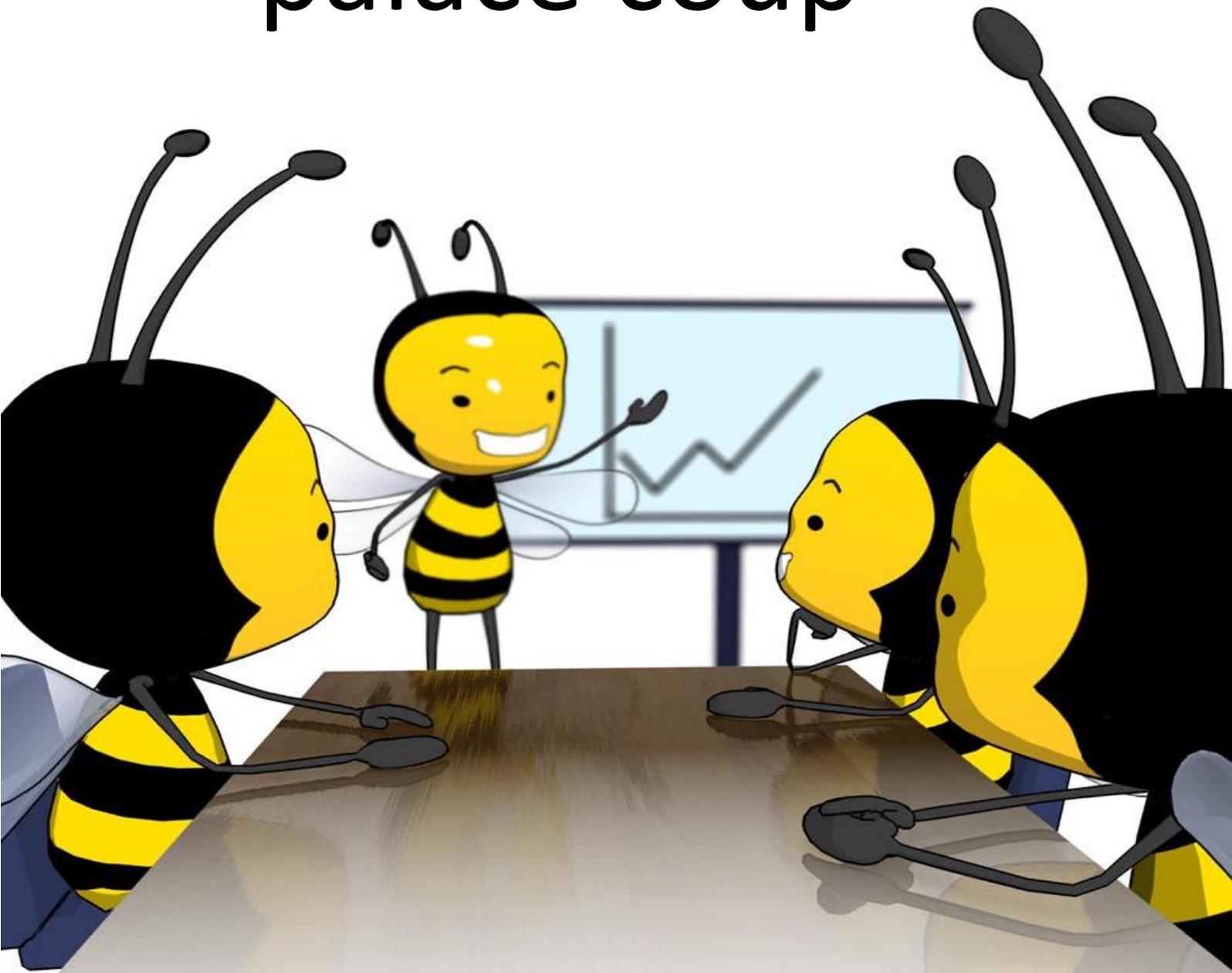


How to run a palace coup



How Bees Work and their Quirky Parallels
with Human Organisations

John Laurent

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Written by John Laurent

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Illustrations by Peter Laurent

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Introduction

This book is a story of the bee and the beekeeper. It is intended to describe what we can learn from the way bees organize themselves into hives. It has been written to celebrate this humble insect, demonstrate some practical observations made from working with them and to draw parallels between bee colonies and human organisations.

Some of the things you will discover in this book are:

- The bee approach to innovation.
- How bees work their way through conflict between each other.
- How to run a palace coup.
- Why mergers and acquisitions fail.
- A process to manage sex in the workplace.
- Other parallels of life in beehives and human organisations.

A purpose of this book is to draw out comparisons so that we can learn from the bees. The main purpose, though, is to help people understand bees more, so that we can celebrate their magic and mystery and even encourage more people to take up bee keeping.

I have been a bee keeper for 10 years and come from a family of bee enthusiasts. I also work as a business coach and organization development consultant. I have come to see lessons from the ways of the honeybee that we can apply to our own work lives. In my work as an organization development consultant I have been able to compare the workings of the hive with the workings of human organisations. I realize that there are many parallels between how we work together and bee hives.

Bees evolved on planet earth million years before we did. People have observed bees and lived closely with them throughout history. We have come to appreciate their ability to pollinate plants and provide honey and other delicious and curative products. Our admiration has also extended to the way they organize their societies into colonies or hives. We have attributed many of the virtues we admire in our own societies to bees. These virtues include hard work, loyalty and teamwork

A full strength beehive contains as many as 50,000 individual bees. From the outside it seems to operate as a smoothly managed efficient system, much the way a large human organization might look. Because of the cohesive way bees seem to be able to deploy their vast numbers towards a common goal many scientists regard the beehive as a single animal rather than a collection of individuals.

As a practicing beekeeper I see a colony differently. I have come to see the bee colony as a collection of individuals. Their strength is in how these individuals can align themselves to a common goal and integrate their differences. This is also the strength of successful human organisations.

We will never know everything there is to know about these insects. Older more experienced beekeepers will tell you that you never stop learning about them. That is part of

their magic. Coming to understand the clever ways they cope with the problems of survival teaches us humility and provides a sense of wonder.

So highly has the honeybee been regarded throughout history that bees were chosen by Napoleon to sit alongside the eagle as part of the symbols of the French Empire. More ancient people such as the Egyptians, Greeks and Romans venerated the bee.

Drawing direct parallels with bees can be misguided because in so many ways we and bees are very different. However, the life of a bee colony is, at heart, the story of the struggle of a living system of individuals coping with the challenges of a competitive environment. That is also the story of the life of a business. The common themes and adaptive strategies shared between the two are sometimes uncanny.

What the bees offer us is the wisdom collected from hundreds of millions of years in the game. They are very good at what they do. There are also things bees don't do well and, if we could communicate with them, we would like to teach them. This is, of course, impossible.

There is concern at the present condition of bees as numbers of bees drop world-wide. We worry about the implications of this for mankind and are concerned to see such a valuable species under pressure. I am optimistic about the future of the honey bees. They currently face unprecedented challenges as bee diseases spread around the world. Because the systems bees have evolved have worked unchanged so well for so long bees have one of the most simple genetic codes in the animal kingdom. This is a handicap for them. It means that bee genetic variation is uncommon. Their genetic material does not provide the mutation that enables rapid adaptation and evolution.

Bees look like a business model that was successful once but which the rapidly changing environment has made obsolete. I don't believe this. I believe that with our help bees will overcome their current challenges and be with us for many more millennia. As you will read in Chapter 19, *Coping with Change*, I have a positive view of our future together.

In addition to teaching about bees this book is also intended to provide some useful tips that readers can apply either on the job or at home. These are stimulated by the lessons bees teach us but have been translated into a form humans can use.

Chapter 1. The importance of surplus

Every organization needs goals on which to focus the efforts of individuals. We may be tempted to think that the goal of a hive is to produce honey, just as the goal of a business is to produce profit.

All the tremendous energy of a hive seems to be directed towards producing a surplus store of honey, as much as 30 kg per hive, by the end of the season when flowers secrete nectar. This flowering season generally ends with the heat of late summer. This is the point at which the bee keeper moves in to steal this stored surplus- leaving enough for the bees to survive over winter.

However, the real goal of a beehive is the survival and prosperity of the hive, the honey surplus is merely a means to achieve this. Business profit is the same. Most CEO's see profit as the only goal of their business. Yet the truly inspirational leaders also see another vital goal and this might be the development and well being of staff, the longevity and growth of the business and the benefit the organization provides to society.

A good beekeeper takes enough honey to leave the hive viable for the future. Shareholders must treat companies the same way by taking a share of the profit but leaving enough for the business to continue to grow and develop. This is the long term view.

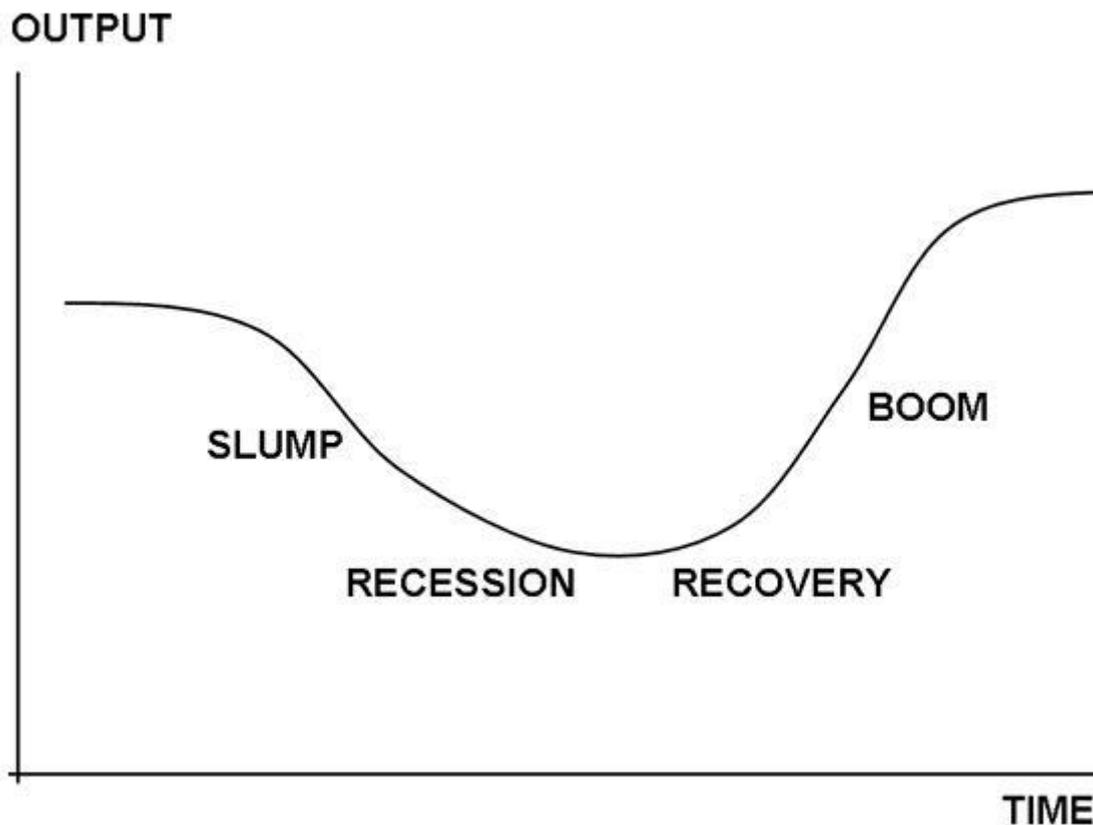


Surplus. It's what it's all about! By collecting a surplus store of honey bees ensure the hive's long term prosperity. Long term survival is the real goal, honey is just a means to achieve this.

