjective to modify both "pigeon" and "pigeons," as does Allen (1959) in a volume describing the raising and training of pigeons. Thus, the subjects so often used in *JEAB* studies indeed are White Carneaux, as in "Birds WC 1 and WC 2 were White Carneaux" (Blough, 1971, p. 59), but each is a White Carneau, and together they are White Carneau pigeons. The improper expression "White Carneaux pigeons" is analogous to "Sprague-Dawleys rats," "Squirrels monkeys," "Silver Kings pigeons," or "colleges students," each of

which would drive any grammatical behavior analyst to change subjects.

How widespread is this grammatical *faux pas* and how did it happen? Looking back to earlier days of operant conditioning, we found that Herrnstein and Morse got things off to a flying start in one of the first articles in *JEAB* when they described their subjects as "two experimentally naive White Carneau pigeons" (1958, p. 16). Skinner and Morse (1958) and Gollub and Urban (1958) also correctly identified the Carneau. Other authors in that first volume, however, used "White Carneaux pigeons." We examined the prevalence of these correct and incorrect descriptions of our favored feathered friend in the *Subjects* section of each article in *JEAB* during the periods 1958-1962 and 1981-1985. To determine whether the conventions were specific to *JEAB* we also examined the *Subjects* sections of all articles in Volume 13 (1985) of *Animal Learning and Behavior* (*ALB*), and Volume 11 (1985) of the *Journal of Experimental Psychology: Animal Behavior Processes* (*JEP:ABP*). We checked our reliability using the 1958, 1959, 1984, and 1985 volumes of *JEAB*; our agreement on correct and incorrect usage was 100%. Table 1 shows the startling results.

In the beginning, Carneaux were described correctly at least some of the time. Grammatical purity, however, has given way to forgetfulness, editors' pencils, peer pressure, or a host of other unthinkable things, such that in recent years the Carneau rarely, if ever, is described as such. This observation holds not only for *JEAB* but also for other prominent outlets for behavioral research. In fact, even individual investigators who used the term correctly in early issues of *JEAB* eventually succumbed to the plurality.¹

Reprints may be obtained from either author, Department of Psychology, West Virginia University, Morgantown, WV 26506-6040.

TABLE 1

Number of studies in which "Carneau" and "Carneaux" were used correctly and incorrectly in the subjects sections of the indicated volumes of JEAB, JEP:ABP, and ALB. The percent of Carneau studies in which the terms were used correctly and incorrectly appears in parentheses

	Number of studies			
	JEAB		JEP:ABP	ALB
Usage	1958-1962 (Vols. 1-5)	1981-1985 (Vols. 34-44)	1985 (Vol. 11)	1985 (Vol. 13)
Carneau pigeon studies				
Correct	N = 10 (22%)	N = 0 (0%)	N = 0 (0%)	N = 0 (0%)
Incorrect	N = 35 (78%)	N = 85 (100%)	N = 6 (100%)	N = 10 (100%)
Non-Carneau pigeon studies	N = 9	N = 68	N = 5	N = 6

But is it really a problem? Old terms from the nontechnical language acquire new usage as in "reinforce" and "shape." New terms have been suggested for behavior analysis, as in "operandum" (Skinner, 1962) and "postcedent" (Vargas, 1984), and new terms sometimes are created and accepted through wide usage even though they are not formally recognized as words, as the term "to con-sequate" illustrates (cf. Himeline, 1981). None of these circumstances seem to apply in using the terms Carneau and Carneaux. Established rules of grammar, historical precedent, and usage outside behavioral psychology all dictate that "Carneau" and "Carneaux" be used as nouns, that "Carneau" be used as an adjective, and that, as a result, we should

modify our strong preference for "White Carneaux pigeons."

REFERENCES

- Allen, W. H., Jr. (1959). *How to raise and train pigeons*. New York: Sterling Publishing.
- Blough, P. M. (1971). The visual acuity of the pigeon for distant targets. *Journal of the Experimental Analysis of Behavior*, 15, 57-67.
- Gollub, L. R., & Urban, J. T. (1958). The accentuation of a rate difference during extinction. *Journal of the Experimental Analysis of Behavior*, 1, 365-369.
- Grossett, D., Roy, S., Sharenow, E., & Poling, A. (1982). Subjects used in JEAB articles: Is the snark a pigeon? *The Behavior Analyst*, 5, 189-190.
- Herrnstein, R. J., & Morse, W. H. (1958). A conjunctive schedule of reinforcement. *Journal of the Experimental Analysis of Behavior*, 1, 15-24.
- Himeline, P. N. (1981). The language of behavior analysis: Its community, its functions and its limitations. *Behaviorism*, 8, 67-86.
- Levi, W. M. (1941/1968). *The pigeon*. Sumter, SC: Levi Publishing.
- Skinner, B. F. (1962). Operandum. *Journal of the Experimental Analysis of Behavior*, 5, 224.
- Skinner, B. F., & Morse, W. H. (1958). Sustained performance during very long experimental sessions. *Journal of the Experimental Analysis of Behavior*, 1, 235-244.
- Vargas, E. (1984). A new term and some old advice. *The Behavior Analyst*, 7, 67-69.

¹ We note in passing that the White Carneau was used in more than 63% of all studies using pigeons as subjects. Nearly all studies using White Carneaux were conducted at North American institutions; rarely was this breed used in studies from other countries. Rock pigeons, "domestic pigeons," homers, and others were among the breeds reported in these latter studies.