



Consider the Creatures

"Consider the birds ... "
(Matthew 6:26)

Available online at www.mikelanderson.com

No. 3

August 2011

Butterflies, beauty and brains

Mike L Anderson

Several things may come to mind when a beautiful butterfly flutters by - say frivolity, leisure or transience. A brain is not one of them. Yet, actually, strategy is going on. The naturalist W. H. Bates lamented that butterflies were "creatures selected as the types of airiness and frivolity," but predicted that their study would eventually become greatly valued. Is there really something clever going on with butterflies when they flutter about? If so, how did a creature with a neural knot for a brain stumble upon it? Could we humans learn something from them about life tactics?

It turns out that some rather difficult challenges have been solved in butterflies. To appreciate the problem we have to put ourselves in their little shoes. To a butterfly, a vacant plant is a bounty. It is a little like a human finding a loaf of bread the size of a building. If they prayed it would be, "Give us this day our lifetime supply of bread." It would mean enough food for her many offspring for virtually their entire lives. They couldn't move without stepping on it. No need to be very mobile. In fact, it is better not to be, in case the insect misplaces the food plant. What, then, is the problem? The trouble is that for such a little creature, vacant plants are very widely separated from



each other. To find one in the first place requires much mobility. The insect needs to be mobile, but it also needs to be sedentary. Conflicting demands are placed on it.

An extreme lifestyle

What to do? Does it do just one or the other or go in-between? Neither. It has a better tactic - do sedentary during one phase of its life and mobile in another. It has a radical division of labour in its life-cycle called complete metamorphosis. The creature starts its life as a sedentary, celibate, feeding machine - the caterpillar. The young caterpillar eats many times its body weight in a single day. Talk about extreme eating! In the larval stage, it may look primitive and worm-like, but it is actually a very adaptive, advanced condition.¹ During the pupal stage it is about as mobile as a plant. During the adult stage, the butterfly is a flying, frugal, extreme sex machine. Monarch butterflies travel thousands of kilometers² and lay hundreds of eggs. Many species of butterfly do not feed at all as adults. Talk about extreme dieting! The focus is on finding food for one's offspring, not eating it. Metamorphosis is a strategy for dealing with rich, but highly dispersed food sources and is a marvellous method for coping with opposing pressures.³



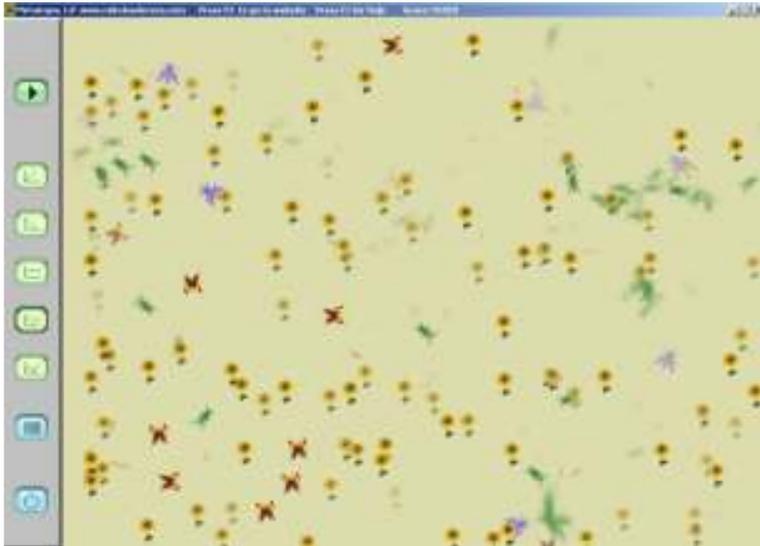
Butterflies have parallel strategies for other opposing pressures. For instance, they need showy wings to attract mates, but camouflaged wings to avoid being seen by predators. Do they go just brightly coloured, cryptic or in between? Some species have discovered that the best strategy is neither. When fluttering around a mate to impress, they display the gaudy upper sides of their wings. When sitting still for concealment, they fold their wings, hiding the upper sides and displaying the drab colour of the undersides.