Chapter 2. Competition and innovation through the business cycle

All business goes through a cycle. The fortunes of business are often connected to the long term economic cycles of slump, recession, recovery and boom. All living systems face this challenge of coping with changing environmental conditions and maintaining viability.

A typical business cycle



A bee colony is no different. Whereas an important goal of a business is to produce enough money to keep profits up during the cycles, for a beehive the goal is storing enough honey to feed the hive during winter. This surplus is used to feed young bees and enable bee numbers to expand in spring to provide maximum hive strength for the following summer nectar gathering season. Honey gathering is the focus of bee activity, just as money gathering is the focus of a commercial organization. Is it accidental how close the word “money” is to “honey”?

The life span of a worker bee is short- 35 days in summer and longer over winter. Queen bees can live longer, up to five years. The hive’s business cycle, comprising a full year, is over ten times the life span of the average bee, an incredibly long time compared with humans. The bee colony has an annual rhythm of decline in autumn (slump), dormancy in winter (recession) and then growth in spring (recovery) leading to a peak of bee numbers and hive strength in summer (boom).

This colony decline and growth is measured by the number of bees in an average colony at the various times of the year. In winter the number of bees is at their lowest. In summer the bee numbers reach their maximum for the year. This peak in bee numbers in a hive is designed to enable the bees to gather the most honey when the most nectar is flowing from flowers, that is, in early summer.

For the bee the market is the availability of nectar in flowers within a five-kilometre radius of the beehive. Over the course of the year a bee colony has to cope with wide swings in market conditions. A hive makes lots of honey when there is plenty of nectar flowing from flowers. This is when their market is in a boom. When there is lots of nectar flowing, and the weather is sunny, warm and calm bees swarm out into the fields in vast numbers to collect nectar in great quantities.

Life is good and over summer the workers pile up to 30 kilograms of honey in a single hive as a food store to take them through winter. The goal of the beekeeper is to manage the increase in the bee population in a hive to a maximum just as the summer honeyflow begins. Following summer the beekeeper must manage the colony's natural tendency for the hive population dwindle as the days of winter nectar scarcity approach.

In winter the market is poor as there are fewer nectar sources. Winter means colder weather in which to fly, the days are short and the wet and wind prevents safe flying. Insects don't operate well below 12°C as they do not generate internal heat like mammals can. During winter colony numbers shrink naturally and the bees cluster into a tight ball inside their hives fanning their wings to generate enough warmth to continue raising a few young. They collect a little pollen and nectar from the field and mostly live off their summer honey store.

Bee colonies can die out during the winter period from cold and damp but mainly from starvation having not stored enough honey in the previous summer. Starvation often happens when the beekeeper is too ruthless in removing too much stored honey.

Businesses experience the same fluctuations in market conditions as the economy expands and contracts. How do bees cope with their changing environmental conditions and what can we learn?

Bees respond to each stage of their business cycle in ways which closely match what I see in the human world.

As the honeyflow market slumps in autumn the mood of the hive changes. There are still large numbers of bees in the hive left over from the spring population explosion but now they are unemployed as the flush of nectar dries up in the heat of summer and fewer flowers secrete nectar during the cooling autumn. Individual bees become more aggressive and more urgent. They will compete with bees from rival hives by bumping rivals off flowers. They travel further in their quest for nectar, rub up against bees from competitor colonies and widen the range of nectar sources.

I call this their "innovation phase". During autumn, or "the innovation phase" the bees will experiment any food that has a taste of sugar from fallen apples to crushed grapes. These are nectar sources they would reject during the easy days of summer. Often these innovative food sources are productive and yield interesting results. Examples of bee innovation include

a bright red honey obtained from raiding a maraschino cherry factory in New York City and the blue and green honey obtained from the waste from an M and M factory in France.

As winter deepens bees enter their recession phase. This is where they reduce their numbers (see Chapter 12 “Sometimes you have to be ruthless”) to maybe ten thousand bees and hunker down deep within the hive into a close cluster. Rather than hibernate they use the closeness of their bodies to generate enough heat to keep the small mass of eggs and baby bees alive. On fine days workers will still venture out to find nectar. The hive is still operational but much of its food comes from the store the bees placed near the cluster during summer.

During the depth of a recession many businesses adopt a survival strategy along the lines of the wintering habits of the bee as the best strategy. In the book “Good to Great” John Kotter referred to the Stockdale Paradox. This is the key for businesses to survive tough times and prosper out on the other side. This paradox was expressed as “Remain optimistic that you will prevail but at the same time be prepared to confront the reality of your current situation”.

Bees use the Stockdale paradox principal in winter, knowing that good times will return and all their focus is to maintain their core capability so they will prosper in the future. There is a simple formula to this, cutting your costs, keeping up the efforts to secure the market, innovating with novel food sources, making and training baby bees and making sure you have the reserves to get by.

In spring the hive enters the recovery phase in the cycle. The days are longer and warmer and early flowering species produce short flows of nectar and pollen with which to feed baby bees. Being attuned to market conditions the bees rapidly expand their numbers by encouraging the queen to boost egg laying and spread the egg cluster throughout the hive structure. During this period the hive will produce lots of nursery bees which are gentle versions of worker bees. Their purpose is to feed and care for young bees so that population growth is assured.

The aim of the hive is to peak their numbers to over forty thousand by early summer when nectar flow from flowers reaches maximum. The bees are preparing for the boom time of the cycle. During winter the beekeeper will have reduced the number of boxes or supers on the hive to ensure the bees are warm and snug as bee numbers dwindle. But as the hive expands in spring the beekeeper replaces these, adding boxes to provide additional room for the growing population.

Through recessions human businesses try new strategies to innovate but many eventually develop a hunker down and survive strategy. This is particularly true in the services sector. A few of the companies which diversify into something completely different can make a better short term livelihood. However, many fail by straying too far from their core competence.

In contrast the ones who make it through a recession by maintaining their capability and continuing to provide good service coupled with realistic innovation are later recognized by the market as the committed players. When the market expands again they reap enormous benefit as the long term brand. In addition by retaining key personnel they are able to staff up rapidly and increase market share in a booming market.

Bees innovate during the slump phase of the cycle by experimenting with food sources different to their preferred source, nectar. However their innovation cannot be too different. Business can learn from this by innovating during a slump, when they still have resources, but doing this within their core competency. An example of this in the service sector is that of recruitment companies who switched to providing outplacement coaching services during a slump. Outplacement coaching uses many of the skills required for recruitment consulting and does not require a great change in the resource demands on the business. However the example of a grocery products manufacturing company which made a big leap into jewellery retailing and failed is an example of too big a leap in innovation.

Rather than panic in their seasonal downturn bees are above all patient, realistic and optimistic. They know the tide will eventually turn. They innovate within their core competencies, cut their costs, focus on the basics, invest in their juniors and wait for the good times that will certainly return.

A tool for evaluating two or more innovation options

When brain storming options for ways to innovate out of a slump it is valuable to have a structured approach to selecting the best option. A good way to do this is to evaluate your options in terms of things that could go wrong or negative consequences if these options were implemented.

Do this by writing your options on a white board. Underneath each option list the most likely things that could go wrong if the option was implemented. These are the negative consequences of implementing the option. Make sure that you only write the same number of negative consequences for each option.

On the right hand side of the negative consequences draw two columns. Head these columns “impact” and “likelihood” respectively.

Use these columns to weight each negative consequence on a scale of 1 to 10 for these two categories. As an example a negative consequence could be 9 out of 10 for its likelihood that it will happen but only 3 out of 10 for its impact. Then add the numbers for the two categories together. The highest total numbers give you the least attractive options, that is, something most likely to go wrong and with the highest negative impact.

What you see is your numerical assessment of the likelihood of something going wrong with an option and the severity or impact if it does happen. Obviously those options which have the highest scores for likelihood of negative consequences happening and the severity of their impact are the options you should avoid.

Chapter 3. Who really runs the business?

Most of us believe that it is the queen who rules the hive and that all the other bees comply with her orders. In fact the beehive is a largely democratic organization where much of the decision making is low down, with the workers. The queen has a more symbolic than executive role.

It is the workers who make most of the decisions. The queen serves the collective wishes of the hive members. It is the workers who decide what sources of honey to gather, when to reproduce another hive and even whether they want to continue with the current queen or to replace her.

In the corporate world it is easy to think all the power lies with the top person. In fact good senior managers realize they are very vulnerable to gaining the commitment of their followers. No matter how brilliant the ideas of the CEO may be if the people who have to implement the decisions made at the top are not committed to them then these decisions are ineffective. Bees have got over this problem by being able to make their own collective decisions that the entire hive is committed to.

In addition to egg laying the queen's main purpose is ceremonial. Her presence and the scent she produces send signals throughout the hive of her fertility and this provides hope for the hive's future. It provides a cause to galvanise the commitment of bees to their work. Bees are, above all, committed to the future prosperity and survival of their organization.

The British royal family seem to have a similar function. We are fascinated with the private lives and romantic activities of members of the British monarchy. A royal wedding or birth is a popular occasion for celebration. Maybe that explains their popularity which has enabled them to survive into modern times. Rather than using pheromones they manipulate public adoration via the media.

The CEO of a human organization has a very direct impact on the motivation of the organization's members. The mood of the CEO and the way he or she conducts him or herself have a direct bearing on both the success and direction of the business. This influence is transmitted to members through the organisation's culture. This may be deliberate on the part of the CEO or, more often, is an unconscious process whereby the members of organisations pick up the signals for their behaviour from the behaviour of the top person.

