

# **Curious Habits of Birds**

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### Introduction

Curious habits of birds – a curious topic for a person who gave very little thought to birds. When I received it, several questions jumped to mind. Just what is curious? Is it something out of the ordinary? And if it is, then what is the ordinary? Because I have yet to hear a Quest paper entirely composed of questions I decided I better land on definitions.

In this paper a habit will be defined as a behavior all birds in a species tend to do –not based on just one observation. Curious will be considered anything that entertains or generates questions. I soon found there is a mountain of curious bird behaviors – many of which occur right here in Indiana. I will offer a smorgasbord of habits from birth to death, some funny, some tragic, some perplexing, yet all curious.

An additional note before I start. Prior to the 1960's the predominant thinking by animal behaviorists was that birds were automatons<sup>1</sup> guided mainly by instinct.<sup>2</sup> Bird behavior was interpreted in light of that paradigm. As I read, it became quickly clear our understanding of the bird world is shifting. In this matter curious behaviors are important to note. While some behaviors described here certainly fit with instinct, others do not. And it is often the anomalies that lead the way to revolution in understanding. Today there is significantly more interest and research on the internal

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<sup>1</sup> Marzluff, J. M., & Angell, T., (2012, p.41)

<sup>2</sup> Corliss, W. R. (Ed.), (1998, p.123)

and cognitive life of birds. We will briefly return to this topic at the conclusion of the paper but now, with apologies to our waterfowl, let's dive in.

## **Birds**

Most paleontologists think birds emerged within small non-flying theropod dinosaurs around 160 million year ago.<sup>3</sup> By 50 million years ago many families of modern birds were established. Today we have identified and classified about 10,000 species. New ones are still being discovered, but only at a rate of about 5 a year so we may be getting to a pretty good indication of numbers.<sup>4</sup> There is approximately 2,000 species in North America. South America has the largest number at 3,200.<sup>5</sup> It is remarkable that there is so much similarity among birds – considering the different environments in which they evolved. Most fly, some don't. But they all share being egg laying warm blooded vertebrates with wings and feathers.<sup>6</sup>

## **Finding Food**

Birds spend significant time in search of food. Since much of the world is covered with water it makes sense to start there. Fish is an obvious prey and there are several favored methods involving beaks, bills, and talons. Among these are some curious variations.

Who knew shade was an aid in catching fish? Black herons of Africa do. Wading into water they spread wings out and fold them into a bowl shaped feather canopy. This creates a shady spot – attracting fish who think it a safe hiding place. They wait. A fish

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<sup>3</sup> Marzluff, J. M., & Angell, T., (2012, p.39)

<sup>4</sup> Turner, D., (2011, p 166)

<sup>5</sup> Introduction to Bird Species and Ornithology, (n.d.)

<sup>6</sup> Attenborough, D. (Director), (1998)

scurries to shade, a jab of the beak, and its sushi.<sup>7</sup> Reddish egrets also use shade but add a come-hither dance to first attract fish, and then use their wings to create a shadow, and wait. It's an odd quirky little dance but the fish seem to find it a fatal attraction.<sup>8</sup>

Ospreys, large raptors seen in Allen County, take a direct approach. They swoop down to water using talons to pick up fish. Some of the fish are quite large and can be heavy to carry. Once airborne the Osprey maneuvers it into a parallel position to reduce drag - - creating the rather bizarre impression of surfing with the fish.<sup>9</sup>

Human fishermen use bait. So do Green Backed Herons. Wading out in water a Heron will drop twigs or flies or even bread if available. Patiently he waits for fish to take the bait. Occasionally he'll move it to a better spot where he hears the fish are biting. Once a fish bites, so does he.<sup>10</sup>

Humans and birds also fish together, although I'm not sure it was the bird's idea. Chinese fishermen will tie a band around a Cormorant's long throat to prevent him from swallowing fish – then send them out. The bird brings a caught fish back to the fisherman and spits it up. Every eighth fish is the Cormorant's and if the band is not removed after the seventh fish, he goes on strike.<sup>11</sup>

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<sup>7</sup> Attenborough, D. (Director), (1998)

<sup>8</sup> Attenborough, D. (Director), (1998)

<sup>9</sup> Attenborough, D. (Director), (1998)

<sup>10</sup> Cornell Lab of Ornithology – Green Heron, (n.d)