The insects that do the "both/and" strategy such as the beetles, flies, bees, wasps, ants, butterflies and moths and are supremely successful. They account for the majority of all animal species!⁴ Maybe, just maybe, they are onto something.

How did a beauty come up with such a brainy strategy?

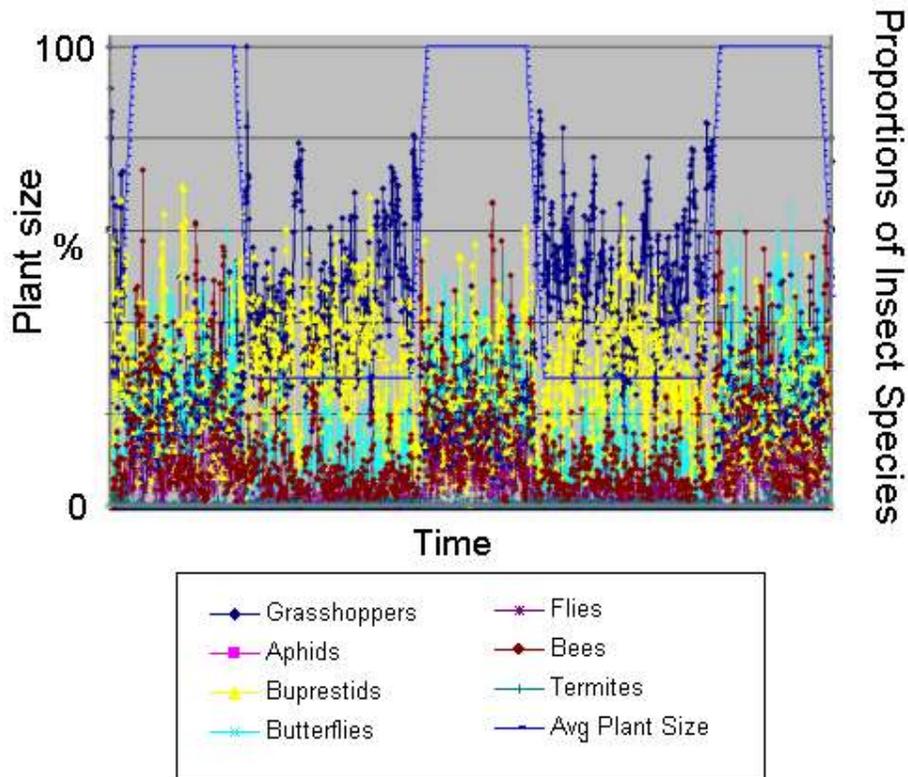
It cannot be through the butterfly's brains because it does not have much. We have to look higher – just God maybe, or just evolution or something

in-between? Let me suggest, neither – that both God and evolution are behind metamorphosis.



I have created an artificial life simulation program called *Metatopia* that illustrates how this can be so. (It is available on my website www.mikelanderson.com). *Metatopia* is a little world of plants and insects that mutate and evolve (see screenshot). I wanted to see whether evolution could produce the butterfly. It did! When plants are small and close together (think grass), insects such as grasshoppers predominated (see graph below). As plants increase in size and become separated, butterflies and other insects with complete metamorphosis evolved. In effect, the larva evolved stubby legs and the adults, wings. Not only that, the adults became more reproductive and transient just as they are in real life. Even sociality evolved- so termites and bees appeared. I used chance and selection to provide a system whereby insects can hit upon their own solutions to their problems.

Plant size vs Proportions of insect species



We rightly acknowledge the genius of Charles Darwin for discovering evolution through natural selection, but what about acknowledging the One who invented it all in the first place?