Despite her lack of decision making authority the queen of a bee colony does shape the culture of her organisation. She is the only egg layer in the hive and the future of the hive depends on her ability to continue egg laying in vast numbers throughout her life. All the bees in the colony are her children and as a result her genetic footprint flows from her into all the bees in the hive. Any beekeeper will tell you that there is a vast difference in the culture of different beehives even though the queens may be sisters born from the same mother queen. Some hives will be seen by the beekeeper as having quiet workers who produce lots of honey and are placid. Other hives, from the same strain of queen can be noisy and aggressive yet produce much less honey. These differences are the inherited traits passed to each hive from the individual traits of their queen.

It seems that the hives have quite different cultures or “ways we do things around here” and the source of the difference is the quality of the queen. So like an effective human CEO, even though the bee queen delegates most decisions her symbolic role and the signals she sends has the major influence of the culture of her hive.

A tool for decision making lower in the organisation.

A valuable skill for employees to learn is a rational process for decision making. Think of a decision you need to make (either on your own or in conjunction with others) and work through the structured problem solving methodology to reach a decision. After you have used this tool reflect on whether the decision you arrived at was better or different to what you originally thought. This is a useful process to teach everyone in an organization to support lower level decision making.

Step 1

Describe the situation.

This is a vital and often overlooked step. Too often decision making groups will leap to conclusions, lock up on opposing potential courses of action without agreeing on the problem or situation from which the need for a decision stem.

Useful questions to agree on are

What is the situation?

How else can we describe the situation?

What are the facts?

What assumptions are we making?

What is the root cause of the problem?

Step 2.

What are we trying to achieve?

Describe your goal

Will the achievement of the goal fix the problem described in Step 1”

Is the goal realistic?

Step 3.

Brainstorm multiple options.

It is essential to list all potential options before you go back and critique them.

List a variety of different ways to achieve the goal:

Step 4.

Pick the best option.

Also you must later review whether the action fixed the problem.

Chapter 4. No drugs in the workplace

The beehive is not a perfect system. It does have weaknesses. One of these is the reaction bees have to smoke. Pour smoke into a hive and the bees immediately go into an alarm state thinking that a fire is going to consume their society and they and their babies will all perish. Human reactions to a fire in the workplace are in fact more highly evolved than how bees react.

For the beekeeper pouring smoke into a beehive is standard beekeeping practice. The beekeeper burns sacking or some other clean burning material in a bellows called a “smoker”. The beekeeper pumps the bellows which pushes smoke laden air out of a funnel into the beehive over the bees. This has the effect of temporarily stupefying the bees, they fill up their tummies with honey and become placid. This makes the work inside a beehive safer for the beekeeper.

In a human workplace fire wardens would conduct a rehearsed and planned evacuation of all staff to a point of safety. Bees react by filling up their tummies with honey (what do they think a feed will do?) and become placid and mellow. Sound familiar? Have a smoke followed by a relaxed high plus the munchies.



In this state the bee keeper can easily open up the hive and help himself to the honey the bees have worked all summer to store. Lesson? There is no place for drugs in the workplace!

Chapter 5. Embrace your inner auditor

Talking about auditors at this stage may seem premature but it is important in understanding the world of the bee to understand the importance of human intervention. Before the infestation caused by the varroa mite the common honeybee, known as the European honey bee, existed perfectly happily in the wild in all of the continents except Antarctica (Called “Antarctica” because only ants can live there). Unhappily because the varroa mite as an inefficient parasite, kills its host, honeybee colonies are no longer able to survive for long periods in the wild.

Today honeybees rely on human intervention to survive. When we beat the varroa mite, bees will be able to return to their natural state which is to live perfectly comfortably in the wild without human assistance.

This chapter will answer the question of, in normal conditions, what value do the actions outsiders like the human beekeeper add to the well-being of a bee hive? In relating this to business the question could be “what do outsiders like consultants and auditors add to the value of our businesses?” Why can’t we just leave beehives, like human organisations, to drift along. Why does disrupting their instinctive pattern, when done right, stimulate higher productivity?

Masaaki Imai, the founder of the Kaizen Institute, and a leading thinker about organizational effectiveness, identified the principal that all organisations decline without deliberate and sustained efforts to improve them. He saw that every system, both in nature and man-made, when left to drift, will inevitably and slowly become less effective at what it does.

From the perspective of the bee the beekeeper comes to look very much like the combination of organizational development advisor and auditor. This plays out as the two dominant habits of these two professionals- butting in and messing things around. When combined together into one person it can become very annoying for the bees.

The interaction of the bee with the beekeeper is a disturbing experience. Imagine for a few paragraphs that you are a bee. The inner world of your hive is peaceful, purposeful, dark and warm. Everything is happening within your beehive, a sound proof, medium rise, wooden building from two to six floors high. You live in a vertical world, moving around calmly on combs of wax upon which all your work activity is focused. Tasks such as caring for young and storing pollen and honey all take place in small hexagonal compartments built into the wax comb called cells. You and your colleagues have created these and you take great pride in this.

Right now you are happily working alongside your colleagues on some important task having just returned from a morning foraging for nectar in the fields. You smell the warmth of comrades and the reassuring faint scent of the queen somewhere in the hive. She is letting you know she is on her job producing baby bees and because of her smell the future feels secure. The dominant sensation is a reassuring vibration of thousands of striped beings just

like you, all female and all on task. It is warm at about 35° C and this temperature is precisely regulated. Everyone is working to a common plan and goal.

Suddenly the roof of your home is wrenched right off (you didn't know it could do that!) and light pours in. You are choked by smoke being pumped in by the human intruder to sedate you and you are thrown into confusion. Before you can react the vertical slab of comb on which you are clinging is hoisted skyward by two giant alien human hands which are already beginning to really annoy you. Chunks of comb connecting your comb to others tear away leaking honey. You can already smell the death of one of the colleagues you worked with just today crushed by this giant brute. Your anger mounts but so far you are not ready to rush up into the air, but, groggy and disoriented you hang on to your foothold on the comb. Your comb platform is twisted horizontally (you didn't know it could do that!) and a great eye comes close for a few seconds. The beekeeping is inspecting your comb for disease but you don't know that. The beekeeper has your well-being at heart but your ability to understand this is nil because you cannot communicate with this life form.

In an instant your comb is roughly shoved into a new box alongside a number of new empty wax combs that the beekeeper has made. Your sense of indignation increases as the new box you are now in is placed on top of your old box. Both the new box with you and the empty combs and your old box are returned to the hive and the lid goes back on. Everything has been changed around, turned upside down and your hive is now one floor higher. Darkness returns.

The place goes quiet for a minute and then erupts into an uproar. Bees buzz around in all directions trying to reconnect with each other and repair the damage caused by the beekeeper. Eventually calm returns, you revert to your old ways of doing things and work resumes.

Next day in discussion with colleagues it is agreed that despite the disruption things have improved. The hive has more room for expansion and the admission is made that it was getting cramped. Also the audit showed that you are disease free. The possibilities to build an even greater, more powerful enterprise have increased. It may be admitted that the disruption did result in a better, more productive workplace. For a time external intervention may make things uncomfortable but if we take the best out of what outsiders offer they can stimulate us to higher production.

Nonetheless it is agreed, next time that beekeeper shows up you will be ready, stings sharpened. Bees have long memories.

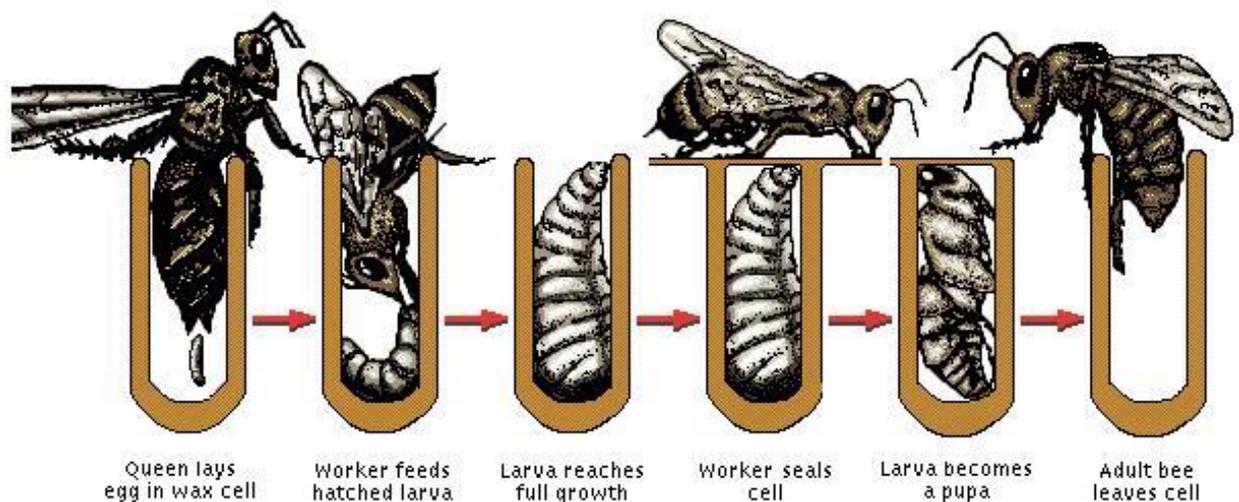
Chapter 6. World class gets you there.

Bees are relentless in their adherence to standards. Over the millions of years of their evolution they have perfected the art of honey making and hive growth based on standardized operating procedures and the elimination of waste.

The building block of the beehive is the honey comb. These are made from wax that bees excrete from eating honey. Each comb is made up of hundreds of hexagonal cells which are the same size and shape for every beehive although drone and queen cells are slightly bigger

The hexagonal comb of the honeybee has been admired and wondered about from ancient times on. The first man-made honeycomb is said to have been manufactured by Daedalus from gold by “lost wax casting” more than 3000 years ago. Marcus Varro reports that the Greek geometers Euclid and Zenodorus found that the hexagon shape makes most efficient use of space and building materials. The interior ribbing and hidden chambers in the dome of the Pantheon in Rome is an early example of a honeycomb structure.

The wax cells are used to store honey and pollen. They are also used by the queen to hold eggs. The queen lays one egg in each cell. The egg hatches into a larva which is fed by nurse bees. When the larva fills the cell the adult bees seal the cell with wax. At this stage the cell is called “brood”. Now the larva turns into a pupa, a sleeping state during which a fully formed adult bee develops. After about 21 days since the egg was laid the finished bee emerges from the cell.



The process from egg to adult showing the function of wax cells

Making wax is an energy intensive activity for bees. About 6 to 8 lbs of honey go to making a single lb. of wax. Bees build their deep cells on top of flat sheets of wax supplied by the beekeeper. These sheets are hung on frames which form the foundation of wax combs.

Bees build out the walls which give the cells their depth. Fully built out wax combs with clean empty cells are a valuable asset for the beekeeper and for the bee.

