DEMANDING THE IMPOSSIBLE

Managing and mismanaging a radical agenda:

The case of the Centre for Alternative Technology

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ABSTRACT

Unusually among the many radical organisations that emerged from the cultural ferment of the 1960s and 70s, the Centre for Alternative Technology still exists. It permits an enlightening comparison between Then and Now. In addition to its visionary programme for sustainability, it set out to embody radical principles and practices in every aspect of its operation. Its first thirty-five years were marked by constant experimentation in such areas as pay parity, workers’ control, rotated tasks, consensus decision-making and socio-technical organisation. It demonstrated a perpetual struggle to reconcile ultra-democracy with pragmatic efficiency. Finally, having grown to around 150, it experienced a fundamental disruption, metamorphosing into a kind of antithesis: a conventional hierarchical structure with an autocratic style and large pay differentials. Yet its core external products – courses, reports and tourist facilities – remained largely unaffected. The suggestion is that sustainability goals might be better served by changes in an organisation’s delivered outcomes than of its ethos and management structure.

KEYWORDS: Disruptive business model; alternative technology; co-operative management; environmental non-governmental organisation; higher education.

BACKGROUND

Cultural and organisational innovation is difficult. It can only be maintained by constant effort against the gravitational pull of prevailing social and economic forces. This article concerns an organisation that defied economic and social ‘gravity’ for thirty-five years, but finally succumbed.

Consider the following analogy. A party wishes to cross a range of mountains to a certain destination. The shortest route is straight across, but this entails hair-raising climbs and terrifying transits of crevasses and scree-slopes. The travellers are under intense pressure to moderate their determination to take the shortest route, and to be more pragmatic. In the extreme case, they simply give up and follow the circuitous valley-bottom routes taken by trains and roads.

This was the challenge for many ideologically driven organisations in the 1970s. They were determined to forge their own paths and to disrupt the *status quo*. But the stark and unsleeping forces of the underlying ‘landscape’ constantly eroded their resolve.

Founded in 1974, the Centre for Alternative Technology (CAT) was one of these organisations. The principal subdivisions of a modern economy (public, business and civil sectors) have notably distinct organisational cultures (Sales, 1991), and CAT was quite clearly in the civil or NGO category. It is best characterised as an ‘environmental non-governmental organisation’ or ENGO (Berny and Rootes, 2018; Partelow, Winkler and Thaler, 2020) but had additional features that rendered it unusual, perhaps unique. It was in part an ‘intentional community’ (Brown, 2001), a ‘social enterprise’ (Nicholls, 2008) and a tourist attraction (Lew, 1987). These ‘extra’ features generated their own dynamic pressures.

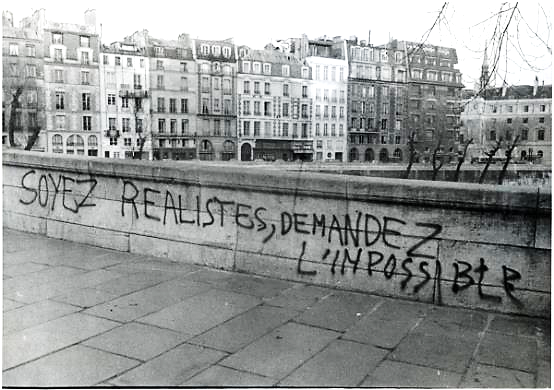


Figure 1: Graffiti on a Paris bridge in 1968. The text translates as ‘Be realists, demand the impossible’.

The project was heavily influenced by the radical ideas of the time (Table 1) and strove to express them in practice. It tried to translate the ‘impossible’ romanticism of the *évènements* in Paris 1968 (Figure 1) into a workable polity. This paper takes that iconic slogan as its title, and attempts to record – and to some extent explain – the inevitable conflicts that arose in pursuing the radical vision. The process culminated with a sharp change in 2010, when the organisation switched decisively to conventional organisation and reward structures.

METHODOLOGICAL NOTES

Let me be frank here. I am writing this with intention of publication in a peer-reviewed journal, because I want at least one version of the story to be on record, indexed, retrievable, and widely discussed. Generally, such narratives appear only in the ‘grey’ literature. They are easily lost, and do not attract scholarly attention. The methodological problem is that the CAT project – and my participation – was not undertaken with academic publication in mind. Methodological frames that might have been appropriate include Participant Observation in the tradition of Mead (1928) and Geertz (1973); Mass Observation (Harrisson, 1961); or Action Research (Lewin, 1958; Reason and Bradbury, 2007). But these could only be applied retrospectively, and would thereby lose much of their potential rigour.

Nevertheless, it is important that some attempt be made to place the material in an academic framework. Meaningful interpretation requires the input of an active participant, of whom there are fewer and fewer as time passes. It is, I believe, an important story, emblematic of the period covered, and with potential influence on the future trajectory of public debate and practice. To counter inevitable subjectivity, divergent perspectives can be obtained from the large number of recordings in the oral history archive compiled by Allan Shepherd (Shepherd, 2015) and the body of historical documents deposited in the National Library of Wales.[[1]](#footnote-1)

The historical events dealt with in the article unfold logically enough, with a natural chronological structure. Accordingly, the best methodological fit seemed an explicitly narrative structure (Bourdieu et al., 2002) executed in the manner of Smith and Tyszczuk (2018). ‘Narratives’ are rich in shared meanings and are probably the best vehicle for communicating the *sense* of interweaving events and processes (Bruner, 1990). This does not preclude the deployment of more formal theoretical frameworks where appropriate. Attentive readers will observe elements of Weberian *verstehen* (Tucker, 1965); Organisation Theory (Cameron and Quinn, 1999); Public Choice Theory (Black, 1958); patterns of collective action (Olson,1963; Poteete, Janssen and Ostrom, 2010); Rational Choice Theory (Becker, 1976); theory of managerial roles (Mintzberg, 1989); theory of groups (Tuckman, 1965; Karau and Williams, 1993; Kozlowski and Bell, 2003); Cultural Theory (Douglas and Wildavsky, 1982); Citizen Science (Irwin, 1995); Creative Class theory (Florida, 2002); and Behavioural Economics (Kahneman, 2011).