Why let the system come up with the solution rather than designing the creatures directly? One reason, in a word, is love. Well, a hint of love in the case of *Metatopia*. This is what compelled me to give my insects their own independent existence. I wanted to liberate the creatures to come up with solutions - or not - on their own accord. There was satisfaction in giving them this autonomy. It is as if they had their own free will. I wasn't sure what would happen and there are aspects of the outcome that I still do not understand. Creating an open-ended little world was fun!⁵

Similarly, God has lovingly created a world of autonomous creatures and humans that can make their own choices. While the universe ultimately depends on God for its existence, it is important to God that his creatures have genuine freedom. God's love compels him to be an intelligent Creator rather than an intelligent designer. God has brains *and* beauty.

Butterfly wisdom

While we have the God-given gift of freedom to decide whatever course to take, not all decisions are equally valuable. The apostle Paul says, ""Everything is permissible for me" - but not everything is beneficial."⁶ Marcus Cato, the Roman statesman said, "Wise men learn more from fools than fools from the wise." Could something be gleaned from fluttering butterflies concerning making strategic life decisions? I think so. I think they illustrate wise life skills.⁷

1. "If nothing ever changed, there'd be no butterflies," goes the saying.

Butterflies suggest that change can be a good thing. Change is part of life. Each stage has its challenges and its benefits. Proverbs says, "The glory of young men is their strength, gray hair the splendor of the old."⁸

2. When conflicting demands come our way, do things in stages. Metamorphosis, remember, is a marvelous method for coping with opposing pressures. A caterpillar fixating on flight is not going to eat very well, and a butterfly fixating on munching leaves is not going to fly very well.

Even the Son of God has conflicting pressures. His power demands that he be eternal, everywhere, all-knowing and unfathomable. His love demands that he be temporal, localised, limited and up-close and personal. Does he do one or the other or something in-between? Neither. He did it in stages. He was infinite in eternity past. God Incarnate became confined like a caterpillar. Then he rose again and flew into each of our hearts so that the beautiful Spirit of Christ could reside within us.

If butterflies and Jesus do things in stages, perhaps it is a good strategy?

Even Jesus needed to rest from work. Even he took a catnap on a boat in a storm! Even he needed a time to grow and a time to fly. He only started his ministry at around thirty years old. Before that he was growing "in wisdom and stature, and in favor with God and men."⁹ If he had started earlier, would not many more people have heard his message from his mouth? Would not many more people have been healed? Yet Jesus had an acute sense of divine timing, saying, "My time has not yet come," when pressed to become involved too early.¹⁰ When the crowd wanted to make him king by force, he withdrew.¹¹ When the crowd threatened to throw him off a

cliff, he escaped.¹² It was only on the night before his death that Jesus prayed, "Father, the time has come."¹³ Jesus knew when it was time to rest, time to grow, time to leave, time to minister, time to die and time to be king.

So does the Father. He has established a "covenant with day and night and the fixed laws of heaven and earth."¹⁴ In separating night and day, God gave us well-defined periods of sleep and work - mini-stages if you like. What do we do? Do we make hay while the sun shines, but hit the sack when it does not? Or do we switch on the light to extend the day? Most South Koreans begin work at 8 am and end at around 10 pm or later. Employers have converted their people into beasts of burden. Modern conveniences have desensitized us to nature's cycles. Do we rest poorly because we feel guilty about resting even after the sun is down? And do we work poorly because we are too tired from insufficient rest? Are we moving towards a halfway zone between rest and work?

It was always thought that hunter-gatherers needed to work long hours just to survive. How many in the workforce were lulled into thinking they were better off than their ancestors? However, research has revealed that hunter-gatherer societies today have a workload averaging less than five hours per day.¹⁵

Psalms says, "In vain you rise early and stay up late, toiling for food to eat-- for he grants sleep to those he loves."¹⁶ Not that we have to religiously follow the sun. We can be flexible. God created the sun for us, not us for the sun. Perhaps we can be flexible enough to set an alarm to prompt us to take a lunch-break. Is it not best for productivity to confirm appointments with the bed at night, the couch on your day of rest, the river-bank on the long-weekend fishing trip and the chalet for the holiday? It is not beauty sleep - it is strategic sleep.