Luckily for us the honey bee has a passion for standardization. As all bee cells are made exactly to the same size and specification it is possible for the beekeeper to switch empty combs (minus the bees of course) from one hive to another or even to store empty combs over winter, when they are not needed on hives, and redeploy them in spring when hives need more space. Bees have taken standardization to such a degree that it is possible to use fully built out empty combs from one side of the world and place them in hives on the opposite side of the world. The bees will move right on in and use them happily. In this respect, international standardisation, we humans are sadly lacking. We cannot even agree country to country which side of the road to drive on!

The other aspect of bee activity where they set a standard of excellence is in their GMP Good Manufacturing Practice (GMP) hygiene standards. GMP is a worldwide recognized standard of hygiene and compliance to standards used in food and pharmaceutical manufacture.

Bees use propolys as a key material to achieve GMP. Propolys is a gum that bees excrete from their mouths to seal up cracks in the hive structure and bind things together. It has powerful antiseptic properties and makes the interior of the beehive one of the most germ-free environments in the natural world. Beekeepers have found the dead bodies of hive intruders, such as mice, coated with a layer of propolys and in a perfectly preserved mummified state years after the animal died inside a hive. In addition honey itself has bacteria killing properties. Manuka honey from New Zealand is popular as a wound dressing for ulcers and users claim excellent cure results. Using propolys bees have achieved a GMP level of hygiene in their hives.

Bees' focus on operational excellence is way ahead of us. Every bee seems to be schooled in "5 S" – a Japanese system of work organization that has been adopted worldwide. It means Sorting, Straightening out, Sweeping, Standardising and Sustaining the practice. Mess up their comb arrangement and in a couple of days they will have put it back the way it was. Bees are fastidious about dirt getting not into the hive. For this reason the beekeeper can be quite careless and get away with it. Dust and dirt on frames placed into the hive within a day ends up outside the hive entrance. The wonder is how those little creatures managed to haul the foreign matter so far!

Bees intrinsically understand the "7 Wastes" system developed by Toyota which enables workers to identify non value added work. They detect waste and find continual ways to eliminate effort from their work. An example is where they store their food. Honey used to feed young is stored closest to the brood nest to eliminate the waste of effort walking up and down the hive carrying food to the developing brood. Place honey at the top of a hive, above empty spaces and the bees will quickly haul it all down next to the empty frames closest to the brood nest. This eliminates waste travel during winter.

Efficiency is also apparent in the way field bees navigate. On an outboard scouting expedition when she is looking for a nectar source the bee follows a searching, meandering path. But on the return flight, full of nectar, she flies straight back to the hive on the shortest route. This is the so-called "bee line". Scientists have discovered that the bee uses the position of the sun and the earth's magnetic field to track her path home and is even able to

calculate how the sun will move during the day to adjust her track. This eliminates waste in travel time.

One area where bees may not score as well as us is in their habit of overproducing. KAN BAN is a Japanese approach where a producer only makes what the customer wants. The customer order “pulls” the work through the manufacturing system by using signs starting at the customer end of the process. This is in contrast to the traditional approach where the planner allocates an order to the beginning of the line and “pushes” the order through the system. One advantage of KAN BAN is that you avoid making product surplus to the customer’s requirement.

The bees overproduce honey during summer and may end up with too much to carry them through winter. This excess can sit uneaten in the hive and cause problems by choking the expansion of the hive in the following spring. This is a bonus for the beekeeper, however, who profits by pillaging this excess.

World class checklist

“World class” is an ambiguous phrase that is used to describe an aspirational goal for an organization that seeks to continuously improve. The starting point of moving towards this goal is to assess your current situation. Use the following questions to self-assess your organization. Any answers that you can’t answer with an emphatic “yes” may indicate a starting point for beginning the road to world class.

1. The management of this organization provides the support and role models for continuous improvement.
2. Our strategies for achieving world class are written down and communicated.
3. We make visible and use key performance indicators of our activities that add value to our customers.
4. Everyone is involved in formal improvement activities.
5. Everyone is encouraged to train in lean or other methods for improvement.
6. Key process variables have been identified and are being routinely monitored and controlled.
7. Customer satisfaction is being routinely measured and all are involved in developing action plans
8. We ensure suppliers to us meet specifications and that components do not need further testing or modification.
9. We work with our suppliers to ensure that our inventory of components is minimized.
10. We work to continually ensure good housekeeping, high levels of hygiene and standardization of work practice (5S)
11. Waste reduction programmes are in place and progress is recorded and made visible throughout the organization. (7 Wastes)
12. Product is made and delivered at the customer usage rate. (KANBAN)
13. We stop our process when off standard product or material is detected.
14. We have systems to ensure that tools, materials and supplies are in their right place and available when needed.
15. We have a flexible workforce trained and willing to step into different jobs
16. We are reviewing paper based systems and replacing them with computers wherever suitable.

17. Performance measures focus on the overall effectiveness of the operation including customer and staff satisfaction.
18. We review performance data daily with the teams and workers are encouraged to design solutions and implement actions.
19. We regularly visit suppliers and customers to ensure good understanding of each other's needs.
20. Continuous improvement champions are in place, trained and have time to fulfil their roles.

Chapter 7. Putting on the heat for role clarity

Role clarity is something that virtually all employees are craving- to be clear on what they're accountable for, and have that set of shared expectations with their employer - so people are set up for success when they are in a role.

Bees have perfected role clarity by assigning each worker a clear sequence of responsibilities according to the need of the hive to match the changing challenges in its environment. This division of labour is one of the hive's success factors. There are many roles for the infertile female worker bees ranging from the intelligent and tough field forager, to the aggressive guard bee, clever wax comb building bee, queen caring bee or to the gentle nursery bee responsible for feeding and cleaning of the young. At any time the colony may have a need to boost the numbers of foragers or concentrate on the availability of nursery bees or assign other roles.

Professor Jurgen Tautz, head of the bee group at Wurzburg University in Germany, has recently discovered that a bee colony uses temperature as a mechanism to control which role a bee will play in its life. Deep within the hive there exist specialised bees whose role is to determine the heat of the colony within the hive. These special "heater bees" act as living radiators helping to control the colony's complex social structure.

Heater bees are responsible for maintaining the temperature of the brood nest in a hive where the young bees, or pupae, are sealed into wax cells as they develop. Those kept at 35°C develop into field foragers while those kept at 34°C develop into nursery carers.

Professor Tautz has discovered that heater bees can decouple their wings from their wing muscles to increase their own body temperature to 44°C. This enables them to run their muscles at full power without load and this produces excess heat. They then crawl into empty cells in the brood nest. Each heater bee can transmit her heat to approximately 70 cells around them.

Do heater bees perform the role of the staff planning specialist? These people, locked in the HR department perform a role that is largely not recognised. Research on the effectiveness of human resources indicates that the function of HR that has the biggest impact on the long term viability of a business is the selection of the right people for the right job. It appears that generating heat is a legitimate role of the human resources function after all.

Discuss with your group...

1. Do people in your organization clearly know what is expected of them?
2. Are people expected to be able to switch to other jobs when the demands require and are they adequately trained for this?
3. Are people able to advance in seniority and pay according to the skills they are able to obtain and use in their jobs?

Chapter 8. Bee competitive but don't overdo it

Apart from the varroa mite the greatest enemy of a beehive is another beehive. Wouldn't you know it? Beehives compete fearlessly with other hives for nectar. In summer when there is plenty about that is not a problem. But when this resource becomes scarce, e.g. in autumn, then bees monitor their market share closely.

In this condition the beekeeper must close up entrance ways to hives to protect hives from raids from other hives. If a weak hive has a wide entrance it cannot defend itself against a stronger hive which may send squadrons of fliers into the weak hive. They can clean out all the honey stores from the weak hive and leave it dying.

This means that beehives are highly defensive towards allowing bees from other hives, even the one next door, into their hive. The guard bees will grasp the intruder bundle it back out and even sting it to death!

Nonetheless the honey bee is above all pragmatic. An exception will be made towards an intruder from another hive if the stranger bee has a full load of nectar. This sometimes happens when a bee returns from foraging in the field and blunders into the wrong hive. We've all done that at some time in our careers!

In this situation the nectar laden intruder will be welcomed with open antennae, allowed to go deep into the hive, deposit its nectar and then escorted back to the entrance and kicked out. Lesson? Bee competitive but don't overdo it. Sometimes your competitors can bring you gifts.

Also don't assume your competitors are cleverer than you are. Competing organisations in the same industry are all characterized by muddle and mistakes. You are probably smarter than you realize.

Is your workplace too competitive?

Competition is often used as a spur to higher performance. Taken too far it can result in negative outcomes for an organization such as sabotage between teams and hoarding resources and ideas. Answer the questions below to assess the level of competitiveness in your organization.

1. Does your organization encourage fierce competitions to achieve higher performance between departments and/or individuals?
2. If you come up with a good idea is there a good chance someone else will take the credit for it?
3. If you come up with a good idea is there a good chance someone else will ridicule or ignore it?
4. Are the reasons senior people got their jobs because they made a good impression on the top management?
5. Does your organization base its strategy on what the competition are doing rather than

customer needs?

6. Do a lot of people in your organization denigrate or discount your competitors?

If the answer to any of these questions is “yes” then chances are that your organization is overusing competitive values as a motivational tool.

Chapter 9. Integrating differences

Another idea we have about bees is that they all operate as a single unit. Like a flock of flying geese or school of sardines we think they unthinkingly go in the same direction and never seem to disagree. We see their strength as their mindless ability to behave the same way and never individually pull in different directions. A hive made up of tens of thousands of individual bees seems to be a cohesive single organism with a single guiding intelligence.

In fact this is myth. Bees do disagree individually with each other over issues and their willingness to disagree actually enhances their ability to survive.

Come on, you are saying, this is taking the analogy too far! For individual bees to be able to disagree with each other requires at least that they have the ability to communicate with each other.

In fact bees can and do communicate with each other. Scientists have observed that bees communicate directly with each other via dance and smell. The topic of their observable communication is usually the type of nectar source available in the field, and the direction and distance of the source. The purpose of the communication is for scout bees returning from the field to be able to inform forager bees still in the hive where to go to find the best nectar sources.

Scientists have observed bees communicating with each other using a wiggly dance as a language and have even been able to interpret the meanings of this language and understand what the scout bees are telling the foragers. Even more amazing is that they have observed that scout bees have to convince the foragers that their source is better than the sources other scouts are promoting!

Scouts disagree with each other, by head butting as well as dancing, in order to tell foragers where the foragers should go. They have to make a pitch to the foragers to convince them that their source is better and easier to obtain than what other scouts can offer. The foragers make their own choice about which source to pursue after weighing up the arguments submitted by the scouts!