<sup>11</sup> Corliss, W. R. (Ed.), (1998, p.131)

North American white pelicans will fish cooperatively. At times they form a large circle then swim using their wings to drive the fish towards the center. With any luck they all get some.<sup>12</sup>

Back on land food is everywhere. We know Falcons use keen eyesight to spot ground prey. American Kestrels can also see ultraviolet light. This enables them to spot urine tracks left outside of burrows. They can then target the voles hiding inside.<sup>13</sup> Hummingbirds use this ability as well, but to find the more appealing sight of nectar bearing flowers.<sup>14</sup>

Loggerhead Shrikes are beautiful songbirds with the unfortunate nickname “Butcher Bird”. They feed on insects, small mammals and reptiles. Their hooked beaks break the neck of prey. They impale it on tree thorns or barbed wire fences enabling them to tear off chunks to eat.<sup>15</sup> As an added bonus the thorns serve as a pantry for excess prey.

Beaks are also well suited for extrication. In Indiana backyards you may see songbirds moving headfirst up a tree probing for insects in bark. They may be passing our White-breasted nuthatches hopping headfirst down that same trunk finding the ones being missed.<sup>16</sup> As an aside nuthatches are the only birds that move down a tree headfirst.

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<sup>12</sup> Greij, E., (2003, October)

<sup>13</sup> Attenborough, D. (Director)., (1998)

<sup>14</sup> Project Wildlife., (n.d.)

<sup>15</sup> A Look at the Barbarous Butcher Bird – The Loggerhead Shrike | Slow Birding, (2011, April 23)

<sup>16</sup> Tekiela, S., (2000 p.177)

Some birds even use tools to get food. Brown headed nuthatches will often use a piece of bark to wedge up other bark to get to insects.<sup>17</sup> New American Crows go a step further and will actually fashion hooked tools out of twigs. This tool use interests scientists. Experiments have shown New Caledonian Crows can use not only one tool, but can use a second tool to retrieve the first if necessary.<sup>18</sup> Back in the wild, crows have also been known to use cars as mobile nutcrackers. They will fly up, drop nuts or fruit and then wait for the vehicles to drive over them. Once the road is clear, they go down and pick up the now opened food.<sup>19</sup>

Some birds, just like some people, prefer to let others work. Scrub jays, for example, steal nuts from squirrels. They cache them in the ground for future meals. If they sense other birds watching, they remove the nut, wait until the spy is gone and bury it elsewhere. In good years they may cache 1,000 nuts. Amazingly later they can find about 30% of them.<sup>20</sup> Their cousins out in the American west, the Acorn Woodpeckers, also cache nuts but use trees or fence posts as their pantry. The entire family spends time drilling holes for storage. One tree may hold 50,000 nuts and requires around the clock guarding from freeloaders.<sup>21</sup>

Other birds steal too. Remember the Osprey and the fish? It's entirely likely a Bald Eagle will try to snatch it. Bald Eagles are impressive and can get away with this

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<sup>17</sup> Cornell Lab of Ornithology (n.d.). Brown-headed Nuthatch, Life History

<sup>18</sup> Schultz, (2007)

<sup>19</sup> Marzluff, J. M., & Angell, T., (2012, p.5)

<sup>20</sup> PBS (n.d.). Video: A Murder of Crows

<sup>21</sup> Attenborough, D. (Director), (1998)

thievery. It was this “immoral” habit that lead Benjamin Franklin to argue against selection of the Bald Eagle for our national bird.<sup>22</sup>

## **Courtship**

We think of nest building happening after a match is made. In the bird world, however, a nest is often part of the courtship and then is nearly always built by males.

Bowerbirds of Australia and New Guinea are probably the most well known nest builders. The pigeon-sized male builds a bower on the forest floor using twigs, leaves, and moss. He decorates it with whatever’s at hand such as flowers, seeds, shells, even clothing pins or glass. He might paint the nest using a twig brush and berry juice. He is very fussy and each bower is different. When complete he situates himself as a part of the display and waits. Females searching for a mate visit several bowers. When she makes her selection she returns to her choice, gives a soft coo, and its love.<sup>23</sup>

Weaver Birds in Africa build complicated nests as well, creating patterns with knots the envy of sailors. A young male is not very good at first. Instinct only takes him so far. He becomes more skilled by watching elders and practicing. Once complete he hangs upside down from the conical nest, calling and doing a bit of wing-fluttering to attract females.<sup>24</sup> She really can’t resist.