If nothing else, the text serves as a formal testimony of ‘what it was like’ and joins the rich literature of commentary on former life within various marginal groups such as prisoners, hillbillies, terrorists, slum-children or drug-users (Archer, 2002; Vance, 2016; Hanley, 2016; Pollan, 2018). This element of ‘interiority’ is often missing from more formal treatments such as that of Hodson, Marvin and Smith (2012).

If, conceptually, CAT stood at the border between two metaphorical nations, Bohemia and Academia, I might be considered a dual national, with obligations to both. I believed in the project and possessed an ‘interior’ perspective, yet I could also note—and often record – the complex internal relationships, and the responses of the organisation to external pressures. In the course of the article, I shall occasionally break with the conventions of scholarly discourse and report *how it struck me at the time*. I regard these as important data-points, but they are bound to be subjective. Potentially different interpretations of the events described can be sought in Allan Shepherd’s Oral History archive (Shepherd, 2015).

THE CONTEXT

The rise of post-war institutional dissidence

CAT was part of the wave of dissident and ‘alternative’ patterns emerging in the 60s and early 70s. Culturally and stylistically these contrasted with the pre-existing civil society institutions, which included (for example) political parties, sports clubs, the Scouting movement and the Boys Brigade, armed forces cadets, the Women’s Institute, Working Men’s Clubs, Trade Unions, St John’s Ambulance organisation, Youth Clubs, angling, fox-hunting, horse-racing, church organisations, and so on.

Such mainstream institutions became paralleled, and partially eclipsed by, a wide range of activities and organisations initiated largely by young people, such as rock festivals, city farms, squatting vacant properties, paganism, free schools, communes, neo-primitivism, garage bands, widespread use of recreational drugs, relaxed sexual constraints, ‘voluntary simplicity’, meditation and so on (see for example Saunders, 1970, 1975). Politically these trends were associated with the ‘New Left’ (Oglesby, 1969) and with social anarchism (Ward, 1973).[[2]](#footnote-2) **Anti-authoritarianism** was a particularly important value, having pervasive and long-lasting effects (Bookchin, 1971).[[3]](#footnote-3)

Up to the late 60s it could be argued that western society was characterised by received structures and hierarchies, and that the ‘counter-culture’ (Roszak, 1970) emerged as a disruptive reaction, celebrating freedom, spontaneity, equality, individuality, and lack of authority (Neville, 1971; Turner, 2006). In some respects, it could be seen as a democratisation of the upper-class ‘**Bohemian**’ values originating in the 19th century (Murger, 1988). In earlier times, Bohemianism was only possible for the wealthy (Rose, 2001) but the new affluence of the post-war world rendered it accessible to a much larger segment of the population. Raised in humble and rather disciplined circumstances myself, in early adulthood I personally experienced the counter-culture as a dazzling liberation.

At precisely the same time as this implicit cultural critique of Western society was developing, a *physical* critique was emerging in the form of the modern environmental movement. Its argument was that in the short-term, economic externalities were under-appreciated (Mishan, 1967) and in the longer-term the physical and technical trajectories were (as we would now say) *unsustainable* (Vogt, 1948; Bookchin, 1962; Goldsmith, 1972; Meadows *et al*., 1972). Various schools of environmentalism emerged, among them a group focusing on the development of **technology** as a key driver of unsustainable trends (Ellul, 1964, Mumford, 1967).

The ‘technological schools’ argued that technology (and to a lesser extent, science) should not be left to develop in an uncontrolled fashion, but should be subject to rules and limitations. For example, Schumacher (1972) argued that technology should be developed locally from abundant and sustainable materials, and be repairable by local tradespeople. Illich (1973) thought that land travel should not exceed 15 kph.[[4]](#footnote-4) Kahn (1973) argued for natural building materials, offering the principle that we should ‘not live under anything that’s had its molecules rearranged’. Funtowicz and Ravetz (1993) suggested that science itself could be pursued differently under conditions of radical uncertainty. [[5]](#footnote-5)

In what follows I will focus on attempts to define the nature of ‘alternative’ procedures, and on the collision of alternative and mainstream values. These conflicts were subject to strong influences from the Great Debates of the time, as summarised in Table 1.