Bees not only communicate and argue over nectar sources but have been observed displaying an ability to communicate and build consensus when they swarm. Swarming is the way hives reproduce themselves. It is a natural process and involves about half the bees in a colony leaving the hive with the old queen to start a new colony elsewhere.

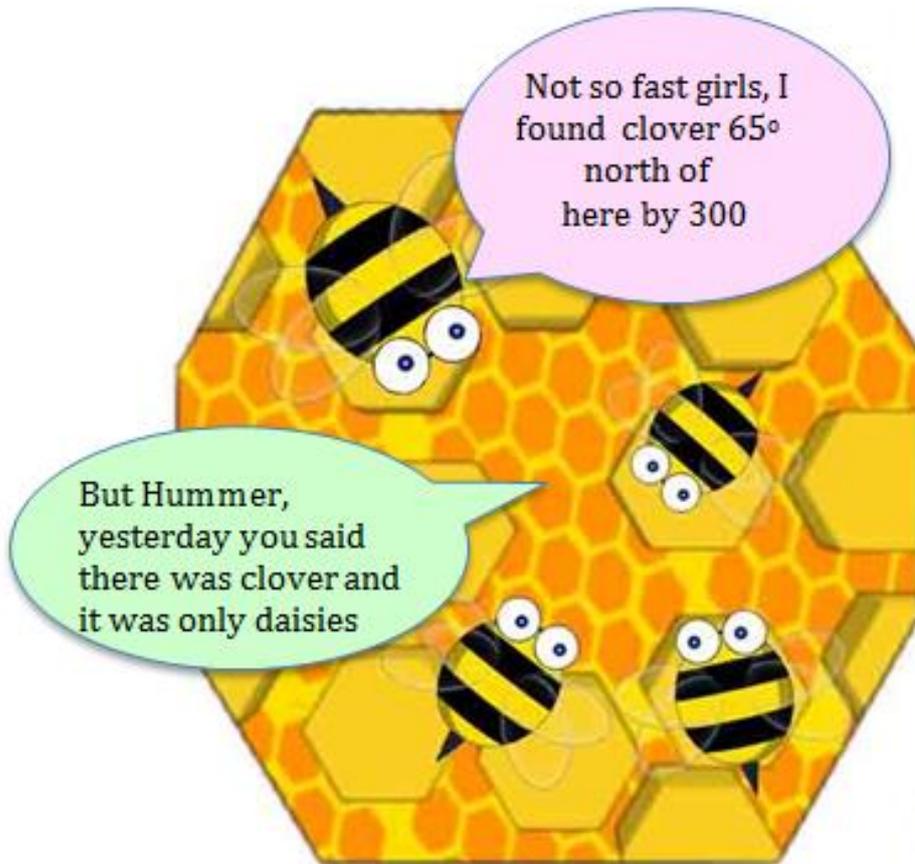
In this case the subject of debate is not which flowers to target but which is the best site in which to establish a new hive. More challenging in this situation is that a consensus is built when around 15 individuals have made up their minds and this commits the rest of the swarm which numbers up to 20,000 individuals.

The honeybee language is the most complex symbolic language of any animal outside the primates.

A typical debate in a beehive

The discussion that takes place about targeting one nectar source over another might go like this...





Not so fast girls, I
found clover 65°
north of
here by 300

But Hummer,
yesterday you said
there was clover and
it was only daisies

Jam or clover? Hummer is often accurate, and the clover is closer. Also we risk stinging children in a school. We'll go with the clover option



The image features a yellow and orange honeycomb pattern. Two cartoon bees with black and yellow stripes and large eyes are positioned on the honeycomb. The top bee is slightly to the left of the bottom bee. A light green speech bubble points to the top bee, and a yellow speech bubble points to the bottom bee.

I don't agree with this. Maybe I'll go upstairs to her majesty

At the last ABM queen told us to make our own decisions*. Also Stingy just look again at the facts.



So what are the lessons we can learn from this interchange?

Firstly, Stingy did the right thing by pointing out the potential flaws in Hummer's argument. In many organisations this would be seen as negative or impolite. In organisations too many decisions are made without critical analysis and often this requires robust disagreement which may make some people uncomfortable. But when an important decision is being made a critical counter view is really valuable, even if it is ultimately rejected. Also note that Stingy didn't personalize his counter view by say, calling Hummer names like "Bummer" or "Dumber". That would be going too far.

In addition Forager Squadron Leader Fuzzy showed good discussion leadership skills. She kept referring back to the facts and respected Stingy's good intention in wanting to engage in a robust honest discussion to get the best result.

This discussion is an example of a group using consensus to arrive at the best solution. Meetings and discussions take time but when you are considering the investment of resources at stake in this example it is best to use the time to discuss the issues to get the best quality decision rather than rush off and waste time on sugar free jam.

*Note "ABM" refers to "Annual Bee Meeting" not "Annual General Meeting." I just made that up. Bees don't really have annual bee or general meetings.

Essential interpersonal skills for discussions

Leading a discussion is an important skill for leaders such as Fuzzy. In order to achieve a consensus it is important that all views are expressed while at the same time ensuring that the discussion does not take too much time. This is why using the decision making process in Chapter 3 really helps to speed up decision making discussions.

In any group there are the quieter people and the ones who dominate discussion. The discussion leader must ensure that everyone gets air time because often it is the quieter ones who have the best insights.

The essential skills are:

The ability to listen. This means to understand what the other person has said from their perspective. This does not necessarily mean agreeing. You can tell when people are listening when one person is able to repeat what the other said or there is only one conversation going on

The ability to support others in expressing their views. This means controlling the tendency for some people to dominate the conversation while encouraging the quieter ones to have a say. An example would be to say “right we’ve heard from Jack, who else has got something to say” or else “good idea Joe, can you explain more about your idea?”

The willingness to encourage disagreement. This means acting as devil’s advocate and asking what is right and wrong with ideas. Not challenging assumptions or putting forward opinion as fact is the main reason for making bad decisions.

Chapter 10. Who really adds value?

A healthy happy beehive has a small but significant population of drones. These are the only male bees in a hive, all the rest, workers and queen, are females. Drones exist only to inseminate the queen once in her life span- which can be as much as five years. For the rest of the time drones do no direct work but eat honey made by workers and occupy space.

Why do the worker bees tolerate this? The answer is that we don't know but we do know that if the drone population is too small, the bees are grumpy and liable to sting. If there are too many drones that is also bad because they eat too much honey and also encourage the bees to swarm. Swarming, when half the bees leave the hive taking the queen, is not a good thing for beekeepers because a weak hive with a new queen is left behind.

In human organisations there may also be drones. I would describe these as people who do not, by their work, add direct value to the customer but who may be supporting those who do. Examples might be quality control specialists or human resources personnel. Often we cannot see how they add value directly but we know if there are too few then mistakes can happen and morale can be low. Having too many can also be a bad thing because they can get in the way of people doing the actual work and add unnecessary overhead.

Adding value directly to the wealth and health of the overall hive is really important to the individual bee. They give their lives for the prosperity of their hive. You may then ask yourself “if the average life span of a bee is 35 days and a hive contains 30,000 live bees then why does the hive not become choked with old bees or the bodies of dead bees?”

The answer is that bees which are dying leave the hive to die a distance away. They do this voluntarily. From an evolutionary point of view this is a very valuable trait as it means diseased bees isolate themselves and prevent the spread of infection. In these times of varroa mite infestation a frequent side effect of varroa is a viral infection called “Deformed wing syndrome”. You see this where young bees emerge from their cells with stunted wings. When the infection is bad you will see young bees crawling away from the hive to die and to spare the hive from the burden of their care and infection.

The bee is so self-sacrificing that it will leave the hive when ill to spare her sister bees from the risk of infection or the bother of tidying up her body.

Would that human workers could be so noble! No, in our organisations workers who no longer add value will linger on until someone catches up with them. Sometimes this never happens to the cost of the organization.

Discuss with your colleagues...

1. Do all people in your organization know who their customers are and how they add value to their customers?
2. Do they ever survey their customers or ask what they, the customers, want from what they do?

3. Do all people in your organisation ever work or spend time in other departments to gain first-hand experience in the demands and constraints on other workers?

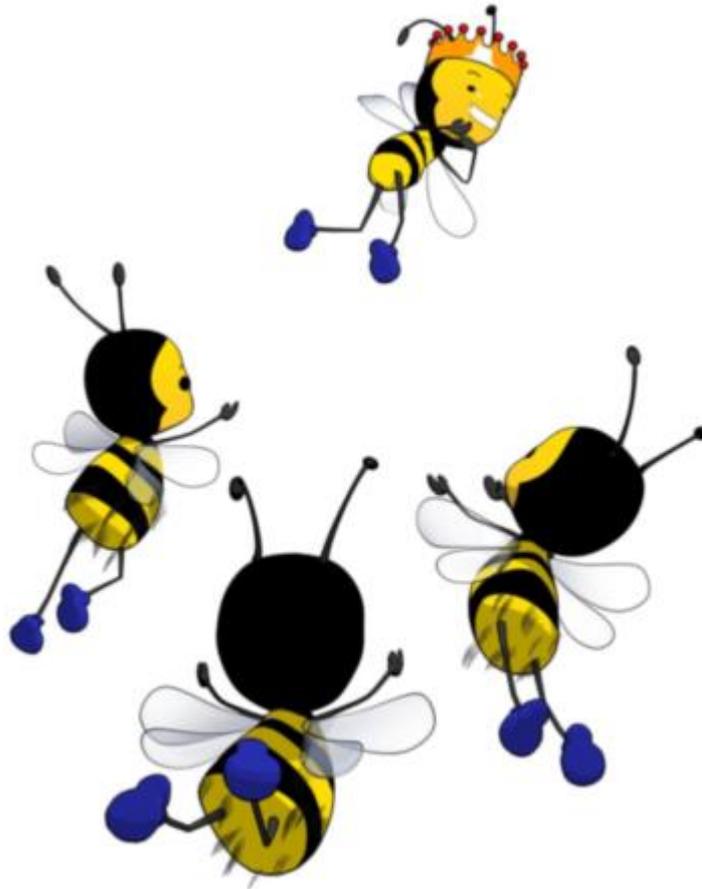
4. Do all people in your organization actively find out other's perceptions of how the quality of what they do or how the activities they are involved in add value to the organization or customers?

Chapter 11. Sex and the single bee

Sex can be a problem in the workplace. Sexual relations between work colleagues in the human organization can be a cause of work disruption, team conflict and lead to accusations of favouritism. In addition, the natural drive of people is to have children and raise families. This can cause a problem for women who have career aspirations and who also want children as they must interrupt their careers for motherhood or at least feel torn between their work demands and their roles as mothers. Fathers can feel pulled in similar ways. This can be a business problem for human organisations as key personnel take time off the job to raise children.