If not using a nest to attract ladies you need to do something else or you’ll be left behind. Some birds display their looks. Frigates, a tropical seabird, inflate their throats

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<sup>22</sup> "Ben Franklin Compares the Eagle and the Wild Turkey as Symbols Of America", (n.d.)

<sup>23</sup> Attenborough, D. (Director), (1998)

<sup>24</sup> University of Edinburgh, (2011, October 7)

as an attraction.<sup>25</sup> Hooded Mergansers, seen in Indiana, are more subtle and show off a large white patch by raising and lowering the crest on their head.<sup>26</sup> And we've all seen peacocks display their fabulous plumage. Recent research at Newcastle University found males with more eyespots on their train have higher mating success.<sup>27</sup> I guess the eyes have it.

Others display flying or musical ability. In early summer in Indiana a Wilson's snipe, a small shorebird, may be seen engaged in dramatic flight. He dives down rapidly. As wind rushes through his tail feathers it causes a hum called "winnowing" which sounds like a hollow hu-hu-hu.<sup>28</sup> Ruffed Grouse are Tarzans of the bird world. The males advertise for mates by "drumming," wings against the sides of their breasts.<sup>29</sup>

Some males do best when part of a group called a Lek. What the heck is a Lek? This is a gathering of males in a competitive mating display. Only males from promiscuous species join. The best comparison is to singles clubs. The boys show off plumage, dance, and utter vocal challenges for the female audience.<sup>30</sup> Often they're a single act, but Flamingos perform as a group by moving shoulder to shoulder and running. It looks like a moving pink scrum. Once a female has selected a male out of this group (and no word on how she makes that choice) and mated, she will go off on her own to raise the chicks. Presumably the male retreats back to his club.<sup>31</sup>

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<sup>25</sup> Amazingly Unique Nesting, Mating And Hatching Behavior of Birds, (n.d.)

<sup>26</sup> Tekiela, S., (2000, p. 141)

<sup>27</sup> O'Connell, S., (2002, September 9)

<sup>28</sup> Drisdelle, R., (2007, May 28)

<sup>29</sup> Ibid

<sup>30</sup> Alderfer, J. (Ed.), (2012, p.132)

<sup>31</sup> Attenborough, (1998, p. 283)



In other species females take an active role in the courting. Male Peregrine falcons drop food from the sky for a female. She'll flip upside down to catch it in air with her talons.<sup>32</sup> Sandhill crane pairs face each other, bow and then jump into the air. This is accompanied by cackling and flapping wings. A more graceful water dance is done by Western Grebes in Oregon. Large and slender with long necks and bills these water birds begin by mirroring one another's head bobbing. The dance ends when they turn as one, and with outstretched wings run rapidly together across the water.<sup>33</sup>

## **Nesting**

A nest is meant to be a safe place for the eggs and young. Nests can be in water, in ground, on ground, in trees, in cliffs, well, you get the idea. There are some interesting approaches.

Tailor birds are small birds most often found in Asia. As their name implies, they sew their nests. Females use their beak as a needle to pierce holes in the edge of leaves then use plant fiber to stitch a pocket. When complete the pocket is filled with soft material for the eggs.

Back home in Indiana House wrens prefer to nest in cavities. The male places a few twigs in several cavities and then waits for the female to inspect each one. If she doesn't like what she sees she tosses the sticks to the ground. When one meets her approval, she then finishes building the nest.<sup>34</sup> No word on what he does then.

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<sup>32</sup> Turner, D., (2011, p.59)

<sup>33</sup> Western Grebe - The Pacific Wildlife Foundation - Learn About Western Grebes, (n.d.)

<sup>34</sup> Bird of the Month: House Wren, (n.d.)

Others add on. Robins sometimes build a new nest on an old one –those have been seen three stories high.<sup>35</sup> Bald Eagles build one nest usually at the top of a tree. They add to it over years and they can become enormous. A nest in Florida weighed almost three tons.<sup>36</sup>

Materials for nests vary. Common twigs are often favored but others have been quite unique. Chihuahuan Ravens have been known to build their nests out of barbed wire, and a Carolina Wren constructed one using hairpins.<sup>37</sup> Some materials are more natural. Mallards pluck their breast feathers to line their nest.<sup>38</sup> Crested Flycatchers often weave a discarded snakeskin into their nest or hang it outside its cavity. This may be to ward off predators.<sup>39</sup>

The award for most bizarre nest goes to Edible-nest Swiftlets. The name should give you a clue. These Asian birds use their sticky saliva to form cup shaped nests -- the basic ingredient for bird's nest soup. The nests are considered a delicacy – and to some, an aphrodisiac. A kilo of these can be worth \$1,000.<sup>40</sup> Not surprisingly this is not good for the Swiftlet population.

