Perspective

A newsletter for widening your point of view

2002

Issue 4

Richard Bach, in his book *Illusions*, states a handy aphorism: **Perspective – use it or lose it**. This periodical shares amongst recreation and tourism management professionals, such as yourself, several tools and concepts to help exercise your perspective. This issue includes a follow-on from last issue's discussion on the tragedy of the commons, and looks at a few items that have come out of some readings on chaos theory. It's always fascinating to discover that many terms and theories we frequently hear about are more simple than they sound, but throw up a whole raft of disconcerting issues.

Perspective is distributed by **Rob Greenaway & Associates** as a service to the recreation and tourism industries.

Souming

How much is a Tiree greylag goose worth? One-fifth of a cow apparently. Tiree, you'll recall, is a wee island in the Inner Hebrides off the west coast of Scotland. Souming is how the residents once dealt with the potential for tragedy on their commons[1]. A 'soum' is a unit of pasturage used when a crofting township decides how much land a single cow, sheep or goose needs to thrive. The 'souming' is when crofters who have a right to graze the commons are allocated their soums. Interestingly, the crofters aren't allocated the right to graze a specific number and range of animals – all they get is a number of soums, and it is up to them to decide how they use those units. Or as an investment banker might say, manage their portfolio. If I get one soum, I can choose to graze one cow or five geese. The trick is working out how much a cow (or 'beast' as the Hebrideans would say) is worth: four or five geese? Two or three sheep?

I'm not sure if soums are freely tradable on the commons market.

Which is where we come home. Imagine souming a sports field or a national park. How many soums would a park endure before tragedy become common? What number of soums would a multisport athlete consume compared with a docile tramper? How does a cricketer compare with a rugby player? Could we auction soums to the highest bidder, or subsidise soums desired by under-represented user groups? Would we need social soums as well as environmental soums? I guess the Hebrideans knew when to stop.❖

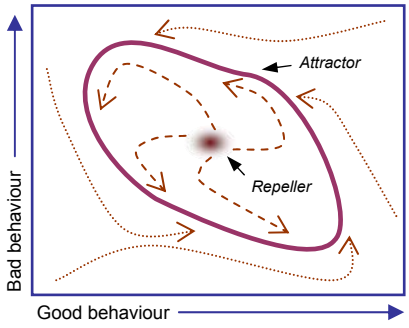
The Butterfly Effect

The Congolese, apparently, understand chaos theory quite clearly. They say, 'the sting of a fly can launch the end of the world'[2]. Jack Cohen (a reproductive biologist) and Ian Stewart (a mathematician) prefer to describe chaos as 'sensitive dependence on initial conditions'[3] and refer to the butterfly effect to give the Congolese their due: 'If a butterfly flaps its wings in Tokyo, then a month later it may cause a hurricane in Brazil'.

Chaos theory is a trendy by-line for explaining things that don't go the way we expected, and that's a fair use of the term. It is used to attempt to understand how complicated systems – like weather – are so hard to predict, and why reductionism (trying to understand things by breaking them down into ever smaller component parts) can only go so far (because you just can't measure something really small with any great accuracy). The underlying thesis is that in any dynamic system, the initial conditions, which ultimately define the product, are so complex and hard to measure that the final outcome is consequently impossible – or very difficult – to predict. Douglas Adams understood this concept perfectly when he had the computer Deep Thought decide, after 7.5 million years of calculation, that the answer to life, the universe and everything was 42. The computer complained that the initial question was not very well defined[4].

The butterfly effect and chaos theory are both very interesting, but it's hard to drag out much that is really useful in our everyday lives, besides the fact that any trend analysis is likely to be well off the mark the further into the future it looks. However, I think the following is very handy. Cohen and Stewart describe how many dynamic systems (things that change) generally settle down into a particular cycle of values (described as 'stable periodic cycles') – which parallels regression to the mean. In regression to the mean, trends are destined to return to an average value, which is from where we get the normal distribution curve[5]. The normal distribution curve illustrates how diversity in any population will be clustered around a mean, or average, factor. But what forces the population to cluster in that way?