Bees have solved this problem by only allowing one member of the hive to enjoy the act of sex. This is the queen bee. Her main function is to reproduce new bees. She is the only fertile female in the hive. All worker bees are female but they are functionally sterile females. All workers grow from eggs laid by the single queen. The worker bees although physiologically female are unable to bear viable offspring. Bees have avoided the entire dilemma caused by workplace sex by making the queen the sole organisation member able to lay eggs to produce young. This she does most avidly in spring, producing up to 2000 eggs in a single day.

The queen's mating event takes place on a still fine day when the young virgin queen leaves the hive for her one mating flight. The drones, unable to sting and normally placid, laid back fellows, respond to the scent of a fertile queen in the air by becoming highly active sex champions pursuing the queen in flight with a noisy buzz. A beekeeper on the ground can sometimes observe the event as a cluster of bees whirring just above head height. Several drones mate with the queen who stores vast quantities of sperm which will serve her for the remainder of her reign. The drones who mate with the queen die afterwards.



The queen leads her suitors on a merry chase up above the hives ensuring that only the fittest male will mate with her.

Worker bees are dedicated career girls able to devote their total life span to the hive's prosperity. Workplace sex is minimized in bee colonies as a way to ensure minimal distraction and total focus on the job. At some early stage in bee evolution this trait of one individual as the sole participant in workplace sexual relations developed as a way to secure the future of the species. The other insect that lives in large colonies- ants, have developed in the same way.

Discuss with your colleagues....

- 1.Does your company have a policy regarding intimate relationships at work?
- 2.If your answer to question 1 was “no” does workplace romance cause friction or disruption?
- 3.Are there any staff in your workplace who seem more interested in having an office affair than others?
- 4.Is there any chance your husband, partner or wife (circle one of these) could
Ever meet these people outside the workplace ?
Read their text messages or phone numbers on your mobile?
Discuss your workplace activities with your other work colleagues in a social setting?
Ever drop into the office unannounced while you are “working overtime”?

Chapter 12. Sometimes you have to be ruthless.

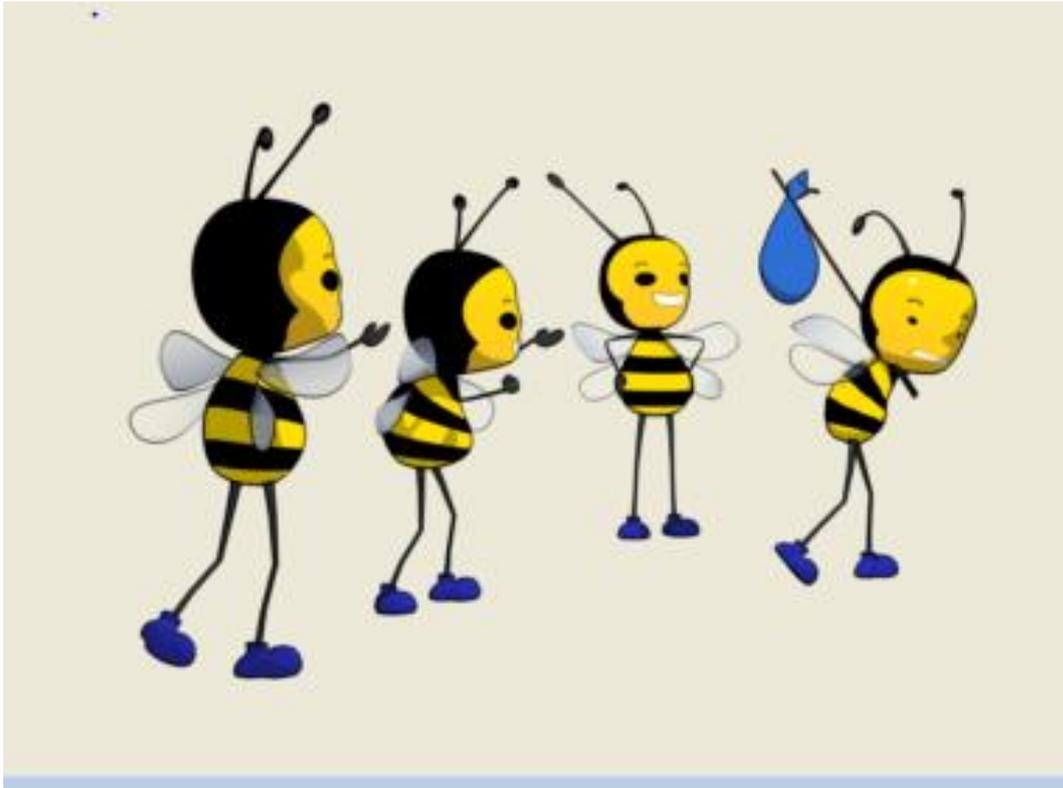
Whereas workers grow from fertilized eggs, drones come from unfertilized eggs which existed in the queen's body. Drones are the only male bees in a hive and their sole purpose is to mate with the virgin queen once in her life. They do no work and cannot sting.

Drones are characterized by eyes that are twice the size of those of worker bees and queens, and a body size greater than that of worker bees. They are usually smaller than the queen bee. Their abdomen is stouter than the abdomen of workers or queen. Although heavy bodied, drones must be able to fly fast enough to catch the queen in flight.

Several drones mate with a virgin queen on her mating flights a distance away from the hive. Mating occurs in flight, which accounts for the need of the drones for better vision, which is provided by their large eyes. Should a drone succeed in mating it will soon die because the penis and associated abdominal tissues are ripped from the drone's body after sexual intercourse.

Drones do not enjoy a positive public image because their habit of not working does not endear them to us. Relating their behaviour to the human organization we see drones as layabouts and corporate parasites whose preoccupation is to hover around the CEO to gain her favours. For the remainder of the time they are fed by the work bees and occupy space. The queen only mates once in her life and stores up the sperm gained from several drones on her mating flight. After she has achieved mating the queen and unmated drones return to their hive, the queen to commence a life time of egg laying and the drones to a life of leisure.

Bees do act to remedy this situation. In autumn, as the hive hunkers down for the winter recession, any drones in the hive are taken out to the hive entrance and ejected without ceremony to die in the wilderness. Sometimes you have to be ruthless.



In autumn, when times get tough, non-producers are ejected from the hive.

Chapter 13. The sweet allure of easy credit

There is a lesson about feeding a beehive which relates to the banking industry and the cause of the current global economic crisis.

In theory a beehive should not require supplementary feeding by the bee keeper. Normally the honey stores held over in the hive from summer should enable the hive to survive winter and then the spring build-up of the hive population when the colony requires extra honey to feed the rapidly expanding numbers of brood.

Sometimes the beekeeper is tempted to give the bee population an artificial boost. The aim of the beekeeper is to achieve maximum worker population by late spring or early summer so that the bees are numerous enough to be able to gather a honey surplus by the end of summer. As spring proceeds the beekeeper may see that the bees are not increasing their numbers quickly enough so some artificial stimulus may be seen as necessary.

Queens increase their rate of egg laying in direct response to the flow of nectar from flowers. The bee keeper is able to trick the bees into thinking there is a nectar flow by inserting a bee feeding tray inside the hive on top of the supers. This feeding tray will contain sugar syrup at the same strength as nectar. All the bees need to do is climb up to the top of the hive and gorge on the sugary, sweet syrup.

In this way the beekeeper is like a banker putting a cash injection into a business in the expectation of a gross return when the business makes a profit. The bees' response is to organize the queen and the hive into a frenzy of egg laying. Now the hive may have a problem. Suddenly there is a large population of larvae which demands a lot of food- honey and pollen- to sustain its growth. If there is no natural nectar increase or if the weather turns bad for an extended period the bees could use up all their food reserves plus the sugar syrup and the entire hive could starve. The beekeeper may realize this and is forced to continue the sugar syrup feeding. This can only make the population explosion worse. If there is still no natural nectar the scenario has become a Ponzi scheme which requires continual injection of sugar syrup in order to keep up the demands created earlier. At some stage the entire system may crash with disastrous consequences.

The lesson is that increase is best when funded by your own earnings. At times borrowing for growth is essential but you need a firm handle on the projected return on investment. We have a sweet addiction to credit. Many of our national and local government organisations have not learned the simple lesson- borrowing for consumption is the road to destruction.

Financial health checklist.

The items below are rough guides for assessing the financial health of a business. They were provided by an experienced accountant based on general observations and may vary depending on your industry. If you answer "yes" to all these questions then you have a very healthy business.

To be considered very healthy business as yourself does your business deliver...

a 15% + return on equity?

5 years of revenue growth?

5 years of profit growth?

Cash flow covers dividends by at least 1.5 times?

Equity at least 50% of total assets?

5 years of positive operating cash flow?

Long term debt no more than 2 times net profit?

Strong gross margins (over 30% can be a risk though, as it is likely new entrants will be attracted) indicating strong market position?

Chapter 14. Success is 90% perspiration

Studies show that the closer decisions are made to where the work is actually done the more those workers are committed to implementing them. This means that the lower in organisations decisions are made, balancing the need for the efficient running of the organization, the more motivated are the staff.

In Chapter 3 “who runs the business?” we learned that it is the worker bees who make the decisions about running the beehive, not the queen. Maybe this explains why worker bees work so hard. Hard work is the hallmark of the field worker bee in summer. One gallon of honey requires one million miles of flying to gather. It takes 12 bees to make one teaspoon of honey and yet a hive can produce 30 kilograms of honey in a season. During a single day a bee can visit up to 2000 flowers to forage for nectar. Worker bees work so hard they only live up to two weeks after emerging from the hive in the summer peak season.

Paradoxically beekeepers observe that at any one time about 25% of the bees in a hive seem to be doing nothing. Maybe they just know that people can't be fully committed all the time. Toyota have had a focus on eliminating waste, including idle time, out of their process. What these idle bees are doing is a mystery, possibly they are just resting.

In summer the beehive is a 24/7 operation and most of the bees are fully occupied in honey gathering. Walk past a beehive on a still hot summer night and get up close to see what is going on. You will smell a strong luscious smell of ripening honey being worked on right through the night. The field bees have gathered back in the hive and are furiously fanning their wings. In a strong hive this produces a roaring sound that goes on to dawn. The bees are drawing air in from the outside through the front opening, fanning the air stream to the top of the hive up one side and back down the other side. The outgoing draught of air is laden with water vapour from the nectar they are concentrating into honey. This forces the sweet smell into the air outside the hive. At the end of a full night of fanning the worker bee then mounts up and heads out into the fields again to gather the nectar for the next night's ripening. No wonder we have the adage “busy as a bee!”