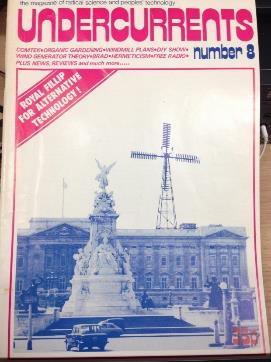
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| Table 1: **EXTERNAL INFUENCES ON CAT PRACTICE** | | |
| SOURCE | EXAMPLE OF PRINCIPLE OR PRACTICE | REFERENCE |
| ‘Traditional’ socialism/  Workers Cooperative movement | Needs-based pay structure; later, flat wage structure; erosion of work/life boundaries | Marx (1875); Vanek (1970);  Goodman and Goodman (1960) |
| New Left/Anarchism | Consensus decision-making;  Gradual reduction of powers of Director; Rotated tasks | Bookchin (1971); Kropotkin (1974); Debord (1970) |
| Communities/  communes movement | Residential community with shared energy systems and most purchases; shared cooking and meals | Communes Movement (1971); Kanter (1972); Advisory Service for Squatters (1976) |
| Alternative Technology | Persistent attempts to generate on-site energy from renewable sources | Harper and Eriksson (1972). *Undercurrents* 1972-80. |
| Self-sufficiency movement | Shared livestock: pigs, poultry, goats; strenuous efforts to capture on-site resources | Seymour and Seymour (1973); Rivers (1978). |
| Standard ‘pollution environmentalism’ | Early conversions for lead-free engines; prohibition of treated timber (Cr, As); prohibition of MDF (formaldehyde); composting toilets. | Mathews (1977); Borer and Harris (1998); Harper (1999) |
| Human population school of environmentalism | Capping of needs-based wage allowance at two children | Ehrlich (1969); Parsons (1971) |
| Opposition to macro-economic growth | Dematerialised values; low wages; maximum use of local resources; Bohemian aesthetic | Boulding (1966); Meadows *et al*., (1972); Hirsch (1977) |
| Apocalyptic environmentalism | Expectation of social collapse; simplified systems that can be repaired and maintained with local or ‘scavengeable’ resources | Platt (1969); Paddock and Paddock (1967); Turner (2006) |
| Organic movement | Agricultural chemicals unused across entire site; registration for Soil Association symbol status; strong emphasis on compost | Howard (1940); Hills (1971) Harper (1994) |
| Animal rights/sustainable agriculture | Vegetarian meals for staff and restaurants | Lappé (1971);  Mellanby (1975); Katzen (1977) |
| Biodynamic agriculture/  Anthroposophy | Planting crops with reference to lunar cycles; use of ‘flow-forms’ for water conditioning | Pfeiffer (1938); Schwenk (1996) |
| Food reform | ‘Whole-food’ principles adopted for staff meals, public restaurants | Hauser (1952); Bircher (1967); Canter, Canter and Swann (1982) |
| Feminism | Women staff granted indefinite leave for representation at Greenham Common | Millett (1970); Piercy (1976) |
| Syncretic ‘New Age’ beliefs | Minute’s Silence before a meeting;  Meditation hut; pest control by mental attitudes; use of medium to communicate with livestock | Findhorn Community (2008); Ferguson (1980); Russell (1983); Caddy (1992) |

All the foregoing sets the scene for the foundation of CAT, legally in 1973, but with actual operations beginning in 1974, in an abandoned slate quarry in west Wales.[[6]](#footnote-6) We can start with the original conception in a mind of a single individual.

The Founder

CAT was founded essentially through the initiative of one person, Gerard Morgan-Grenville (1931-2009). In itself this was not unusual: countless small groups, sects, communities and ‘groupuscules’ congealed around the vision of charismatic founders (Conger, 1993). In that context however, Morgan-Grenville *was* unusual in being a former army-officer, a businessman, and a scion of the British ruling class.

**Figure 2: Cover of Undercurrents No. 8**

It seems likely that Morgan-Grenville’s surprising background helped the nascent organisation to survive the early years when most others failed. He was able to charm the local bureaucracy: nobody

could call him a penniless ne’er-do-well or a wild-eyed hippie. Meanwhile, the first tranche of volunteer workers was recruited through an advertisement in *The Times*, no less, ensuring a core of articulate, disciplined idealists. He persuaded a wealthy relative to donate a substantial sum of money to provide initial capital. His contacts in industry generated donations of materials in kind: glass, cement and so on. [[7]](#footnote-7) He even arranged a visit by the Duke of Edinburgh, which greatly impressed the local population, although mocked by metropolitan purists (see Figure 2; Boyle, 1974).

Why might such an individual come to embrace the ‘alternative vision’? Personal conversations and his autobiography (Morgan-Grenville, 2001) suggest that he was persuaded by the same conceptions as the rest of us, that all was not well with contemporary industrial society, and that radical changes were needed. Unlike his class-peers however, he had the independence of mind to overcome a lifetime of conditioning, and the nerve to follow the ideas through. A born disrupter, he was often labelled a ‘class traitor’.

Figure : *Undercurrents* was the house journal of the alternative technology movement in the 1970s. This cover was produced in response to the visit of Prince Philip to CAT.

Morgan-Grenville spent the early seventies travelling, picking up ideas, and immersing himself in at least parts of the intellectual ferment represented in Table 1.[[8]](#footnote-8) He arrived at what might be called a ‘working vision’, evolving over time and expressed in a number of documents. It became clear to him he needed to combine this vision with a specific location (Harper, 1988), including the establishment of a permanent residential community. Eventually he found the site, secured a lease, arranged various legal documents, and set up a board of trustees. These were all essential foundations.

Yet the actual operation of the project presented endless dilemmas. The most fundamental was that the Founder was in principle all-powerful and could run everything as he saw fit, by *fiat*. Yet he had also bought into the ‘alternative’ rejection of concentrated power and wealth. Ultra-democracy was the order of the day, and everybody should have an equal voice. How was this managed? Here are some key patterns that cynics might label fudges:

* There was no ‘constitution’ as such; instead, there was a small number of guiding documents drawn up by the founder, known as *modi operandi.*
* The Founder did not actually live continuously on the site, but would visit regularly.[[9]](#footnote-9)
* Active residents were free to organise things as they saw fit; but…
* The Founder reserved the right to step in and make executive decisions if absolutely necessary.

