SIMILARITIES BETWEEN BIRDING IDENTIFICATION AND MEDICAL DIAGNOSIS

by Stephen Davis

It is no surprise that many birders are doctors because there are many similarities between bird identification and medical diagnosis. Both activities involve the same basic process: determining the correct identification from an extensive list of possibilities. Birding involves identifying the species correctly; medicine involves diagnosing the disease correctly.

In medicine, as in birding, there usually is a list of possibilities from which the definitive identification is made. For example, phrases such as "It soars like a buteo" or "It has the silhouette of a shorebird," suggest that there is often a stepwise process of identification, even though at times it happens very quickly.

Medicine has terms to describe the processes that are used to arrive at the correct answer to a diagnostic puzzle (Cutler, P., 1985, *Problem Solving in Clinical Medicine*, 2nd edition, Williams and Wilkins). One method that doctors use is called the "pattern recognition" method in which a glance at a patient who has characteristic features of a given disease can be diagnosed. Diseases such as hyperthyroidism or Parkinson's disease may present with a combination of features that facilitates instant diagnosis. Birders also use this process in identifying such birds as Great Blue Herons and Belted Kingfishers. It might be a lengthy process to explain the diagnostic clues, but the "gestalt" of the bird or of the disease makes for instant recognition to the experienced birder or physician.

Another method that doctors sometimes use is the "hypothetico-deductive" process. Although birders do not give the technique a name, they often use a similar process. The "hypothetico-deductive" process works in this way: a few hypotheses are generated based on the initial information that is presented. Those hypotheses are eliminated or pursued based on more information that is gathered from specific details that are sought. For example, if a sixty-year-old man has chest pain under the breastbone, there is a lengthy list of possibilities, but some of the hypotheses include coronary artery disease (angina or a heart attack), peptic ulcer disease, a lung problem, or pericarditis. Specific questions are then asked: "Does exercise bring on this pain?" or "Does this pain come on when you eat a spicy meal?" Physicians also look for certain physical findings, such as a cardiac murmur or electrocardiography changes, that would help to pin down the diagnosis.

In birding, the same process is often used: a small brightly colored bird flies into view; it could be a warbler, a bunting, or a finch. Specific details are looked or listened for that help to determine the species. Those details might include the color patterns, the call, the flight pattern, or often more esoteric findings such as

the ratio of the bill length to the head length. These details are the field marks.

Both arenas have the concept of the single definitive detail. It might not apply to each diagnosis or identification, but when present, it is irrefutable. In medicine this finding is called "pathognomonic," and when you have it, you have your diagnosis. For example, if a patient has liver disease, and he has Kayser-Fleischer rings in his eyes, then he has Wilson's disease, a disorder of copper metabolism. In birding single definitive field marks are often used: the "butterbutts" of Yellow-rumped Warblers, the "Old Sam Peabody" call of White-throated Sparrows, or the black underwings of Little Gulls. In birding, more often than in medicine, one clue is often all it takes to pin down the identification.

This process of identification also suggests how some people become experts. They are better able to use the specific diagnostic clues. They know what symptoms or field marks to look for in a given setting and are more skilled at determining the presence or absence of those details. Just as there can be subtle heart sounds, there can be very subtle field mark differentiation: diastolic murmurs may be the *Empidonax* identification of cardiology.

In medicine there are some general rules that have analogies in birding. One saying in medicine is "When you hear hoofbeats, think of horses not zebras." A similar slogan is "Uncommon presentations of common illnesses are more common than common presentations of uncommon illnesses." Both of these sayings suggest that in diagnosis the common disease is much more likely to be the correct diagnosis: your recent fever, for example, is much more likely due to a cold than it is to brucellosis. This principle applies to birding as well: the chickadee near my feeder with the lower-pitched voice is much more likely to be a Black-capped Chickadee with a sore throat or a close encounter with a cat than it is to be a Boreal Chickadee. Similarly, the "different" appearing sparrow that we spot on our Christmas Bird Count is much more likely to be an immature Swamp Sparrow than it is to be a Lincoln's Sparrow.

On the other hand, both endeavors have phrases and concepts that apply to the opposite phenomenon: rare birds and rare diseases do happen. In medicine there is a phrase that no matter how rare the disease is, if that is what the patient has, then his or her chance of having it is one hundred percent. In birding there are different ways of saying the same thing about vagrants, but my favorite is "the birds do not read the bird books," and hence they do not appreciate that we think they are where they are not supposed to be.

The phenomenon of mentoring is similar in both fields. Most birders, I would guess, are introduced to birding by an experienced birder, whose enthusiasm and skill make the activity initially appealing and who continues to nurture the novice birder. In medicine there is a well-established tradition of senior physicians and their relation to young doctors: from the former "apprenticeship" method of medical training to the present day hierarchy of

medical education, there has always been the more experienced clinician guiding young doctors along. The Hippocratic Oath has an inordinate percentage devoted to this relationship.

The "art" of medicine is a well-recognized although elusive entity. There clearly is more to the practice of medicine than tests, diagnoses, and prescriptions, just as there clearly are doctors who maximize their "healing" by using more subtle tools such as compassion, experience, intuition, and wisdom in the care of their patients. The "art" of birding is a less verbalized entity, but there do seem to be birders whose enthusiasm and love for birding, whose "luck," and whose ability to be in the right place at the right time make them more successful birders than their basic identification abilities and their experience would suggest.

One wonders how far the comparison between medicine and birding can be pursued. It may be that physicians are likely to be drawn to birding because some of the same skills make them successful in each endeavor. For example, perhaps it is basically the same cognitive skill that makes one able to differentiate the unique flight pattern of a White-breasted Nuthatch and to recognize the distinctive walking pattern of a person with Parkinson's disease or a mild foot-drop. Perhaps it is similar auditory skills that enable one to distinguish warbler species and mid-systolic clicks.

It might be interesting to study the different types of birding doctors to see whether their attractions to birding are similar to their professional nuances. For example, are internists drawn to birding because of the challenge of the difficult or unusual identification? Are family doctors more drawn by the birding milieu or by the effects on the bird by its unique environment? Are psychiatrists more interested in bird behavior? Are obstetricians more interested, I almost hate to say it, in the eggs of birds? Do surgeons go birding just because they are used to getting up early in the morning?

There are many similarities between birding and medicine. It would be interesting to do a comparative study between doctors who are birders and those who are not to see whether there are differences in diagnostic techniques, attention to detail, passion for the esoteric diagnosis, or any of a number of factors. Also, I wonder whether you can tell what your doctor is like by the number of bird pictures in his or her waiting room or exam rooms. The next time that you see your doctor, you might ask if he or she is a birder.

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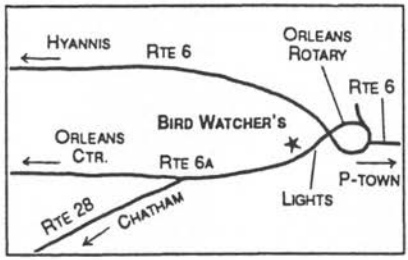

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