Chapter 15. Goal setting

The goal of the beehive is to secure a surplus of honey to enable the hive to comfortably survive the shortages of winter. Pollen is an equally vital food as it contains the vitamins, minerals and proteins that honey lacks. Yet it is the honey gathering process that seems to be the focus of bee energy and the measure of the hive's success.

A strong hive will store up to 30 kg of honey. In environments where the beekeeper's interventions have been well planned and executed a hive will achieve this by early summer, when there is still plenty of nectar flowing from flowers. Like a business, a successful hive might say "goal achieved early".

When this happens and the hive has no more room for honey storage the bees will suddenly slow down. They seem to become listless and appear to be working but are really just going through the motions of honey gathering and storage. What would a CEO do in this situation?

The answer would inevitably be, in the human world, to set a new goal. That is what the smart beekeeper will do. He or she will move in and remove the full honey combs, extract the honey and put the empty combs back onto the hive. This seems to reenergize the bees who will resume their normal busy honey gathering activity and fill these empty combs up again.

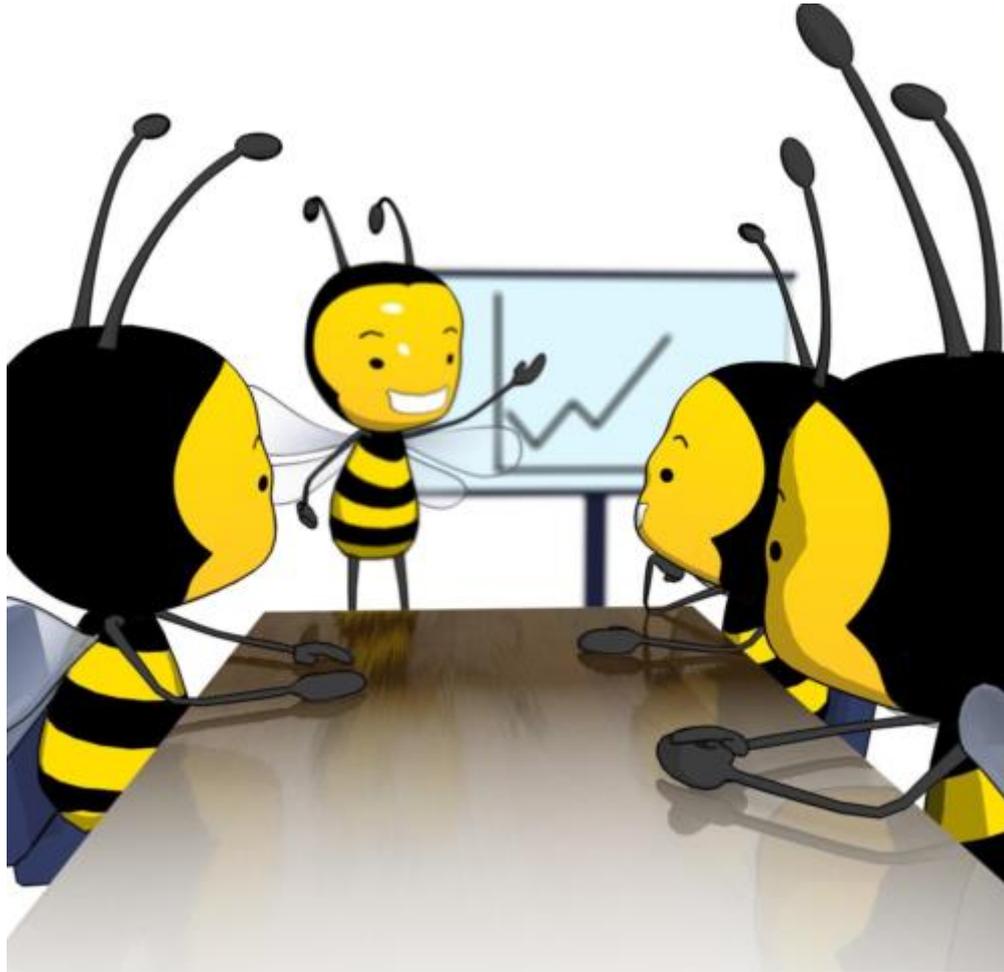
Bees will strive for goals that they think are realistic. Their goal is to fill empty cells in combs with honey. Place too many empty boxes and combs on a hive at the outset of the season and you will not motivate the colony to extra production. Somehow the bees will see this as a goal that is too high. They will carry on as they usually would and only fill about half these combs with honey.

Instead, once they have filled a realistic number of combs you can then motivate them to extra production by taking away what they have already produced, extracting all their honey and resetting the goal by placing the emptied combs back on the hive.

Humans become cynical when treated like this too often. You are effectively moving the goal posts and rewarding goal achievement with demands for more effort. Despite their cynicism however, with the right rewards and support humans will respond to escalated goals. We, like the bees, are energized by goals we see as reasonable and valuable.

It is surprising how often I find organisations which misuse goal setting, usually setting them so high at the outset that they are seen as unattainable. Faced by unrealistic goals, like bees, humans will do what they can but not be motivated to put in the extra effort.

Like bees, humans will strive to reach a goal they think is realistic, and once there need to pause for a breather before reaching to a new, higher goal. Put the higher end goals to people at the outset, and if people think they are unrealistic they will mostly give up.



To get commitment from those who are responsible for achieving a goal make sure they think it is realistic for them to achieve it.

Chapter 16. Being production driven.

Drawing similarities between bee and human organisations has been fascinating. I have found dozens of ways in which bee societies and human business organisations are related. The one where I failed to see a link was in sales and marketing. I now believe that bees don't understand marketing because they run a production- driven organization. They don't need to market because the appetite for what they produce, honey, is insatiable. In this respect they operate like owners of oil fields.

Instead bees are shamelessly marketed to. And the activity that is the focus of this promotion is the oldest profession in the world- sex for honey.

Bees and flowering plants have a symbiotic relationship, they depend on each other. Bees and flowers evolved together and it is like the chicken and egg question, which came first? We don't know. Bees visit flowers and obtain nectar and pollen, both important food sources for bees. In exchange flowers deposit pollen on the body of the bee, which when it visits another flower, leaves behind some of the pollen. Pollen contains the male sperm of a flowering plant which travels down the stamen of the receptor flower and the rest is history.

Flowers have to compete with each other to attract bees and to do this run marketing campaigns with every possible promotional tool at their disposal. These comprise bill board campaigns with colours bees can detect but that we can't, scents that we can detect and some we can't. Bees can't resist the offer but what they get in return represents excellent value. It just goes to show that we all benefit from true competition in an open market.

Bees do understand public relations, however. People love them.

Chapter 17. How to run a palace coup

Swarming is the tendency for hives to split into smaller components. These swarms are new hives and are the way colonies replicate themselves. This ensures the continuance of the species and compensates for the inevitability that old colonies die out.

Swarming takes place in spring when conditions are looking most rosy. It is not good for the beekeeper because it reduces the numbers of bees remaining in the hive left behind and this reduces the honey crop. There are two main reasons for swarming, an aging queen who is losing her egg producing ability and a lack of space in the beehive as it undergoes the spring expansion. When these conditions exist it is natural for the bees to breed a new queen. The old queen deserts the hive to form a new colony elsewhere taking a collection of her most loyal followers with her.

The conditions that create swarming are preventable by the beekeeper. In the role of auditor and organization development consultant the beekeeper can intervene in the aging process of the queen by substituting a new, fertile younger queen. This is now essentially a palace coup. Governments can learn a lot from this. This is now a political, not a commercial game.

The beekeeper's first act is to assassinate the old queen. Through scent the bees quickly realize their ceremonial head and child producer has been removed. While the day to day activity of the hive continues they become nervous. The future of their society has been compromised. Leave them queenless for a day or two only.

Bees can grow their own queen using a new egg and feeding it special food called royal jelly. Before they start to do this the beekeeper must insert the new queen. The beekeeper can't just simply drop a new queen straight into the hive. If he or she did this, because she smells like an alien bee, the bees would pounce on the stranger and kill her. Instead the beekeeper places the new queen inside a cage which has barred windows and places the cage into the hive. Bees and queen cannot touch each other directly but can communicate through the bars. There is a tunnel out of the cage into the hive but the way is blocked by a chunk of candy. In order for the queen to enter the hive the bees in the vicinity will eat this candy. This allows the queen's slow release and her acceptance as the new head of state.

This elegant process has been developed by beekeepers to allow the queen and bees to get to know each other slowly. It allows time for the scent of the new queen to permeate the entire hive letting all bees know that a new queen has been installed. In this way they get comfortable with the change. It is a propaganda campaign which is the hallmark of any well-organized coup. The first goal of in a palace takeover is to capture the radio station and newspaper newsrooms. From there the revolutionaries are able to control the propaganda about what is happening to the populace, thereby assuring the success of the coup.

To summarise the steps in a successful palace coup are:

1. Kill the old ruler as soon as possible. Leaving the old queen alive allows her to operate and potentially fight the new queen. This weakens your rule and establishes a rival.
2. Let the population exist for a period without a ruler. This will disorientate them. Don't leave them too long or they will appoint their own new head of state.
3. Gain control of the media as soon as you can. This allows you to broadcast the story you want and people will only hear your version of events.
4. Sweeten the palace guards with bribes before you make your entrance.

Chapter 18. Mergers and acquisitions

It's a fact: most business acquisitions and mergers fail. Management desires the gains that consolidation and economies of scale should bring, but in fact the great majority of M&As, across all industries, do not live up to their promises. On paper, two plus two should equal five. In fact, two plus two usually equals three. This has been conclusively shown by dozens of studies covering hundreds of companies across all industries.

Mergers and acquisitions fail for a variety of reasons. First of all, a deal can fail because it was not a good idea to begin with. Some executives get caught up in the ego-boosting idea of growth for its own sake. The business culture and profit motive may discourage internal managers and external agents from pointing out potential pitfalls, and the deal can carry through without any serious challenge.

Second is the failure to manage the "human" or "cultural" integration. Businesses are more than financial reports, they all include people, people with uncertainties, self-interests, personal desires and needs. A great number of acquisitions proceed with minimal effort to integrate the people aspects of the businesses. When this happens, it's no wonder they fail.

"By some estimates, 85 percent of failed acquisitions are attributable to mismanagement of cultural issues." - Industrial Management

Bee hives undergo mergers and acquisitions. This usually happens when a hive becomes queen less. In the previous chapter (Chapter 17, how to run a palace coup) we saw that hives can become queen less when queens die or leave the hive with a swarm. In either case the solution when a beehive becomes queen less is either to introduce a new queen, or, if a new queen is not available, combine it with a hive which has a queen.

