

## FEATHERS: FLIGHT OR FANCY?

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One of the distinctive differences between Aves and Mammalia is the type of body covering. Man's age-old yearning for natural flight will probably never be realized due to the vast structural dissimilarity between hair and feathers. While segmentation of a single hair reveals a wonder of engineering design and skill, it is relatively simple compared to the complexity of a feather.

In our effort to explore the origin of this fantasy of feathers, it was perhaps significant that the literature revealed a surprising dearth of information regarding the source of the birds finery, or its faculty for flight. We read of feeble and somewhat incoherent speculations regarding supposed adaptations from the scales of prehistoric lizards, but the fossil record failed to accommodate the assumption with any transitional forms; nor was there offered any other apologia more tangible than the desperation of evolutionary theory.

And it is here that some interesting speculations seem to be in order. In attempting to fulfill their mission of evolutionary development, it has been convenient for Darwinists to minimize the importance of some of their problems. Yet just one problem may invalidate an entire theoretical edifice.

While modern evolutionary concept abhors and rejects any teleological connotations, it is difficult to imagine complexity without purpose, or function without guidance. Yet these anomalies are many times unwittingly admitted as certain forms are said to appear through "developmental pressure" or by some vague direction of "Nature."

The attribute of purpose in feather design can hardly be denied, just by the very nature of its use. That this purpose demonstrates objective function as well as compelling charm is forcibly confirmed by the elegance of pattern seen in the Cover Illustration. That this purpose involves complexity is readily appreciated as the microscope reveals the intricate structure of the feather's interlocking barbs and shafts observed in Figure 1.

While contemplating on the possibilities of chance development in such an intriguing device as a feather, we are arrested by several plaguing questions: Why should such an organ have arisen in the first place? It is evident that flight is not necessary for a birds survival as seen in the



**Figure 1. Photomicrograph of feather detail reveals intricate interlacing or barbs to provide greater cohesiveness and aerodynamic stability.**

penguin and the ostrich. On the other hand, feathers are not necessary for flight, as shown by the superb aeronautics of the bat. Complexity is supposed to arise from necessity; why should feathers and flight develop if there is no need for them?

Incidentally, the superlative maneuverability of the bat not only precludes the need for plumage, but since the classical geologic column indicates that the mammals appeared later than the birds, in a ludicrous moment we are tempted to suggest a development from the complex to the simple. Did feathers degenerate to hair? Would it be too facetious to ask if birds learned to fly because they had feathers, or did they grow feathers because they wanted to fly? Or was this complication of barbs, barbules and barbicels just one of the capricious whims of "Nature?"

These questions cannot be dismissed casually when one considers the necessity of experimental and intermediate forms (for which no evidence exists) or the demands of survival and selection which must be met if evolutionary development is considered. If feathers and flight were requisite for perpetuation, how did birds survive until the proper combination of plume and pinion was formed?

It must be admitted that there are many unanswered questions to every concept, yet the dual witness of functional design and purpose offer striking testimony and credence to the stately pronouncement of Gen. 1:21, "And God created . . . every winged fowl after its kind; and God saw that it was good."

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