Sexual signaling in animals is generally considered a one-way street. That is, a physical characteristic that conveys information about an animal's desirability takes a physiological toll, and thus keeps things "honest" — if the animal isn't up to it physiologically, it can't produce the signal. But a study of barn swallows by Rebecca J. Safran of the University of Colorado and colleagues at Princeton and Arizona State universities suggests that the link between signaling and physiology may be more complicated.

The researchers captured male swallows in New Jersey early in the breeding season and used a marker to make their breast feathers a deeper red, which is known to drive the females wild. They were recaptured later and tested for hormone levels. As reported in *Current Biology*, control males had lost testosterone, which is normal during the breeding season. The color-enhanced males, however, had higher levels of testosterone.

Dr. Safran said it was unclear why the change occurred, although it was likely because of the social context the birds found themselves in: the redder males got more amorous attention from females, and more jealous attention from males. The findings show that in this case at least, it's not just that physiology affects signaling—signaling can also alter physiology. And it didn't take much. "What's really surprising," Dr. Safran said, "is that all we did was give the male a new outfit."