This delicate compromise worked well enough for the first crucial years, and the Founder had the good sense to allow the organisation more and more autonomy. Gradually, both his ascribed and actual power waned as the organisation developed its own identity, and by (say) year 10, the once-mighty Founder was regarded as an avuncular *eminence verte*. All agreed this was how it should be. It was nicely managed and consistent with alternative *mores*.

In subsequent years the Founder was mildly critical of his creation, which inevitably developed its own style and directions. His communications were always heard respectfully, but after twenty or thirty years, few staff remembered him. Any long-lived organisation is subject to ‘institutional forgetting’, and CAT was no exception (Miner and Mezias, 1996).

PHASES OF ORGANISATIONAL DEVELOPMENT

We can identify several distinct phases in the evolution of the organisation, similar to many other NGOs, and indeed most business enterprises, which must continually re-invent themselves in the face of changed market conditions. The Phases and staff numbers are illustrated in Figure 3. The overall picture is one of steady growth, followed by precipitate collapse after a brief plateau.

The first three phases are grouped together as a fluid founding process, followed by more systematic treatment of the subsequent phases when the organisation had ‘found its feet’ as it were. Throughout, special attention will be paid to the **economic basis** for the organisation, **management structures and processes**; and to the principles and practice of the **wage structure**. These were often at odds with contemporary practice, sometimes dramatically so.

Figure 3: Staff numbers at CAT 1973-2013. Compare this with Figure 11

Closer inspection will reveal a pattern of ‘punctuated equilibrium’ (Eldredge and Gould, 1972; Burnes, 2009) that is, relative stasis alternating with rapid growth. These correspond to ‘Phases’, and sudden changes can be regarded as responses to internal (‘endogenous’) tensions or external (‘exogenous’) pressures. Both have to be negotiated by any long-lived organisation.

**THE INITIAL PHASES**

**Phase I** was necessary legal preparation. A new charitable organisation was created with four Trustees, friends of the Founder, who played no further part. The site was sought, found, and leased for 99 years at a peppercorn rent. A ‘manager’ was appointed, on very basic pay.

A substantial no-strings, one-off grant was donated by the Founder’s brother, equivalent to about £100,000 in today’s money. In retrospect, this was one of a handful of crucial enabling factors that allowed the organisation to escape early failure.[[10]](#footnote-10)

**Phase II** might be described as ‘reconnaissance’. The task was to investigate the physical possibilities of the site. The manager arrived alone in February 1974, with no accommodation but with access to the founding fund. He was quickly joined by a few others, mostly volunteers.

A diary kept in 1974 (Harper, 1989) evokes the atmosphere of that pioneering phase.[[11]](#footnote-11) Within a month the first ideological conflict erupted. The diary shows a clear split in the basic conception, especially between two strong-minded protagonists, prefiguring a fundamental and continuing source of tension. The two incompatible tendencies are these:

* Using the site’s seclusion to create a protected zone in which the purity of the conception can be explored in a carefully controlled manner
* Vigorous expansion and engagement with the wider society to communicate the ideas, at the risk of having to compromise with public and commercial interests

The ‘inward-looking’ and ‘outward-looking’ strategies could both be consistent with an alternative vision. The first perhaps gives a cleaner experiment but does not generate income. The second potentially creates income but risks confounding alternative and mainstream values. In the event, the Founder stepped in and dismissed *both* protagonists. He then appointed another manager with a brief to try to maximise ‘self-sufficiency’, a touchstone notion of the time (Seymour and Seymour, 1973). This was an implicit endorsement of the first strategy, attempting to *avoid* the need for income by providing residents with their necessities from on-site resources. So, after a short hiatus, a new diarist takes over the daily record in the great Diary.

**Phase III** could be described as ‘germination’, by analogy with that part of a plant’s life when it is growing but still dependent on stored food energy in the seed. The task was to create a self-sustaining organisation before the initial grant funding ran out.

In fact, during the first year, funded largely by the seed- grant, a considerable amount was achieved. It was not all ‘alternative’, but necessary to establish a functional operation. It included

* + Clean piped water supply from the existing reservoir
  + Sanitation using chemical or composting toilets
  + A basic electricity system using hydropower and wind, with propane backup[[12]](#footnote-12)
  + Stoves for heating, albeit using coal, supplied by the nearest neighbour, who happened to be ‘Jones y Glo’ (Jones the Coal)[[13]](#footnote-13)
  + Reliable mass catering using bottled propane gas
  + Refurbished existing cottages and static caravans for accommodation
  + Large refurbished industrial shed used for all communal purposes
  + A token amount of food production

All this was reminiscent of a refugee camp or post-disaster situation, with a curious mix of completely standard technologies and a great deal of ingenuity and make-do-and-mend (Figure 4).[[14]](#footnote-14) For example, although it is not possible to have a pre-industrial electricity system, a hydro-electric set and generator were ‘rescued’ from a nearby farm; the wind turbines were either donated, or hand-made versions of the ‘Cretan’ cloth-sail design using recycled car parts for gearing and electricity production; backup electricity was provided by a propane-powered A-Series (Morris Minor) engine.

**Figure 4: An existing building on the site under repair, 1974**



Organisation: From chaos to (some) structure

What is ‘alternative’? Nobody knew, but it was thought to be a real and achievable state of affairs, and CAT was supposed to embody it. In its founding year, CAT was technically an autocracy, with the Founder having a controlling veto on almost everything. But, as previously mentioned, this arrangement was not deemed *alternative*, so he allowed the organisation to freewheel and find its own feet, largely under the aegis of the appointed manager.