## **Parenting**

When mates are chosen and nests are ready eggs soon arrive. Roughly 90% of parents raise their chicks together. Usually the female lays and broods eggs while the male provides her with protection and food. Some nesting pairs take turns incubating

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<sup>35</sup> American Robins Habits -What They Eat, Nesting, and Mating., (n.d.)

<sup>36</sup> Erickson, L., (n.d.)

<sup>37</sup> Cornell Lab of Ornithology, (n.d.)

<sup>38</sup> Hengeveld, J. Personal Correspondence. *Indiana University*, (February, 2013)

<sup>39</sup> Hengeveld, J. Personal Correspondence. *Indiana University*, (February, 2013)

<sup>40</sup> Turner, D., (2011, p.269)

eggs. They have a strict schedule and when its shift change the one on the nest flies off even if their mate is missing or killed. When they return, they take their turn again and can end up trying to incubate cold dead eggs.<sup>41</sup>

And then there are dead beat parents -- more scientifically known as brood parasites. The Cuckoo in Britain will find a nest, wait for the parents to leave, deposit an egg and off she goes. When the parents return they usually accept the egg as one of their own, even if it is clearly very different. It can be dangerous for them not to. Some cuckoos murder host chicks and destroy the nest if the hosts eject the eggs. Even if the host eggs are left alone they are not safe. The cuckoo chick usually hatches first. It has an odd hollow on its back, and immediately maneuvers around using it to scoop up other eggs, one by one, to dump out of the nest. This leaves the Cuckoo as sole survivor for the host parents to raise. And yes, this is likely where the term cuckold originated.<sup>42</sup>

Brownheaded Cowbirds are America's best known brood parasite. Originally residing in the Great Plains these birds would follow herds of buffalo to feed off insects. This meant a nest and family just wasn't feasible. The solution was to lay eggs in other's nests, often after tossing out one of the host eggs. Cowbirds usually hatch first which enables them to monopolize food. Like Cuckoos, they are often the sole survivors in the nest.

As a result Cowbirds have been implicated in the serious reduction occurring in songbirds in the U.S.<sup>43</sup>. Development has decreased the deep woods which served to buffer songbird's nests. This means they have to build nests closer to open areas

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<sup>41</sup> Corliss, W. R. (Ed.), (1998, p.134)

<sup>42</sup> Turner, D., (2011, p.232)

<sup>43</sup> Robinson, (1997)

giving Cowbirds easy access.<sup>44</sup> Because Cowbirds can lay as many as 40 eggs a year their population is exploding at the expense of the songbirds.

Sometimes animals with bad intentions come to call. When that happens there's nothing like a bit of acting to save the day. Killdeers are well known for their dramatic abilities. They lure potential predators away from the nest by pretending to have a broken wing. Once a safe distance away, the Killdeer quickly takes off<sup>45</sup>. Crested Bellbirds in Australia protect their nest by paralyzing hairy caterpillars. They then place them in a ring around the nest. Their hairs sting any ill intentioned intruders.<sup>46</sup>

### **Hatching time**

In many nests eggs hatch within hours of each other, even if they were laid weeks apart. This is preferable allowing parents to change from incubating to obtaining food. It prevents one chick from having a size advantage – thus claiming more than his share. For Waterfowl it means the entire brood can be moved at the same time into water. <sup>47</sup>

So how does this happen? One reason is that usually the mother doesn't start incubating until the last egg is laid. But something more curious may also be occurring. In the case of Mallard ducks, un-hatched chicks seem to communicate to each other whether or not they're ready to hatch. If an older chick is ready it clicks very slowly within his shell to urge the younger ones to catch up. On the other hand, if the younger chick can't catch up they communicate this back by very rapid clicking. When the first

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<sup>44</sup> Robinson, (1997)

<sup>45</sup> Wright, R. H., (1971, p.13)

<sup>46</sup> Alderfer, J., (Ed.). (2012, p.43)

<sup>47</sup> Furtman, (2004, p. 47)

egg actually hatches, the rest of the clutch feels motion and begins to break out of their shells as well.<sup>48</sup>

## **Growing Up**

A chick's number one goal is survival. Siblings can be in competition with each other with the larger ones dominating. We already know that cuckoos will murder their siblings. But parents also may do a little weeding out as well. Coots and Pelicans for example, will frequently kill their young until only one remains.

