

THOUGHTPIECE 11

SWARM Theory in Action. How Does The Animal Kingdom Deal With A Challenging Down Turn?

In January 2009 the BBC screened a two part documentary narrated by David Tennant and produced by Phillip Dalton and Robert Pilley, the second of the documentaries was titled "One Million Heads, One Beautiful Mind". Whilst the themes were about how animals and insect prosper in their constantly changing environment, there are strong parallels to be drawn with how we humans can survive a down turn in a business market.

Swap Roles

Consider first the most abundant Bird on the planet, the "Red Billed Quelea" like so many flocking birds they gather together for protection. The documentary showed a flock of young Quelea drinking at the edge of a water hole; a Lanner Falcon swooped and picked off a number of the birds with ease. The Quelea reacted by retreating to the safety of thorny bushes, but their thirst drove a few of the braver birds back to the water, whilst the more timid in the flock sat in the bushes keeping watch.

How many times in organisations are roles swapped so that a clear view of the bigger picture can be seen? How are mavericks treated in organisations? Are they embraced or seen as difficult people to manage? Do we tend to ignore the "more timid", or spend time understanding what they can offer, so that they can contribute to overall success?

Warn Each Other

The next time the Falcon attacked the warning went up early and the Falcon failed, once the braver birds had quenched their thirst, they swapped roles with the lookouts so that the timid birds could also drink their fill. Refreshed they returned to roost with other groups of Quelea and share the location of good sources of seeds that the small feeding parties have found earlier in the day. Quelea have a very flat management structure, no one bird is more important than another, so what of animal or insect groups that have a hierarchy with much more defined roles?

Act As One

Both Ants and Bees, have been extensively studied and they share a similar organisational structure with a queen at the head producing the future of the colony; the eggs. The colonies share similar "Mission statements" "*Protect the young - the future of our colony*". There are defined roles: Soldiers, Workers, Drones, each understands their role, however each will pick up a different role if need be. There are robust communication systems, Ants through the use of Pheromones, Bees with their Waggle dance. Decisions are made collectively, through the combined intelligence of the colony; a strong Pheromone trail shows that many others have supported the decision. When a bee colony gets too big to support itself, it splits into two smaller groups, half the colony swarms to find an appropriate nesting site. The documentary showed how a colony of "Fire Ants" dealt with an unforeseen danger against their existing nesting site. Not the unseen effects of lending to the sub prime market, but a tangible, physical threat to a nest located in a storm drain. As the waters rose, their nest was in danger of flooding, so the Queen, Eggs and Pupae were the first to be rescued, each being moved to higher ground. (probably best to think of these as the USP and continued existence of the business rather than the CEO and Board!) As the water rose further, it became clear that safe ground was cut off by water, so the ants linked legs to form a floating platform, with the highest part of the floating ant island occupied by Queen, Eggs and Pupae. Ants at the edges paddled to help move the island and as a land fall came close pontoons of ants grew in the direction of the land to speed their comeback. No one ant was telling them to go that way, the strongest pontoon was supported and the weaker pontoon faded. Whilst a very strong hierarchy exists within the Ant colony, leadership in difficult times came

THOUGHTPIECE 11

from within the colony, individual ants tried different tactics, successful tactics were copied by others and the colony survived.

Responsibility for Leadership

So can humans display similar behaviour? Absolutely, you just need to observe someone playing a collaborative computer game on line. Newer gamers learn from the established gamers, but if a 'newby' uses a successful strategy; it will be quickly adopted by new and established gamers alike. It is the diversity of a swarm of gamers that allows them to be successful, but they are not a soft touch, failure to pull your weight or contribute to the game and the host will bounce you out of the game. Maybe we have unlimited lives on-line but not in business; so where does the leadership of ideas sit in your business? Do you just look to the people that were around in the last recession, or are you looking to the new gamers?

Move Together

10 million Starlings in Rome were also shown in the documentary, swarming in a similar style to shoals of fish. Gulls looking for a meal dive-bombed the flock; the Starlings responded by opening a pathway through the flock closing after the attacker had passed. A Peregrine Falcon picked up the attack, able to dive at 220 mph the strategy for the Starlings this time was to stay together in close formation, at 220 mph the Falcon would take out a number of Starlings but would do itself untold damage. How do the Starlings achieve this movement? Firstly they have a common goal: survival. Each also keeps an eye on the seven birds nearest to it, each bird acts and reacts based on what others are doing, bird "A" watches "B" "C" etc. Whilst bird "B" may share some of "A"s contacts they could have up to six other contacts. These connections help develop the distinctive ebb and flow of a flock of birds.

So with a common goal and a keen eye on a small group who we work closely with, and ensuring we are connected into other parts of the organisation, we can survive the threats that come at us. There may be casualties along the way but a successful strategy will limit these.

The publishers Collins has compiled a shortlist of web words to watch in 2009, with the most frequently used set to enter the next edition of its dictionary. *Social Not-Working* is the phrase to watch; it describes people spending time on Face book and the like instead of doing their job. Language reflects culture and this latest example also demonstrates one of our current business challenges. It is a frightening fact that on average only 29% of our employees are energised and committed to work, 54% just show up and do what is expected and 17% don't even do that! This wastes some £37-£39 billion per annum in the UK. Sobering thoughts when we know that truly engaged employees are 8 times more productive and they demonstrate a 20% lower turnover rate (**Gallup**). In the animal kingdom commitment is not in question and because survival is at stake it is driven by instincts that develop over time. In these difficult times we need to develop our own survival instincts so perhaps we should take a closer look at "*the wonderful appeal of swarm intelligence. Whether we're talking about ants, bees, pigeons, or caribou, the ingredients of smart group behavior—decentralized control, response to local cues, simple rules of thumb—add up to a shrewd strategy to cope with complexity*".
(Peter Miller-Swarm Theory-National Geographic-Published: July 2007)

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PS: We also understand that Ashridge, the LSE and Duke University, are all researching Swarm Intelligence.