But of course, the manager *himself* was trying to establish what ‘alternative’ meant in organisational terms. One unavoidable feature of the early phases was the constant arrival of new people, some just to look and chat, some to offer a bit of help, some bringing gifts (not always needed or wanted) some to come and join the project. There were “geniuses, oddballs, freeloaders, drug-fuelled hippies, retired engineers, dogs, the high-born, the low-born, the possessed and the dispossessed”. [[15]](#footnote-15) The encounters were often exasperating. It is extremely hard to explain to a newcomer all that needs explaining, while trying assess their suitability as a temporary or permanent participant.

Figure 4: One of the old quarry-workers cottages on the site. In the foreground an experimental thermosiphon solar water heater, using largely scrap parts. The ground is covered everywhere with broken pieces of slate.

The antipathy to rules and structure, however, meant that there was no clear control on who should go or stay, or be involved in decision-making. The presumption was ‘**consensus**’ – complete group agreement – and consensus was often thrashed out round a table late at night. But what emerged was the consensus of all who happened to be there *that night*. A few days later it might be quite a different group of people, so ‘policy’ could lurch drunkenly from one extreme to another. This was not uncommon in alternative organisations of the era (Landry et al., 1985).

Gradually it was understood that more formal systems of decision-making were necessary; that longer-term members with a greater stake in the project should have greater weight; and that decisions should be recorded as part of a growing body of precedent and ‘case-law’. A delicate hierarchy emerged in the form of an informal core group of relatively long-serving staff, who wrote agendas, convened meetings, noted opinions and provided a framework of Due Process. There was much ‘tacit knowing’ (Polanyi, 1958). Even itinerant strangers learned to Know Their Place.[[16]](#footnote-16)

An Inevitable Crisis

Despite some remarkable progress in setting up basic facilities, by Year 2 it became increasingly obvious that the goal of ‘self-sufficiency’ was not so easy as many had imagined. It was (and probably still is) a common illusion among romantic urbanites dreaming of ‘The Good Life’ (Nearing and Nearing, 1960) that if push comes to shove, a group of people can live on next to nothing and provide all their own basic needs without outside inputs. This is not the case. In fact, modern people cannot even get close (Harper, 2002).

Self-sufficiency had failed. The project was clearly unsustainable unless some regular sources of income could be found. The response that emerged was to reverse the inner-focused decision made in Phase II, that is, to turn *outwards* and engage the world. In the teeth of opposition from a purist minority, it was decided to turn the site partially into a kind of theme-park and hope that visitors would be willing to pay an entrance fee. In debate, the theme-park idea was presented as a minor aspect of the wider goals and activities, and was grudgingly accepted on this basis. In July of Year 2 the idea was tested and worked remarkably well, aided by the fact that the CAT site happened to be in tourist area, and in those days there was not much else for holidaymakers to do. It was jokingly remarked that visitors only came in the expectation of seeing ‘naked hippies’. If so, they were disappointed,[[17]](#footnote-17) but the overall strategy was successful, and the organisation and its site are still best known to the wider public as a **visitor attraction**, showing for example, displays of renewable energy devices, organic gardening, novel building techniques, low-impact materials, composting toilets, naturalistic landscaping etc; serving vegetarian meals; and selling green books and products.

This lucky ‘theme-park’ gamble provided a basic income stream to maintain the organisation for the next thirteen years (Phase IV) which nevertheless saw a great deal of conflict and consequent innovation.[[18]](#footnote-18)

PHASE IV: CONSOLIDATION

During this phase, starting in year 2, most of the ‘classical’ cultural and organisational patterns were laid down. They show the inevitable trade-offs between ‘alternative’ values of freedom, equality, democracy and spontaneity, and functional necessities such as income, budgets, committees, accountability and compliance with the law. The organisation found innovative ways to reconcile many of these conflicts.

Economically, **entrance fees** quickly became the largest single element of the income stream, and of course visitors also bought meals and books and signed up for short residential weekend courses. For many, the experience was transformative, the first time they encountered now-routine items such as solar panels, wind turbines, low-energy buildings and materials, and vegetarian food. Visitor numbers built up to about 50,000 a year. Staff work-patterns devolved into functional departments, each with a budget. A general budget for the whole organisation was set at an Annual General Meeting.

Such activities continued from 1975-1988 and saw steady development. The organisation established a unique niche within the environmental movement, and became a model for other environmental demonstration centres around the world [[19]](#footnote-19). Despite very modest wages, it attracted staff with outstanding skills in engineering, building, architecture, electronics and horticulture, enthusiastic to apply their abilities in new and challenging directions.

Departments

From early in CAT’s history most of the staff were members of functional **departments**, for example engineering, building, gardens, volunteers, education, shop, office, display, information, finance, fund-raising (etc). Departments were important because they eventually became cost centres, allocated spending/earning budgets, and were held to account at the budget-setting annual general meeting. This is entirely conventional.

Departments were fairly natural and often ‘emerged’ informally. To give an example, at one time I shared an office with another biologist who was responsible for water, waste-water and sewage treatment (Weedon, 2012). My responsibility at the time was managing the exhibition gardens and composting solid organic waste (Harper, 1994, 2001). After a few months, we realised we were a kind of department, and put a notice on the door. There was never a formal decision, but the following year the Biology Department had its own line in the organisational budget and has done so ever since. CAT’s history is littered with such Mintzbergian moments (Mintzberg, 1994).