One of the more bizarre approaches to family planning however, is seen in Galapagos. Adult Seabird Masked Boobies make a ring out of guano to delineate a nest.<sup>49</sup> Then two eggs are laid several days apart. When the second chick hatches the older sibling pushes it out of the ring with the parents often watching. Parents will not feed or protect a chick out of the ring. The ejected sibling quickly falls to predators or the elements.<sup>50</sup> This appears to be to ensure survival of the oldest, but it makes the Cuckoo chicks look positively benevolent.<sup>51</sup>

Many birds are more nurturing. Our local Pied-Billed Grebes will feed feathers to their chick. These make a lining in their stomach to protect them from sharp fish bones. They'll also carry their young on their back.<sup>52</sup> The Belted Kingfisher, also an Indiana resident, drops dead fish in water. This allows the young to practice their diving skills.<sup>53</sup>

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<sup>48</sup> Gill, F. B. In *Ornithology*, (2007, p. 462)

<sup>49</sup> "Seabirds, Foragefish and Marine Ecosystems Research - Picture of the Month" (2007)

<sup>50</sup> "US NSF - News - Seabirds Give New Meaning to Sibling Rivalry, *Frontiers* ( June 1997)

<sup>51</sup> Corliss, W. R. (Ed.), (1998, p. 225 and .citing Pearsen, p.230).

<sup>52</sup> Hengeveld, J., (2013, February)

<sup>53</sup> Tekiela, S., (2000, p.61)

## Communication

There are 4,000 species of songbirds found all over the world. Scientists believe song is for attracting mates and defending food resources and territory<sup>54</sup>. Our local Brown Thrasher has the largest repertoire of all North American birds -- over 1,100 song types.<sup>55</sup> Nightingales, probably the most well known singers, are said to have over 300 different love songs. Where do all these come from?

Many birds learn tunes from each other. And, it seems, humans. They imitate. In the 1930's an Australian farmer kept a Superb Lyrebird as a pet. He would play an old folksong named "Keel Row" on his flute. Soon the bird started imitating it. Other birds imitated that bird. Seventy years later Superb Lyrebirds are still singing Keel Row in that part of Australia.<sup>56</sup> Apparently birds also have a taste for classical music. Mozart had a pet starling that was able to sing a tune sounding like his Piano Concerto #17. Unfortunately, noted Mozart, it used G# where it was to be G natural.<sup>57</sup>

Some birds mimic more than music. Alarms, machinery, humans, dogs, car horns are all fair game. Blue jays mimic raptors – sometimes to signal a warning, and sometimes to trick neighbors into fleeing so they can get their abandoned food.<sup>58</sup>

Parrots are the most famous mimics. Alex, an African Grey Parrot who lived to be 31, knew a number of words – and apparently could combine them when needed. Famously when presented with aromatherapy oil he said three words -- pretty smell

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<sup>54</sup> Encyclopedia Britannica Online, (2013)

<sup>55</sup> Tekiela, S., (2000, p.119)

<sup>56</sup> Turner, D., (2011, p. 138)

<sup>57</sup> Alderfer, J., (Ed.). (2012, p.113)

<sup>58</sup> Hengeveld, J., (2013, February)

medicine. Scientists don't agree on whether this was a sign of intelligence –some think yes, but others contend it no more than rote conditioning.<sup>59</sup> What we do know is Alex's last words to his longtime trainer and owner: "You be good. See you tomorrow. I love you"<sup>60</sup>.