3. Caterpillars do caterpillars well, but butterflies badly and vice versa.

It has been said that "In childhood, we yearn to be grown-ups. In old age, we yearn to be kids. It just seems that all would be wonderful if we didn't have to celebrate our birthdays in chronological order."¹⁷ But if I hanker after the advantages of another stage, age or season, I may miss the opportunities of the current one.

"There was no respect for youth when I was young, and now that I am old, there is no respect for age - I missed it coming and going" wrote J.B.

Priestly. The Apostle Paul said to Timothy "Don't let anyone look down on you because you are young."¹⁸ What the young lack in experience, they make up for in energy. What the elderly lack in vigor, they make up for in wisdom. Job asks rhetorically, "Is not wisdom found among the aged?"¹⁹ If gray hair is a crown of glory,²⁰ wrinkles are the pleats of a royal robe.

Incidentally, Job says only a few verses earlier, "But ask the animals, and they will teach you."²¹ If butterflies are anything to go by, I can never be too young or too old. I am always in the prime of my life because each stage of life is a vital part of God's scheme of things. Perhaps when I covet another age I should remember this: I am exactly the age God wants me to be. When that stage called death approaches, our very failing faculties can serve a great purpose. It can remind us that that our value in God's eyes does not depend on our performance. It can remind us that the next stage is eternity. It can remind us that even the Son of Man experienced transience. And even he needed to pass the baton on to others. John Milton said it so well as he went blind:

"When I consider how my light is spent
E're half my days, in this dark world and wide,
And that one Talent which is death to hide,
Lodg'd with me useless, though my Soul more bent
To serve therewith my Maker, and present
My true account, least he returning chide,
Doth God exact day-labour, light deny'd,
I fondly ask; But patience to prevent
That murmur, soon replies, God doth not need
Either man's work or his own gifts, who best
Bear his milde yoke, they serve him best, his State
Is Kingly. Thousands at his bidding speed
And post o'er Land and Ocean without rest:
They also serve who only stand and waite."

4. Wisdom can be found in humble places.

A little butterfly flitting about may not seem like much. It follows what we disparagingly call "blind instinct." But, instinct is the culmination of millions of years of evolution. There is wisdom behind the butterfly's timely cycles between work and rest, feeding and reproducing, walking and flying. Instinct may be short-sighted, but culture can be worse. Entire nations can rise above instinct into craziness. One can get more strides in per unit time by running then by walking. So, for the sake of productivity,

the Chinese run everywhere - frenetically. The government is so concerned that it has instituted an annual Go-Slow Day.

Jesus may well have run when the crowd tried to throw him off a cliff. The rest of the time it seems he believed he could accomplish the Father's mission at less than a hectic pace. Perhaps sophisticated cultures can learn something from the humble carpenter?

Outwardly, this man from an obscure village may not seem like much. Unlike the butterfly, Jesus "had no beauty or majesty to attract us to him, nothing in his appearance that we should desire him."²² However, he was the culmination of a strategy developed by God in eternity.

Why would God use such an odd strategy? Is it not to shame those who are wise in their own eyes? "Where is the wise man?" asks Paul. "Where is the scholar? Where is the philosopher of this age? Has not God made foolish the wisdom of the world? For since in the wisdom of God the world through its wisdom did not know him, God was pleased through the foolishness of what was preached to save those who believe. Jews demand miraculous signs and Greeks look for wisdom, but we preach Christ crucified: a stumbling block to Jews and foolishness to Gentiles, but to those whom God has called, both Jews and Greeks, Christ the power of God and the wisdom of God."²³

It is a strategy that works. I saw an almost cordial debate on the Internet in which a skeptic almost warmed to the idea of a deistic god arrived at through sophisticated scientific reasoning. Then his opponent brought up Jesus. His reaction reeked with disdain. "It's so petty, it's so trivial, it's so local, it's so earth-bound, it's so unworthy of the universe."²⁴

Jesus is not good enough for everyone and that is what God wants. How could I have the gall to try to improve on Jesus? That humble Caterpillar from Nazareth came to fulfill a deep, divine strategy and all in good time.