Overall Management structures

In acknowledgement of the need for formalisation, at the beginning of this Phase IV the Founder decided that, rather than a manager, a **Director** be appointed for a five-year period, with the implication of strong deputed powers. But once again, the new Director was feeling his way, grappling with the protean meanings of ‘alternative’. He started by acting as a neutral chair, a coordinator of group views, thinking of himself as *primus inter pares*. Eventually he found himself having to navigate between (for example) those who wanted to launder ‘alternative’ into respectability; and those who thought ‘alternative’ must mean challenging the law, for example ignoring the Building and Planning Regulations, using illegal drugs, exploiting the benefits system, and so on.

A pragmatic approach was adequate for policy and routine administrative matters, but much more difficult in the case of sensitive personnel issues, when highly contentious emotional glue could end up sticking to the Director, compromising his delicate role. A key concept here is clearly ‘organisational legitimacy’ (Weber, 1947; Meyer and Scott, 1983). The Director extended his legitimacy by means of a small group of three, elected by secret ballot to deal with sensitive personnel matters. Thus, everybody felt jointly responsible for any outcomes. This started a long process of thought and debate about the ideal constitution for the organisation. Could it be fair, legitimate and effective, and at the same time spontaneous, with no whiff of authority or deference? Could it be fully ‘alternative’, yet not fall into the notorious ‘Tyranny of Structurelessness’ (Freeman, 1972)?

The weekly meeting

During most of the first five years, numbers were small enough that most issues could be dealt with informally, and as frequently as required. However, some long-lasting patterns emerged, notably the institution of the **weekly meeting of all staff**, very commonly found among NGOs and indeed elsewhere. This has a function of regular updating, sharing information, discussing contentious issues, bonding with colleagues, and imparting legitimacy to decisions. It was in a way, the ‘parliament’. Decisions were minuted and displayed in a public place. This formalised the body of ‘case law’ on which the implicit constitution rested. In later years *precedent* was often cited.

A new board of management

The first director served his term, and was replaced by a new director In Year 5.[[20]](#footnote-20) By this time there was a steady body of staff of about 30, and the new director felt that it was time to formalise the informal ‘board’.

This new Director introduced an elected management group of four, of which he was permanent chair and convenor. The other previously elected group, dealing only with personnel issues, was wound up. The elected management group was known as the **Overview** Group. Members served for 18 months and were then obliged to stand down, in rotation. Anybody could stand for election or re-election. This arrangement meant that there was a ‘general election’ for a member of the Overview group every few months, but voters could then choose a new member to ensure fair representation of different perspectives. This institution survived until 2010.



It was occasionally remarked that those elected to Overview tended to be older, long-standing members with middle-class backgrounds, not entirely representative of the rank and file. But it was a secret ballot, and despite mutterings in the ranks (Figure 5) evidently this was the ‘will of the people’. There was a clear popular preference for ‘older, wiser heads’, and perhaps this demonstrated the continuing influence of ingrained conventional patterns. One wonders, would this still be the case today?

Figure 5: In spite of democratic intentions, the elected management group was often considered too authoritarian, prompting this satirical mock-logo, based on the Nazi *Reichsadel*, from a member of the graphics department. The 12-segment ‘sunburst’ is the official logo of CAT. Courtesy of John Urry.

The emergence of the Overview Group had an important effect. It was noticed how much more efficient it was to delegate many decisions to a small group, rather than spend a day a week thrashing everything out *en masse*. The Weekly Meeting still took place, with a full agenda, but suddenly existed largely to ratify decisions of the Overview Group, which were solemnly explained. It was indeed much quicker. However, it became obvious that if all staff are given the opportunity to comment on, or reconsider Overview decisions, many will take it, and picking over details can go on at great length. This might be considered a waste of time, but on the other hand, if Overview minutes are *not* subject to the scrutiny of all the staff, they cannot be considered ratified or legitimate.

The solution to this dilemma was devastatingly simple. It was decided *not* to present Overview minutes to the Weekly Meeting, but to post them in a public place for all to read. Anyone who disagreed with an Overview decision simply had to write ‘Objection’ with a signature. This decision would then be frozen and brought to the next Weekly Meeting, when the objector had to make her case – which might or might not be upheld. *Decisions with no objections were deemed ratified after seven days*. This ‘passive ratification’ became the norm and imparted a sufficient degree of legitimacy.

The key here is that objecting to decisions of elected groups must be made *somewhat* difficult, but not impossible. The onus is placed on habitual objectors (of which any organisation has some) to do most of the work, and they are indeed discouraged: they have to read the minutes, digest them, consider which to object to, then be prepared to defend their objection in public. From this point on, nearly all Overview decisions sailed through *nem con*. This was a clear example of ‘nudge theory’ *avant la lettre* (Thaler and Sunstein, 2008).

Rotas

The ultra-democratic ethos strove to eliminate any sense of class-structure. An important aspect of this was the operation of ‘**rotas**’ wherein all staff would take turns on tasks it was felt should be shared. This drew on a general countercultural antipathy to excessive specialisation: that in an ideal world, we should all be able to do everything.

These rotas evolved gradually, reaching their apogee with staff numbers at about 50.