In 'stable periodic cycles' we have two opposing forces driving a system – repellers and attractors. Cohen and Stewart use predator-prey relationships to describe these two things, but I'll use good and bad behaviour (we have a wee daughter).



In the dynamic system shown, where there are no perturbations, behaviour will track the attractor (in this case, reward). Any disturbance from outside the system will push behaviour off the track, towards the repeller (say, punishment) or away from the attractor. However, the spiral motion of the dynamic system will work to draw behaviour back towards the attractor. Any typical dynamic system will eventually end up on the attractor, if you wait long enough (and supply enough raisins). Note, however, that the same influences (reward and punishment) can create different results at different times – hence the term, 'dynamic system'. It's a complex world!

It might be useful to consider what attractors and repellers are operating in any dynamic system that you are considering (such as participation levels in a recreation activity), what factors are on the X and Y axes, and where the attractor lies.

[1] Mitchell, Ian. (1999). *Isles of the West*. Canongate. p 37. The word 'soum' is the Scots form of 'sum'.
[2] Kingsolver, B. (1998). *The Poisonwood Bible*. Faber and Faber. p 361.
[3] Cohen, J. Stewart, I. (1994). *The Collapse of Chaos*. Penguin. p 191.
[4] Adams, D. (1979). *The Hitchhikers Guide to the Galaxy*. Pan. p 135.
[5] Bernstein, P.L. (1996) *Against the Gods*, Wiley. p 165.

Remember the difference, however, between chaos and regression to the mean (where stable periodic cycles would be operating). In the former, arbitrary small changes might result in a hurricane in Brazil. In the latter, we are destined to be attracted to a mean (our daughter is, on average, very good). I think in most areas of community development we are not operating in chaos – we have multiple attractors and repellers at work. It's just a little tricky nutting them out. The problem with reductionism is that it looks great on the way down, but it's hell when you have to pull all the bits together and make sense. ❖

Hawthorn Effect

At the Hawthorne Works factory of the Western Electric Company in the late 1920s, a group of women who assembled telephone equipment was the subject of a study designed to assess the impact of working conditions on output[6]. As the researchers changed the conditions (the length and frequency of breaks, lighting, wages, level of supervision) the team's output increased. When the study finished and the team returned to their original, poorly lit working environment, their output increased even further. The study showed that none of the programmed variables had made any difference – something else had increased output.

It dawned on the researchers that productivity, motivation and the quality of work were all related to the nature of the social interactions among the workers, and between the workers and their supervisor. The women felt special since they'd been selected for the study; they developed a good relationship with their supervisor and within the group since they had considerable freedom to organise their own work systems; and the social contact within the team made the work more pleasant.

Elton Mayo, an Australian-born psychologist, reviewed the Hawthorn study in the mid 1940s and concluded four things (amongst others)[7]:

- People are generally motivated by social needs,
- As a result of the rationalisation of work, meaning has gone out of work and must be sought in the social relationships on the job,
- The focus of the work group will do more to influence behaviour than the incentives and controls of managers,
- A supervisor will only be effective to the extent that they can easily satisfy their team's social needs.

These grand generalisations made a big difference at the time, since the importance of the social atmosphere of work had previously been largely ignored. Management theory now seems to take a less dramatic view of the value of the group (since they can be wildly dysfunctional), which is basically a lesson in the effects of 'sensitive dependence on initial conditions'.

Sensitive and Sane

Chaos theory suggests that complexity has a simple explanation (although I'm not convinced) and that by taking a reductionist approach to analysis we can begin to understand it better. It's odd that at school – or at least, at my school – we weren't given a slightly reductionist analysis of how we perceive the universe, leaving us to parrot the inaccuracy that we have only five senses: sight, hearing, touch, taste and smell. In reality, we have numerous ways of sensing the world around us. It's strange that this diversity is not a given.