5. The butterfly is only outwardly doing nothing during the pupal stage.

The pupal stage seems very counter-intuitive. While wrapped in the chrysalis, the insect cannot feed, fight or flee. And if you looked inside you would find larval tissues literally dying.²⁵ Yet, this stage is essential to the overall strategy. For the butterfly to fly, the caterpillar must die. Far from nothing happening, a most amazing transformation is taking place.

The apostle Paul spent 14 years in the desert before he began his missionary journeys. Would he not have got in more trips if he started earlier? Perhaps this long was needed for Saul to die, so Paul could live? Transformation takes time. This is why Paul says that Christian leaders should not be recent converts.²⁶

Even when nothing seems to be happening, God is doing his thing. If this is true for butterflies and Paul, why should it not be true for us?

When the world presses in on us with countless things to be done and problems to solve, it can seem very counter-intuitive to pause awhile. There is that checklist. Would I not get more things ticked off if I started right away? But is not slowing down now vital to flying well later? Being still and knowing that God is God does not appear to be the best way to be productive. But in God's economy, being transformed by him will make us into more useful instruments for him.

On the surface, God Incarnate wrapped in burial clothes is very odd indeed. The Holy, Almighty God seems to passively succumb to his evil creatures. Yet, from God's point of view, it was while his body was cold and immobile that his greatest work was done. It is the pupal stage that takes centre-stage in God's plan for humanity in Jesus. Our redemption, our justification, our reconciliation, our life in eternity and much else were all achieved for us while Jesus was in the tomb. God's power, justice and love were all revealed there. As was his wisdom – his strategy. The tomb did not catch God by surprise; it was God's way of catching us. And it worked. How many hundreds of millions of spiritual offspring has Jesus had because of it? God has beauty *and brains*.

If you found this article helpful please give it to someone else.

Mike L Anderson, Ph.D. (Philosophy of Evolutionary Biology) is a writer, speaker and educational software developer focusing especially on Jesus and evolution. He is married to Janice and they have three children.

Editors: Andy D Potts and Jane F Forrester

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Notes

- ¹ Truman and Riddiford (1999) The Origin of Insect Metamorphosis *Nature* 401:447-452..
- ² Capinera (2008) Encyclopedia of Entomology. Springer, p. 2458.
- ³ Cockburn, A. (1991) *An Introduction to Evolutionary Ecology*. Blackwell Scientific Publications, Oxford, p. 168.
- ⁴ Wilson, E. O. 1988. The current state of biological diversity. In E. O. Wilson (Ed.) *Biodiversity*, National Academy Press, Washington, D.C. pp. 3–18.
- ⁵ For practical reasons, *Metatopia* is limited in its open-endedness. Many regard determinism as incompatible with free-will, but there are philosophers that dispute this.
- ⁶ 1 Corinthians 6:10.
- ⁷ Butterflies can only illustrate shrewd living. Matters of morality must be derived, of course, from other grounds.
- ⁸ Proverbs 20:29.
- ⁹ Luke 2:52.
- ¹⁰ John 2:4.
- ¹¹ John 6:15.
- ¹² Luke 4:30. (see also John 7:30)
- ¹³ John 17:1.
- ¹⁴ Jeremiah 33:25.
- ¹⁵ Voth, H. (2000) *Time and work in England 1750-1830*, Oxford University Press, Oxford, p. 244 However, the variance between hunter-gathering societies is high.
- ¹⁶ Psalm 127:2.
- ¹⁷ www.robertbrault.com.
- ¹⁸ 1 Timothy 4:12.
- ¹⁹ Job 12:12.
- ²⁰ Proverbs 16:31.
- ²¹ Job 12:7.
- ²² Isaiah 53:2..
- ²³ 1 Corinthians 1:20-24.
- ²⁴ Clarke, G. (2009) Is it sane to believe in the resurrection?
<https://publicchristianity.org/library/is-it-sane-to-believe-in-the-resurrection>
- ²⁵ Buszczaka, M. and W.A. Segraves (2000) Insect metamorphosis: Out with the old, in with the new. *Current Biology* 10(22) R830-R833.

²⁶ 1 Timothy 3:6.