

# WHY A DUNG PILE?



photos: Franklin

*Dungpiles in the vicuna sleeping territories can weigh as much as 50 kilograms.*

ing to Franklin. Female and immature guanacos urinate and defecate in the feeding areas without obvious health consequences. In addition, Franklin has observed that vicunas are not fastidious; they prefer feeding near their dungpiles.

Territory marking is the more likely explanation of dungpiles. Franklin believes. Like vicunas, the guanaco males defecate and urinate most frequently when they are about to leave or have just returned to the territory. "Guanaco females don't use the dungpiles because they have less permanence with the territorial group," Franklin proposes. In addition, the females are not as dependent as males on being oriented to a territory.

On the mountain slopes where there are few natural features to distinguish bound-

aries, the piles may provide identifying markers. Franklin has mapped territorial boundaries of the animals and finds that they vary little over the months.

Several observations seem to argue against the piles being boundary markers. Their almost uniform distribution within a territory should be less effective than a concentration of piles at the edges. (Border piles, however, would increase the time the camelids spend ambling between feeding areas and the dungpiles.) In addition, as the vicunas traverse the neutral zone on their way to the spring, the animals contribute to seemingly public dungpiles. Finally, if the inhabitants are away from their territory, the dungpiles do not keep out trespassing neighbors.

In higher mammals, however, scent sig-

nals are just signals, not commands. A dog approaching a territorial border marked with an odorless sign is cautioned that it is about to trespass, but is not made incapable of crossing the line. If the animal sees, hears and smells no inhabitants, it may choose to cross the territory, dungpiles notwithstanding. Franklin suggests dungpiles may play a more important role in keeping the insiders in, than in keeping outsiders out.

The vicuna and guanaco studies, along with those of deer and foxes and even of free-living rodents, illustrate the increasing tendency of behavioral scientists to track animals and their scented signals beyond the laboratory or zoo, to their natural territories in the mountains and forests. □

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**THE DEVELOPMENT OF MEMORY IN CHILDREN**—Robert Kail—WH Freeman, 1979, 168 p., charts and graphs, \$12, paper, \$6. Written to provide an overview of our knowledge of memory development for those who have had no more than an introductory course in psychology.

**THE DIAGNOSIS AND TREATMENT OF ALCOHOLISM**—Jack H. Mendelson and Nancy K. Mello, Eds.—McGraw, 1979, 405 p., \$17.50. Provides current information on the alcoholic and the problem drinker for the physician, psychologist, social worker and all those responsible for the care of persons with alcohol problems.

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