Amongst our senses are: heat, cold, light pressure to the skin, heavy pressure to the skin, pain, muscle tension, muscle stretch, muscle contraction, acceleration, orientation, rotation, hearing, sight, smell and taste. The number five is only useful when enumerating our groups of sensory organs: there are photoreceptors (for light); mechanoreceptors (for distortion or bending); thermoreceptors (for heat); chemoreceptors (for chemical compounds); and nociceptors (for painful stimuli)[8].

Now that you know these 15 senses and five sensory groups, what will you tell the kids? Most, I think, will still say there are five senses – because that's what we always say. Why not change that to five *sensory groups*, and be honest (even though this means you have to memorise some quite long words).

Similarly intelligence. According to Bill Lucas, CEO of the UK-based *Campaign for Learning*, "The idea that we have eight (or more) intelligences is widely accepted as a commonsense rebuttal of IQ theory."[9]

IQ deals largely with linguistic (verbal) and logical (or mathematical) intelligence. American psychologist Howard Gardner believes the others are: spatial (required by a creative artist or scientist); musical; physical (as used by sports people and dancers); practical (can fix a carburettor with a hairclip but failed engineering); intra-personal (knowing one's inner self – useful for poets); inter-personal (the ability to co-operate); and naturalist (environmental empathy)[10].

We're a more diverse and valuable team than simple IQ assessments would have us believe. ❖

For Your Interest

It's been a busy 12 months, and perhaps too busy. This year is being managed very carefully to create a better work/play balance. Over 2001, projects included the Dunedin City Council Sport and Recreation Strategy (with Dave Allan of Strategic Leisure and Dr Karen Nairn of the Children's Issues Centre of Otago University); and also with Dave, three Leisure, Parks and Waterways Plans for the Christchurch City Council, a Recreation Strategy for Hokianga for the Far North District Council, and a Sport and Recreation Facility Plan and a Culture and Arts Facility Plan for the Nelson City and Tasman District Councils. I also completed the Hurunui River Recreation Survey (900 respondents) for Environment Canterbury, enjoyed working with Mike Naudé on Whatakane District Council's parks and reserves asset management plan and reserve contribution calculation, appeared in the Environment Court for the Forest and Bird Protection Society over the Taylors Mistake baches issue, and worked with the other members of the Global Leisure Group to complete a number of reviews of the Report of The Sport, Fitness and Leisure Ministerial Taskforce for several local authorities. Some journalism and concession application work filled in any gaps.

This year is looking similarly busy with a major recreation survey of the Waitaki River for Meridian Energy with Boffa Miskell, continuing work in Nelson and Tasman on their community facilities plan, reserve contribution calculation work for Franklin District Council with Campbell Consulting, a recreation strategy and asset management plan for the Port Hills in Christchurch, and assisting Barry Gardiner with reserve management plans for Banks Peninsula. Several other projects are on the horizon. I've enjoyed working with Gill Genet of Breakout on some strategic planning for the NZ Recreation Association and have appreciated her assistance on several other projects over the past 12 months. Deb Collins and a great student and graduate survey team have been of wonderful assistance on the Waitaki River.

Enclosed for your interest is a **Global Leisure Group** brochure – you might also receive one from other team members (consider yourself lucky). This team has been of immense benefit, and the concept – and reality – of co-operation in a professional field like ours is excellent.

[6] Handy, C. (1999). *Understanding Organisations.* Penguin. p 156.
[7] Ibid. p 399.
[8] Encyclopaedia Britannica 2000. Also in Cohen, J. Stewart, I. (1994), p 160.
[9] Lucas, B. (1999). *With Brains in Mind*, In: The Times Higher Education Supplement, July 9 1999. pp29-30. Also in Handy, C. (1999). p 231.
[10] Ibid.