

METAMORPHOSIS

Monarch Butterflies, North American Foodsheds, and That Which Feeds Our Spirits

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I WOULD LIKE TO EXPRESS TO you the spiritual values that underlie our Call for a Day of Action and Contemplation for monarch butterflies and other pollinators on April fourteenth, the fiftieth death anniversary of Rachel Carson, the poet-scientist who wrote the game-changing book, *Silent Spring*. Those values relate to the very real need for embracing the metaphor of metamorphosis in our own lives, and reaffirming the presence of butterflies as symbols of hope in the world at large.

Say the word metamorphosis to a crowd at a museum, or in a college classroom, and most people present will have the same reaction. They will immediately imagine caterpillars hidden in a chrysalis, and butterflies emerging into flight. Some of them, in fact, cannot quite imagine this transformative process without situating it in the tangible context of the emblematic oranges and blacks of monarch butterflies.

More than ever before in the history of the Americas, the completion of metamorphosis by monarch butterflies may depend on how willing we are to foster a similarly dramatic transformation in our food system and in our spiritual responsibility to the earth's creatures. It is quite probable that the already-endangered monarch migration between Canada, the U.S. and Mexico will become a mere shadow of its former glory if we leave it to "business as usual." Let me say that more emphatically, in another manner: on our own watch, monarch numbers will continue to dwindle just as passenger pigeon and chestnuts did decades ago if we ourselves do not move toward the kinds



of contemplative actions which restore health to the food chains which nourish monarchs and other pollinators, and which nourish our own species as well.

It may be difficult for many to fathom how the best known and most beloved butterfly in North America—the once-common monarch, *Danaus plexippus*—has joined the ranks of the most imperiled.

Many factors have contributed to these declines, so I do not in any way wish to engage in finger-pointing or name-calling. The cold hard fact is that in the forest areas of Michoacan, Mexico, the overwintering area for monarchs has shrunk down to just an acre and a half, less than one thirtieth of what it was two decades ago when I first saw those butterflies layered like shingles on the bows of the Oyamel firs there. The most recent counts in California suggest a slight improvement in monarch overwintering there over the previous year. However, the pervasive drought in their Western breeding grounds suggests that the decade-long trend toward fewer butterflies wintering along the Pacific coast will continue if nothing additional is done on their behalf.

In the words of nature writer and butterfly expert Robert Michael Pyle, the wondrous migration of monarchs has become an endangered phenomenon, and the millions of schoolchildren already entranced by the flight of butterflies on film may soon be facing the extinction of the very experience that keep "migration" and "metamorphosis" from becoming mere abstractions.

Let us focus for a moment on this process

of metamorphosis, one that more and more schoolchildren could potentially miss experiencing. As evolutionary biologist Elisabet Sahtouris has deftly explained:

A caterpillar can eat up to three hundred times its own weight in a day, devastating many plants in the process, continuing to eat until it's so bloated that it hangs itself up and goes to sleep, its skin hardening into a chrysalis. Then, within the chrysalis, within the body of the dormant caterpillar, a new and very different kind of creature, the butterfly, starts to form. This confused biologists for a long time. How could a different genome plan exist within the caterpillar to form a different creature? They knew that metamorphosis occurs in a number of insect species, but it was not known until quite recently that nature did a lot of mixing and matching of very different genome/protein configurations in early evolutionary times. Cells with the butterfly genome/ proteins were held as aggregates, or 'discs' of stem cells that biologists call 'imaginal cells', tucked inside pockets of the caterpillar's skin all its life, remaining undeveloped until the crisis of overeating, fatigue and breakdown allows them to develop.

As writer Martha Beck puts it in her darkly funny manner, "If you were to look inside the cocoon early on, you'd find nothing but a puddle of glop. But in that glop are certain cells called imago cells that contain the DNA-code structure for turning bug soup into a delicate, winged creature—the angel of the dead caterpillar."

Let's now turn back to Elisabet, the biologist, to ponder the larger context for why more and more monarchs might not make it through metamorphosis, given all the perils their caterpillars find within our increasingly problematic and overly industrialized food system:

"Such metamorphosis makes a good metaphor for the great changes caused by globalization in... our bloated old system. It is rapidly becoming defunct while the vision of a new and very different society... is now emerging like a butterfly. [This vision has been] long held by many 'imaginal cell' humans, who dreamt of a better world,

[offering] solutions to the crises of predation, overconsumption and breakdown."

