

COMMENTARY

THEORY AND OBSERVATION IN MODERN ORNITHOLOGY: A FORUM

ALL sciences pass through phases in their development or maturation, from initial efforts to describe and catalog the diversity of phenomena they deal with, through attempts to synthesize some patterns from this maze of observations, to the final, ongoing stage of deducing theories of bold predictive powers from simple, general premises. At the present time, some feel that there is a widening gulf between the "old" and the "new" in ornithology, and indeed in biology in general. Historically, the foundations of ornithology are in classical natural history, but studies of birds have also contributed substantially to the development of theory in a variety of areas, perhaps most conspicuously ecology and behavior. Now, as theory has become more popular, more mathematical, and more abstract, some feel that the realities of nature have been largely ignored in the rush to develop fashionable theory, while others express the belief that only through the development and testing of theories or hypotheses can science progress, and natural history is too descriptive to contribute much any longer. At the extremes, I have heard theoretical work denounced as armchair, pie-in-the-sky storytelling, and careful descriptive fieldwork distained as an activity for pseudo-scientists and amateurs, which can only provide fodder for the real scientists, the theoreticians.

To me it seems obvious that each of these extremes is untenable. Theorizing with no knowledge of the real world is as sterile and empty as endless gathering of natural history observations with no guiding questions or concepts. But the divergence in viewpoints and allegiances is nonetheless widespread.

I thought that this issue should be addressed, and I asked several individuals to contribute personal essays considering it in whatever manner they felt appropriate. Each essayist participated independently, without knowledge of who was contributing or what they said. Their comments are presented here with minimal editorial change, in order to preserve the true spirit and flavor of each contribution. The individuals who have contributed these essays represent a wide array of disciplines, backgrounds, and approaches. I hope that their comments will stimulate thinking and perhaps further discourse about this issue, which I regard as central in the future development of ornithology.—JOHN A. WIENS.

ORNITHOLOGISTS AS UNCONSCIOUS THEORISTS¹

JOHN R. KREBS²

There is no such thing as a pristine, unbiased observation. Every ornithologist carries with him into the field an armory of preconceived notions, expectations, and hypotheses about the nature of Nature. Observations can never be untrammelled by theoretical constraints, because the mind of the observer is imbued with current (or

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