

Mourning dove – the loss

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© James Yule
(Image credit: James Yule)

James Yule captured and posted a poignant clip on youtube¹ of an American mourning dove (*Zenaida macroura*) attending the lifeless remains of another mourning dove lying prone on a paved road surface somewhere in Wyoming after it had presumably been killed in a collision with a passing motor vehicle shortly before.

In an initial post on Green Renaissance on 31 May, Yule recounts that the live bird lingered by the side of the fallen bird for more than 30 minutes, departing only for short stints in this time, to avoid passing road traffic before returning to the perished dove. He adds that “*doves had been known to watch over their deceased mates and try to care for them, and to return to the place where the birds [had] died*”. Being clearly moved by this rare glimpse into animal behaviour as much as intrigued, Yule thoughtfully relocated the remains of the unfortunate bird to the side of the road where the other bird in attendance would at least be safe from passing traffic.

The distressed behaviour displayed by the surviving dove can easily be construed as grief for its fallen mate. As a keen naturalist for more than 40 years and a practicing conservation biologist for nearly as long, however, I must warn against the delusion of anthropomorphism, i.e., wrongly attributing human traits, emotions, or intentions to apparent patterns of behaviour in species other than humans.

This does not diminish the measure of sentience of which the mourning dove, like most vertebrate animals, is undoubtedly possessed, but one should resist viewing this scene from across the species divide. Rather, interpret the behaviour from the perspective of a mourning dove – its biology, ecology, and life history. The pattern of behaviour displayed by this bird, could indeed represent one of three possibilities.

Rivalling males

In the first possibility there is an unresolved dispute between rivalling males as the summer breeding season reaches its peak. In this case, the two are coming to blows when, in a moment of distraction, in the midst of all the turmoil, one bird is fatally struck by a passing motor vehicle. Unable to contemplate the inopportune death of its rival, the survivor is simply faced with its defiant presence and promptly perseveres in futile efforts to drive it off. The surviving bird can be seen panting as though exhausted from the exertion of pitched battle with its rival while it continues to distend the neck in supposed aggression and peck vigorously at the remains.

Closer examination of the images in the clip and photographs supplied by Yule though, reveal the subtle hints of sexual dimorphism characteristic of mourning doves where males display pinkish coloration on the shoulders and breast, clearly seen in the surviving bird, a virile male. By contrast, the coloration on the dead bird, appears to be less vivid to indicate the gender as female, not a rivalling male. This observation rather rules out this first possibility as a plausible explanation for the scene.

Necrophilia

The second possibility takes me back to the 1970s when as a boy, on my frequent visits to the Iziko South African Museum of Natural History in Cape Town, I would usually make my way there along the oldest pedestrian thoroughfare in South Africa, the oaken-lined Government Avenue in the historic Company’s Gardens. On one such day, I observed the fresh remains of a dead feral pigeon lying on the causeway in the dappled shade cast by the oaks. By the small size of the chalky ceres on the upper mandible, I could tell that it was a female lying prone, wings astride, not unlike the dead American mourning dove in the images provided by James Yule.

Here too, by her side, was a live male feral pigeon, presumably her mate. The oblivious live bird was engaged in a frenzied courtship display, which it interrupted with repeated attempts at copulating with the dead bird, albeit unsuccessfully – as can only be expected with a rather unresponsive partner. As I observed this seemingly deviant behaviour, it dawned upon me that the remains of the dead bird were poised in the posture assumed by living female pigeons when they signal a courting male that they are ready for copulation. The live bird, unable to conceive the death of its mate, was simply responding to misinterpreted body language of its dead mate.

Birding companions had since shared similar accounts that they had witnessed. These were of feral pigeons though, birds that habitually engage in courtship display on the ground or on ledges and girders where they roost or nest. American mourning doves, like most of the smaller species of doves, tend to invest more in aerial display, while they copulate in the seclusion of the

¹ James Yule. 2021. *Mourning Dove – The Loss*. 17 June 2021. Available at <https://youtu.be/ovc9V1FpGyM> (Accessed: 20 June 2021)

nest or nearby perch. The second possibility is therefore not a likely alternative explanation in the case presented to us by James Yule.

A bereaved dove

The third possibility for the most part, would validate Yule's heuristic impression of the dove's behaviour. We know that mourning doves form enduring pair bonds. If we say that vertebrates at least, are sentient animals with the capacity to be aware of feelings and sensations, could it be that these doves share bonds of love?

As end-users of a vertebrate body, much happens behind the scenes for us to experience sentience with all of the feelings and sensations that go with it. Professor Krishna Seshadri of the Department of Endocrinology at the Sri Ramachandra University in Chennai, India, defines love as “*an emergent property of an ancient cocktail of neuropeptides and neurotransmitters*”². Seshadri posits that sensations of lust, attraction and attachment are each distinct but interwoven processes with neurotransmitters and circuitry of their own. When we refer to pair bonding, the blend of neurotransmitters and circuitry for the sensation of attachment would surely apply. Pair bonding across the spectrum of species by definition, refers to an enduring preferential or monogamous association formed between two sexually mature adults and is characterised by selective contact, affiliation, and copulation with the partner over a stranger.

In mammals for the most part, we know that the pituitary neuropeptide hormones vasopressin and oxytocin in addition to the neurotransmitter, dopamine, regulate social behaviour, aggression, and maternal care. Activation of dense receptors for vasopressin and oxytocin, is associated with development of a conditioned preference for a partner in monogamous mammals. While this is the case for mammals, the pair-bonding role of vasopressin and oxytocin is substituted by the oligopeptide, vasotocin, in non-mammalian vertebrates including birds.

The surviving mourning dove cannot be assumed to possess any cognitive concept of death and will remain by the side of its stricken mate while the signalling molecules and neurocircuitry that regulate its attachment continue to exert their influence of mate fidelity. The distension on the neck in the live bird attending the remains of its dead mate, might not be in aggression then, as much as in vocalizing a contact call to its unresponsive mate. The dove will persevere in its futile attempts at evoking a response from its lifeless mate. Driven by hunger, thirst, threat or nightfall, the bird will ultimately depart.

It might or might not return to the site, but the physical absence of its mate will soon result in separation distress in the surviving bird when levels of the stress hormone, cortisol, increase and vasotocin ebbs. This in a

word, is the biochemistry of grief or bereavement. According to the research of Satomi Nakajima of the Department of Human Sciences at the Musashino University in Tokyo, Japan, it would appear as common for some animals as it is for humans to experience grief following the loss of an attachment figure³.

Of course, upon the loss of an attachment figure; a loved one; those left behind, will be quite oblivious of the intricate biochemical signalling triggered in their own neurocircuitry. To the bereaved, whether a humble dove or the most seasoned of endocrinologists, such intricacies would matter equally as little. In the end though, all that registers in the consciousness of the survivor, is the crushing, subjective experience of grief – Nature's uncanny way of offsetting seemingly senseless brutality with tenderness.

James Yule's mourning dove is indeed a bereaved dove.

The author, a conservation biologist and practicing military environmental scientist in active duty with the South African Air Force these past 30 years, would welcome all comments and criticism from subject matter experts in the field.

References

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³ Nakajima, S. 2018. *Complicated Grief: Recent Developments in Diagnostic Criteria and Treatment*. Philosophical Transactions of the Royal Society B 373. Available at <https://royalsocietypublishing.org/doi/10.1098/rstb.2017.0273> (Accessed: 20 June 2021)