Crows are great vocalizers. That's probably just a nice way of saying they're lousy singers. They have over 250 distinct songs or caws – many that serve as specific warnings for different threats. He will also use it to scold those he thinks have offended him. For example, he will not forget a human who has "done him wrong ". For years afterwards, he will caw loudly when they are in his sight. Somehow he communicates this to his family and friends and, even when he's not with them, they too will scold the offender.<sup>61</sup> They also use songs as a password. Crows who wish to join a flock must sing the password song. If they don't do it right, they get attacked.<sup>62</sup>

## **Migration**

3,000 years ago people noticed birds left regularly each year. There was little knowledge about where they'd gone. Accordingly some early explanations of migration are amusing to us today. Aristotle, for example, maintained that each year the Redstarts transformed into Robins for winter. Today we know Redstarts actually travel to sub Sahara Africa at the same time the Robins return for a Grecian Winter. Still other early peoples believed cranes annually left Europe and Asia to battle Pygmies.<sup>63</sup>

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<sup>59</sup> Smith, D. ,(1999, October 9)

<sup>60</sup> Philipkoski, ( 2007)

<sup>61</sup> Marzluff, J. M., & Angell, T. (2012, p. 163)

<sup>62</sup> Marzluff, J. M., & Angell, T. (2012, p. 73)

<sup>63</sup> Armstrong, R., (n.d)

Lest we feel too smug, as recently as 1703 a pamphlet, written by "By a Person of Learning and Piety," recorded it probable that migratory birds winter in the moon.<sup>64</sup>

Modern science is removing some of the mystery of migration, but not the wonder. Today electronic tracking mechanisms and monitoring tags allow real-time data collection on migrators location. They are finding birds travel further than ever imagined, if you don't include the moon theory. In a single year Arctic terns migrate between the arctic and Antarctic and can travel an astounding 47,000 miles. Sooty Shearwaters are not far behind with up to 40,000 miles on their odometers.

Over 10 billion birds take wing yearly for migratory trips. They brave massive distances and deadly storms to get to their destinations.<sup>65</sup> Why? Well, other than to go fight Pygmies – in a nutshell, it's resources. Birds go where there are more plentiful food and good nesting locations – often north in the spring and south in the fall. As days get longer they gain weight in anticipation of their trip. Weather appears to trigger departure.<sup>66</sup>

*How they navigate? The biggest mystery*

A ruby throated hummingbird arrives to the same backyard feeder in Fort Wayne each year after a 2,000 mile trip including a 500 mile non-stop hop across the Gulf of Mexico. Swallows return to Capistrano, and, let's not forget Buzzards get to Hinckley. How do birds get to the same location and often the same spot each year?

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<sup>64</sup> NPWRC: Migration of Birds. (n.d.)

<sup>65</sup> Weidensaul, (2012)

<sup>66</sup> Weidensaul, (2012)



Since the 1800's scientists have suspected birds may be using earth's magnetic fields to migrate<sup>67</sup> but weren't sure how. .Recently, researchers, from Arizona State and Oxford, found a molecule in birds that acts as a magnetic compass. They theorize birds use it to orient.

Birds in the same species orient consistently to the same compass direction. This is why young birds are able to travel on their own to the same general location as their parents, who have often left weeks before.<sup>68</sup> So it would seem ability to orient would be genetically transmitted. An experiment which crossed two species of Blackcaps gives credence to this theory. Each had different migration routes, one group went SW and the other group went SE. The pairings produced hybrid offspring, half of whom went SW and half who went SE.<sup>69</sup>

So their first time migrating birds orient to a general location – then how then do they return to the exact same location the next years? This takes navigation. Some scientists believe that on their first migration they imprint on location and create a mental map with a variety of cues' including sun and stars, landmarks, infrasound, and smell.<sup>70</sup> They use these cues to navigate on each subsequent trip.<sup>71</sup> It's clear science has not yet unraveled this mystery but much progress has been made.

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<sup>67</sup> Birkhead, T. R., (2012, p.156)

<sup>68</sup> Alderfer, J., (Ed.). (2012, p.300)

<sup>69</sup> Alderfer, J., (Ed.). (2012, p.300)

<sup>70</sup> Alderfer, (2012, p.298)

<sup>71</sup> "How Birds Navigate: Research Team Is First To Model Photochemical Compass", (2008)

### *What Happens Along the Way?*

There are a variety of approaches to migration. Some birds travel alone, others in groups. We often see migrating geese flying in a V shape that reduces drag for a bird flying just behind another's wingtips. The lead bird works hardest, but apparently they rotate.<sup>72</sup> Raptors like the day because they can see prey. Songbirds migrate during the predator free night.<sup>73</sup> Some birds make R&R stops, often at the same places yearly. Others travel continuously and are aided by the ability to put one hemisphere of their brain to sleep while the other side works.<sup>74</sup>

An alarming finding is the change in migration patterns over the world. Studies show many bird species are leaving for migration earlier, some by nearly a week or even more.<sup>75</sup> Research indicates this may be caused higher temperatures in their winter habitats. If you recall, weather is the trigger for leaving. This is dangerous for birds. They need to arrive when weather is not risky and when food is available. Small changes in time may make the difference in survival. This is also dangerous for humans. Birds are a critical component in our ecosystem - important for insect control, seeding, and pollination to name a few.