The principal rotas are shown in Table 3:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rotated task | Number of people | How long | How frequent | Frequency of ‘your turn’ |
| Staffing the reception desk | 1 | All day | Daily | 6 weeks |
| Cleaning the communal dining room | 4 | 2 hours | Weekly | 2 months |
| Cooking lunch | 1 | 3 hours | Weekdays | 3 months |
| Making bread | 1 | 2 hours | Every few days | 6 months |
| Ogre duty (see below) | 1 | 1 week | Every week | 9 months |

Table 3: Main work rotas at CAT, 1974-92

The rota lists were in public places and it was clear when your turn could be expected. ‘Bread-making’ depended on how fast the previous batch had been consumed, so that required some vigilance to see when your turn was due. You could of course arrange ‘swaps’, but nobody was exempt, even the Director.

Rotas helped to maintain the general feeling that ‘we are all the management; we are all the workers’. They declined over Phase V, perhaps on account of Health and Safety legislation and creeping professionalisation. They had disappeared by Phase VI.

The Ogre [[21]](#footnote-21)

The role of ‘**Ogre**’ is a very characteristic tool for reconciling ultra-democracy and the need for reliable outcomes. Since in Phase IV, entrance Fees were the principal source of income, the ‘display’ aspect of the site was important and needed managing. On a strict rotation of all staff, the Ogre served for one week, and was given limitless powers to compel others to address urgent matters relating to the ‘Visitor Experience’. The Ogre would carry out an inspection of the site on Monday morning and convene a meeting of representatives of various key departments. After suitable discussion, she would allocate tasks, and would spend the rest of the week rigorously enforcing compliance, with the full support of the general polity. ‘To Do Lists’ were mounted on wooden boards and prominently displayed so that tardy departments would be named and shamed (Figure 6)

**Figure 6: so-called ‘Ogre Boards’ with lists of tasks**



Figure 6: These boards recorded work identified by the Ogre and allocated to functional departments. The boards were prominently displayed in a public place. An Ogre's successor would 'name and shame' any departments that had not completed their tasks.

Being the Ogre was a bit like being The Boss for a week, but potential officiousness was tempered by the simple requirement that the ogre had also to clean and maintain the public toilets during that week.

Crisis tests of the system

Two crisis incidents illustrate the robustness of the collective management system during Phase IV. The implication is that solidarity and resilience can be much greater where there is no distinction between management and workers.

One incident concerned a cash-flow crisis, which can happen to any organisation. After an emergency meeting it was decided by consensus that no wages would be paid that month, but that they would be repaid as soon as possible if conditions allowed. A ‘hardship fund’ was set up for those who could not manage without any pay at all. The pay freeze was then instituted, the crisis was overcome, and the wages eventually returned as a Christmas bonus.

On another occasion, it became understood that the body of staff (about 45) was too large to be supported by the income all the year round. There was no way to increase income in the short run, so the organisation had to ‘lose’ the equivalent of five people. But *which* *five*? A meeting of all staff agreed with the principle, and all agreed that whatever process was used, if dismissal fell upon them personally, they would accept it without demur. A special elected group was set up to make the decision, on the understanding that they themselves were not exempt. Eventually the decision was taken, and the chosen five (largely recently-joined staff whose jobs were unnecessary in the winter period) did indeed leave, but did not feel victimised or arbitrarily dismissed. Indeed, in the spirit of Captain Oates, they left with enhanced honour. [[22]](#footnote-22)

PAY STRUCTURE

Like any organisation, CAT must balance the partition of its income into wages and running costs. Wages too high and the operation stumbles, risking the project and everyone’s job. Wages too low and staff cannot survive; some leave, and it is hard to recruit. In the ‘normal world’ a business and its staff have divergent interests. But at CAT, where staff were both management *and* workers, they necessarily saw it from both sides. This is an unusual situation.[[23]](#footnote-23)

Pay is often a difficult area, particularly with respect to differentials, because people tend to use pay-levels as a gauge of value and status within an organisation. Of course, CAT was not exempt from such effects, but at the same time it had to deal with a huge ideological commitment to fairness and equality.

The principle of equality is particularly tested with respect to highly skilled staff, perhaps older people, already with children and mortgages. Are these necessarily excluded from the project? Is that fair? Is it consistent with the project’s aims?

Some ‘fudges’ are unavoidable to reconcile irreconcilables. In Phase III many skilled staff arrived with savings and/or survived on earnings from a spouse with a conventional job. Others with private means accepted a status like that of unpaid interns today. Others were given allowances along with free board and lodging on the site. It was all rather informal.

Needs-based pay

As Phase IV began it was obvious that the wages system needed to be formalised, but it was felt the basic principle should be the *ur*-socialist “from each according to their abilities; to each according to their needs” (Marx, 1875). An elaborate system was concocted that combined objective needs such as mortgages (for those who lived off the site) and children, with more subjective measures of ability from both self-assessment and peer-evaluation.

This system persisted for some years, yet eventually proved far too cumbersome and contentious. Think for example of the ‘peer evaluation’ factor, and the consequences of a mismatch between a person’s self-evaluation and that of their peers (which did happen). It needed to be based on simple, objective proxies, and eventually evolved into a much coarser metric of ‘needs’: the number of children – albeit capped at two, in acknowledgement of the ‘population problem’ (Parsons, 1971). Also, in recognition of the extra costs of living off the site, there was a fixed mortgage allowance.

These two ‘needs-based’ system are summarised in Table 4. This streamlined version had just three levels: Childless, one child, two children. It was strict: the Director was childless: he was on the lowest level.

PHASE V: EXPANSION

Phase V was initiated, not by external circumstances, but by endogenous forces within the organisation, perhaps analogous to a mid-life crisis (Jaques, 1955). By the mid-eighties, visitor numbers had remained static for many years, and there was a sense of stasis, just marking time. It was comfortable enough, and many argued ‘if it ain’t broke don’t fix it’. Nevertheless, there was a pervasive feeling that the organisation should be doing more, and after a long period of internal debate on the theme ‘What are we really here for?’, the organisation arrived at a sudden, effective and somewhat surprising **consensus for growth**.