There are other reasons for a beekeeper to combine hives together. A strong beehive will contain at least 50,000 bees. This number of bees is the goal for a beekeeper during the spring build-up of bee numbers. At this level a beehive is likely to carry on through the honey flow season to produce a commercial surplus, as much as 30kg per hive. Where a hive has fewer bees the output from the season drops dramatically. A hive with half as many bees will not produce half the surplus but, instead, no surplus at all. There seems to be a critical mass for bees to be able to store enough honey for the beekeeper to take. Two small hives will not produce as much spare honey as one big one. Instead two small hives will produce no spare honey at all.

This means that a beekeeper who has two small hives, if he or she wants to gain a honey crop, is advised to combine the hives together to gain a critical mass of bees. In this situation a merger seems the obvious solution.

The worst thing to do, when merging two hives together is to place one set of hive boxes, full of bees, on top of the other. In this situation, where the bees are suddenly confronted with a different "tribe" a monumental and tragic battle ensues. One colony will be more powerful, numerically, than the other and the weaker colony will be ejected. In the process there will be a massive number of casualties and the beekeeper will be left with a pile

of dead bees inside and outside the hive. It is a failed merger based on a strategy that assumed the best route was the most direct.

To achieve a successful hive merger there are two actions a beekeeper must take.

First, the careful beekeeper will make sure there is only one queen. The queen from the weaker hive must be found and killed. Where you are combining a queen less hive this is not required. The hive with the queen must be placed on top of the hive without a queen.

The second action is to place a sheet of newspaper between the two hives when you place the boxes of one hive on top of the other. The beekeeper must punch holes in the newspaper with a nail. The effect of this is that the bees get time to become familiarized with the smell of the other colony. In addition they will be able to touch each other gradually as they slowly chew their way through the paper. It takes bees a day to chew through the paper before the members of the two colonies can move between the two hives. The whole effect of the sheet of newspaper is to prevent immediate physical contact between the colonies and enable smell and touch to be slowly and progressively shared. The result will be a smooth and conflict free merger and a happy larger more productive single hive.

The lessons for organisations are that the individual emotional needs in a merger must be central to the planning. It is not just a case of combining physical and financial elements to produce a greater whole. The people aspects necessary for a successful integration require two-way communications about all aspects of expectations of the acquiring organization. These include goal-setting, management styles and expectations, trust issues, work environments, implicit values and norms, and issues such as the equity in benefits and work rules. Neglecting any one of these can make life difficult for many of those involved. Neglecting all of them is a sure precursor to failure.

We also know that it is important that there is only one head of the combined organisations. Some mergers have been attempted where both CEO's have been appointed as some kind of joint top partnership. This invariably seems to end in acrimony.

We don't know if these are the issues bees are dealing with when they integrate by chewing through the sheet of newspaper but we do know that their gradual and progressive communication is key to a successful merger.

Chapter 19. Coping with change.

You could say, if bees are so smart, why are they struggling to adapt to the pressures of the modern world? Adaptation is hard when your genetic material is among the simplest in the living world. A simple genetic sequence in your DNA means that there is limited variation between the generations. There is less chance of mutation and mutation drives evolution. Bees seem to be stuck with patterns of behaviour millions of years old and don't often vary from these patterns. How can you say bees provide a living example to follow when they seem to be failing?

My opinion is that, despite the gloom, bees will survive.

The biggest threat to bees worldwide has been the spread of the varroa mite. These little parasites have got into the European races of honey bees and are evolving faster than science is able to control them using synthetic chemicals. Around the world we are beginning to see the situation where no chemical can kill varroa. The scenario looks like we may lose all our bees. Colony collapse disorder is just one symptom that probably has varroa infestation as a root cause.

Yet thanks to the work of scientists in New Zealand there is hope for bees. These scientists have been able to breed a race of bees that can hear the varroa mite eating the bee grub when it is still inside the sealed wax cell. As bees develop through their life stages from egg to pupae the adult bees seal them inside the wax cell to complete the last stage of their development before they hatch into adults. It is in this stage that the varroa mite does its damage by living inside the sealed cell and attacking the baby bee.

These newly developed clever bees hear which cells have got varroa mites in, open up the wax cap, which releases the varroa mite and the reseal the cell. The baby bee then finishes development unharmed and emerges as a healthy adult. Isn't that clever? This is not yet a complete solution to the varroa mite problem but does show that the bee business model is not completely stuck in obsolete mode and can adapt to change.

What can we learn? The lesson is that in times of catastrophe radical change is necessary. Doing what has served us for millions of years may be disastrous.

Outside help may be necessary. In the case of the new clever bees all the scientists did was replicate behaviour that a small number of bees were already showing. That just shows that the answers to this major challenge were already sitting inside the organization anyway. Another lesson, then, is that our staff have good ideas about how organisations can adapt. All we need to do is identify these ideas and replicate them.

Chapter 20. What is the point of being a bee?

Work hard and die. That is the life of a bee. Do you ever wonder, what is the point? Do bees gain any pleasure from this life? What does the “inner bee” get out of her existence? Are bees happy?

Any bee keeper will tell you, from experience, that bees experience three different moods. You can detect them from the pitch and tone of the humming noise bees make.

Mood 1. Anxiety. Bees experience fear. You can detect this when a colony is queen less. When the queen dies unexpectedly the bees rush into emergency mode and try to create a new queen from an egg already in the hive. Sometimes this emergency response fails and then the hive is doomed. Without a queen, no new bees will be born and the remaining bees will grow old and die.

When a beekeeper looks into a hive in this situation he or she will observe that there is no brood, just mature bees. No new bees are being born. When the bees are smoked by the beekeeper they emit a high pitched and nervous hum which is quite distinctive. It sounds unhappy and fearful. These bees know that the colony is dying and their hum reflects their misery. Their activity is listless, they have given up and are waiting for the end. Closure and redundancy seem certain.

In this situation the best thing to do is to merge this colony with a colony that has a queen (refer chapter 18, mergers and acquisitions). The old bees will be accepted by the new hive and become happy and productive again. On a similar basis when a business is doomed there will still be some value which can be transferred to a new owner and jobs can be saved. For many failing businesses merger with a competitor offers a way for the business to continue.

Mood 2. Anger. When bees get mad you know it. Bee anger typically happens at harvest time when bee numbers have reached a peak. The hive is strong, arrogant and protective.

Imagine a careless beekeeper in a harvest happily taking full frames of honey out of the hive, roughly brushing bees off the combs onto the ground and trampling on some. The bees can detect the pheromones of their squashed colleagues. Bee tempers are rising. By now the beekeeper has taken over half the boxes off the hive and all of the bees in the hive have been disturbed in some way. A long time will have elapsed since the beekeeper began raiding the hive and the narcotic effect of the smoke has worn off and the bees are by now experiencing a hangover. What’s more, rain clouds have appeared and suddenly hordes of tough, aggressive worker bees have returned to the hive for shelter only to find that everything has been turned upside down.

While the beekeeper has been raiding the hive the air becomes full of bees and their collective humming grows louder. At some point, when all the disturbing factors combine, the humming tone switches into something a lot more ominous. The sound volume emitted by the flying horde of disturbed bees suddenly increases and becomes more intense. At this point dozens of very angry bees directly attack the beekeeper.

The beekeeper wears a protective suit, heavy overalls, hood and veil and gloves. Bees normally bounce off this armour but when they are seriously angry they attack the suit directly. Stings go directly into the material and the smell of stinging seems to raise the temper of the bees to even higher levels. Somehow some stings find their way in. By now the beekeeper is aware things have become serious and may become confused and panic. The solution is to ignore the pain, carefully replace the hive boxes and retreat gracefully.

Anger has a place. It shows passion. The beekeeper was too careless and intrusive and was probably taking too much. Back off.

Mood 3. Happiness.

Beekeepers know from the sound they make when bees are happy. The times when you can sense their happiness happen at opposite ends of their business cycle. These two periods are the height of the boom (mid-summer) and the bottom of the recession (mid-winter).

At the height of summer the bees are filling up all the empty storage space in a hive with honey. The bee numbers are huge. The beekeeper should have been doing his or her job by placing empty supers of frames above the brood boxes. The total height of the hive could be nearly two metres and there could be six boxes in the stack. Honey is being stored securely as far away from the vulnerable hive entrance as possible.

At the peak of the honey flow the bees concentrate on ripening the nectar and storing honey. It is at night that the beekeeper can fully appreciate the mood of the hive. The air carries the scent of evaporating nectar and there is a steady slow rumble of wings working throughout the hive fanning wings to create a draft.

It is a time of plenty and the sound is that of satisfaction at a task accomplished. The hive has met its target and is secure that more than enough stores have been laid aside for the lean days of winter to come. It is also a sound of power. At this point the bees are aggressive and individual bees are liable to spontaneously charge out to attack a passer-by. This is a protective response and a sign of their confidence. They are equal to anyone.

During the hot, humid nights of summer the hive numbers can be so strong that clusters of thousands of bees hang outside the hive entrance like large, brown beards. These bunches of bees have vacated the hive to give others enough room to create the evaporating draft needed to reduce nectar to honey. It reminds the beekeeper of collections of friends sitting on verandas during summer nights, enjoying the cool of the evening and chatting from house to house. In an apiary of hives these clusters loll outside the front of their hives, relaxing and in harmony with each other. Maybe they are chatting between hives, we don't know.

You can also hear bee happiness in the depth of winter, at the bottom of the recession in their business cycle. This is the point where the days are shortest and coldest. During this time it is still possible to have an occasional fine, still day of bright sunshine. These are rare days and bees take advantage of them.

During winter the colony is quiet and clustered together in a small, snug hive. On the occasional fine day a beekeeper can stand next to a hive and observe that single bees depart and arrive at about 30 second intervals. We can assume there is some flower somewhere that still has nectar or pollen or maybe the bee is taking out rubbish or going for water. The stillness of the air means that the smallest sound can be detected.

In this situation the single flying bees make a distinctive buzz which sounds like a burble. The beekeeper is reminded of the sound of a small aircraft engine. The sound erupts as the bee takes off and fades into the distance. The sound makes the beekeeper chuckle. It the sound of a bee on a valuable mission, enjoying the rare fine weather. It is the sound of a hive snug and secure. It has overcome the challenges of survival and is just enjoying the rare fine day with the prospect of spring and another season of build up around the corner. It is great to be a bee!



Discussion

If you are the CEO of a company consider the following questions

1. What actions do you take to find out the mood of your organization? Do you
 - a. Walk around and talk to staff about their jobs?
 - b. Walk around and get to know staff personally?
 - c. Have an open door so that anyone is welcome to approach you about anything?
2. Do you invite lower level people to tell you bad news as well as good news?
3. Do you see the culture, or mood of your staff, as a key metric to manage to assure the success of your organization?

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Thank you for reading this eBook. This has been the first book I have ever written. I am interested in your feedback. In addition, I would be keen to hear from you if you have any questions about how to build a more effective and successful work culture.

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