### **Play**

Many species of birds have been observed engaging in what we call play – activity that seems to serve no survival purpose. This is especially true of the corvid family which includes such birds as ravens, crows, jays and nutcrackers. This family is considered

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<sup>72</sup> Aldefer, (2012, p. 276)

<sup>73</sup> Aldefer, (2012, p.296)

<sup>74</sup> Marzluff & Angell, ( 2012, p. 52)

<sup>75</sup> Dunsay, (n.d.)

the smartest of birds. Their brains approach humans as a percentage of average body mass<sup>76</sup> and there has been intense interest in their abilities. Crows have been sighted in Alaska playing in thermal updrafts, flipping over, grabbing each other's talons and to all viewing seeming to have a great time. In the Rocky Mountain Park they were seen taking turns surfing off a cliff holding thin arcs of tree bark on their feet. As each surfed, the others chased them and tried to take it away for their turn. Still others have been noticed sliding headfirst down snowy banks, then returning up the hill to do it again and again.

So are these activities what we would term fun? It sure looks like it. In fact, research on corvids show their midbrains release opioids when they're playing. Opioids in humans produce euphoric feelings and may in corvids as well.<sup>77</sup> Observers have noticed that play happens only when all is well in the bird's world, they're fed and safe.<sup>78</sup>

Corvids also seem to engage in mischief – pulling dogs tails, or, in Japan wedging deer feces in deer ears.<sup>79</sup> A raven in the Cascade Mountains was found to be stealing windshield wiper blades for no apparent reason. A wanted poster was distributed, the culprit was found – and humane ways were found to deal with the situation.<sup>80</sup>

## **Death**

I like to think that those baby Robins will return to our yard next year. Odds are they won't. First year survival rates for many of our local songbirds are about 30% and their

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<sup>76</sup> Marzluff & Angell, ( 2012, p. 47)

<sup>77</sup> Marzluff & Angell, ( 2012, p. 129)

<sup>78</sup> Marzluff & Angell, (2012, p. 118)

<sup>79</sup> Marzluff & Angell, (2012, p. 122)

<sup>80</sup> Marzluff & Angell, (2012, p.74)

average lifespan is about 10 months. Different songbirds can live from 6 to about 16 years but that's the upper range. Generally larger birds such as albatrosses live longer and parrots the longest.

Passing of most birds seems to go unnoticed. But not all. Many of us have seen a goose that has lost its mate. It stands apart from the group and, even if this is anthropomorphic, seems to me to be grieving.

Some birds even hold funerals. When a dead compatriot is sighted the Western Scrub Jay will stop looking for food. He flies to a tree and makes an alarm call. Soon other jays arrive from miles around. A group forms around the dead bird, screeching for as long as thirty minutes. Then they stop and fly off.<sup>81</sup> Crows and ravens are known to follow a similar ritual. Scientists think the purpose of the "funeral" may be to investigate and to alert others to possible danger or possibly chase off a predator.<sup>82</sup> Is there an emotional component as well? We simply don't know.

## **Conclusion**

Bird brain. As an epithet it's fairly clear what it means...not much going on there. But is that really the case? Are birds only pre-programmed automatons? Certainly instinct would seem to explain a great many of the behaviors described in this paper. But then there are those that just don't seem to fit. We have heard about these marvelous birds playing, using tools, learning, creating, and grieving -- none of which sounds like automatons. These behaviors don't define a new paradigm, but they do challenge the old. At any rate no matter how you look at it I will leave you with this. It's curious.

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<sup>81</sup> Scrub jays react to their dead (VIDEO) : UC Davis News & Information. (2012, September 11)

<sup>82</sup> Scrub jays react to their dead (VIDEO) : UC Davis News & Information. (2012, September 11)

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