To cut to the chase: not all of our agricultural has become a bloated old system, but there is a portion of it that has become highly dependent on certain toxins that negatively affect both butterflies and farmer's livelihoods. There is a vigorous debate about whether the migration of monarchs as we have known it has much of a chance to survive for more than another decade if the collateral damage from the excessive and untargeted use of certain herbicides and pesticides continues as it has over the last decade. The debate is not one that is vilifying farmers who use these agrichemicals; it is about the most expeditious ways to assist them in reducing their dependence on these chemicals, for their own good and that of the pollinators they depend upon.

Perhaps by grieving the damage and many deaths associated with one increasingly obsolete form of weed and pest control, we can conceive of a rebirth, the emergence of healthier forms of food production. What it may look like is anyone's guess, but it will be likely to make more room for monarchs, honey bees, bumblebees and other pollinators in conservation filter strip plantings of wildflowers between large patches of row crops or fruit trees. It may use the principles of low-input, high diversity rotations of grain and legume crops that naturally suppress super-weeds, enhance soil fertility, and slow erosion, while offering more income to farmers and farmworkers. We must support the nascent efforts to foster such healthy food production systems particularly in the Midwest, for that is where so many family farmers—not just monarchs—have been devastated over the last decade by the rising costs and diminished efficacy of agrichemical use.

Just how would such dramatic changes ever come about if we ourselves do not transform our own tastes, our own purchasing patterns and our own expectations of the food chains which nourish us? Such transformations of our entire society will certainly not be easy, for it is oftentimes difficult for any one of us to individually enter into such a metamorphic process, let alone do it collectively. Let's return to the wise words of Martha Beck:

Any transition serious enough to alter your definition of self will require not just small adjustments in your way of living and thinking but a full-on metamorphosis. I don't know if this is stressful for caterpillars, but for humans, it can be hell on wheels.

That's where support from faith-based communities can come in, because they have decades of experience guiding individuals back out of hell, or to use a more neutral phrase, out of that dissolution of a formerly destructive behavior into one that is more life-giving. Harking back to ancient Greek concepts, they call this process *metanoia*—a shift in understanding, rather than *metamorphosis*—a shift in shape, but the two processes are remarkably similar. And yet, even when we conscientiously try to make positive changes in ourselves, in our food system or in the wild lands around us, we will likely feel pushback from those who are not quite ready for such changes in their own lives and own landscapes.

Perhaps we can take solace in the words of Maya Lin, the Vietnam Veterans Memorial architect, who once offered, “To fly, we have to have resistance.”

Jay Parini, a scholar of literature and biographer of Jesus, reminds us how this links to the greatest narratives in the world, ones which tell of the struggles involved in the spiritual metamorphoses undertaken by people of many faiths:

“In fact, mythologies often describe a turn when the hero descends into a deep pit or a place of psychological, spiritual or physical confinement, as when Jonah spent three days in the belly of the whale, or Gilgamesh descended into the underworld.”

If such a descent sounds a bit to you like chrysalis, you should not be too surprised. There are uncanny similarities between the metamorphoses made by monarch butterflies and those described as the spiritual journeys of Moses, Buddha, Jesus, the Prophet Mohammed, and of even more recent “saints” like Mother Teresa, Dorothy Day, Nelson Mandela, Teresita of Cábora, Simone Weil, Anne Frank, and of course, Rachel Carson, author of *Silent Spring*.

If only to offer one tangible example, consider the forty-day journey through the final *metanoia* of Jesus of Nazareth, which took about the same time as the metamorphosis of monarchs. It takes butterflies roughly thirty to forty days from conception, through birth, through early development, through dissolution and restructuring hidden in the chrysalis, then emergence, drying, fluttering and then taking flight for parts unknown. As Christian scriptures offer this narrative, Jesus went from childhood to being a peasant prophet in political and theological conflict with authorities, to death by crucifixion, chrysalis-like burial in a cave, followed by disappearance or dissolution in a cave, then re-emergence and ascension in an angelic form so different from his earlier countenance that even his closest friends did not immediately recognize him. We are told that after forty days, he ascended into the sky, but his *metanoia* has continued to inspire the spiritual transformation of many who came after him.

There are good reasons that we all need to keep the process of metamorphosis alive in the natural world as a tangible reality, not merely as a high-minded abstraction or vague aspiration. Perhaps the very recovery our contact with lives as humble as those of monarch butterflies will serve as touchstones for making positive, lasting changes in our food system and in ourselves. As J. Brent Hill and Beth Booram have written,

“The natural world is one of the most accessible places where we can discover the glory of God and undergo a metamorphosis of our own.”

Let us consider this possibility in our prayers and meditations each year on April fourteenth, a Day of Action and Contemplation of our relationships with Creation, in forms as diverse as monarchs, milkweeds, honeybees and hummingbirds. May Peace be with you, with these many pollinators, and with the deepest sources of sustenance that nourish all of our lives. ❀