Figure 7: The water-balanced railway system brings visitors up to the main site about 30 m above the car park below.

This initiated a period of rapid development (Harper, 1991). Between 1988 and 1993, the organisation

* Raised £1 million through an ‘ethical share issue’
* Built a water-balanced **funicular railway** to carry visitors dramatically up to the site from the car-park (Figure 7)
* Connected part of the site to the mains electricity supply
* Reconstructed the grounds and public displays
* Upgraded the water-supply system using passive techniques
* Built a new waste-treatment system to collect and process dirty water
* Spun off two enterprises ‘incubated’ on the site[[24]](#footnote-24)

Broadly this process was successful in maintaining greater activity and income through the 1990s, and culminated in the construction of a large two-storey public building made largely of rammed earth, which could boast that it contained not a single trowelful of Portland cement, a material normally considered indispensable to modern building (Figure 8). The organisation was beginning to home in on a useful operational definition of **alternative technology**: functional structures and devices with around 80% low-tech/low-carbon components, complemented by under-20% high-tech ‘industrial vitamins’.[[25]](#footnote-25) This reverses conventional practice.

From weekly to monthly all-staff meetings

In Year 12 a third Director was appointed, this time not by the founder but by the staff body in a conventional competitive interview process – an important step forward in democratic self-management. The new Director expanded the Overview Group by one, and abolished the Weekly Meeting, replacing it with a *Monthly* Meeting of the all-staff ‘parliament’ with compulsory attendance. This goes a long way to reconcile efficiency and democracy. The Agenda for the Monthly Meeting would be carefully constructed, and conducted by a chair from a rotating pool of chairs with proven effectiveness. It was still a forum for receiving and evaluating objections to the Overview minutes, but these became much rarer over time.

Figure 8: A load-bearing column made entirely of rammed earth, supporting an upper floor. ‘Industrial vitamins’ are visible as windows, electricity sockets and lighting-strips, but are only a fraction of the total quantity of materials.

Pay Parity

The simplified ‘needs-based’ wages system was regularly attacked by those living on the site itself, who argued that ‘mortgages’ were a form of personal savings that the organisation should not pay for. It was also questioned by the childless, who argued that having children was a kind of lifestyle choice and should not be encouraged. Many arguments later, in Phase V, it was finally decided to move to *pay parity*: that all permanent staff would be paid the same. The three arrangements are summarised in the Table 4, adjusted to 2012 prices (Harper, 1995).

Table 4: Evolving wage structures at CAT up to 2008.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 1978 | 1985 | 1992 | 2008 |
|  | Needs based | Children only | ‘Parity’ | 4-tier |
| Basic | 10,000 | 10,000 | 18700 | 18700 |
| Mortgage allowance | 2800 | 2200 |  |  |
| First child | 2800 | 3400 |  |  |
| Second child | 1400 | 2200 |  |  |
| Peer assessment | 0-3340 |  |  |  |
| Special cases | 0-1950 |  |  |  |
| Associate staff |  |  | 15500 | 15500 |
| Casual staff |  |  | 12000 | 12000 |
| GSE staff |  |  |  | 33000 |
| CAT HE teachers |  |  |  | 33000 |
| Minimum wage | 10,000 | 10,000 | 12000 | 12000 |
| Maximum wage | 22,000 | 20,000 | 18700 | 33000 |

By 1992 (Phase V) the organisation was more prosperous and able to pay what was at time a fairly standard local wage to permanent staff. There was not enough however, to pay all staff at this rate: by Phase V there was a substantial body of ‘associate’ staff usually carrying out less skilled work, and all manner of casual workers. These ‘other ranks’ were paid at a lower rate, and often complained that it broke the headline principle of pay parity. They had a point: it wasn’t literally parity; on the other hand, this was a flatter distribution than the earlier ones (see Table 4), and probably no other organisation in Britain had a maximum wage differential as low as 50%.

‘Pay Parity’ had many advantages, not least the absence of arguments about differentials, deemed a great blessing by staff with industrial backgrounds. On the other hand, it created its own forms of *dis*parity. Under this system professions such as engineering and building are grossly underpaid by comparison with the industry norm. Meanwhile others, such as gardening and catering, are *overpaid* by the industry norm. In a truly socialist utopia this should not matter at all, but we are all human beings, and over the years it was interesting to note that builders and engineers were in some sense ‘cut more slack’: allowed to make more mess, more readily forgiven for missing a rota, listened to with greater attention in meetings, etc. And they developed a certain swagger. They were simultaneously admired and resented. It was subtle enough not to trigger explicit countermeasures, but as always, there were unintended distinctions of rank and status.

A failed experiment

The problem of informal hierarchies is illustrated by what was, paradoxically, an attempt to enhance democracy. In Phase V, members of the Overview Group were elected in rotation from the general body of staff, and anybody could stand. Voters could exercise a measure of control over the composition of the group by noting the qualities of the other three members and electing someone complementary. But questions were raised whether this would invariably represent all parts of the organisation fairly. Would it not be better, perhaps, for different sectors of the organisation to send their own delegates, as happens in Trades Unions or political parties? It is supposed to be very democratic: after all, delegates can be instructed, and they can be recalled.

This is superficially a good idea, but it was impractical to have a delegate from every department. It required that departments be *grouped* into functional ‘constituencies’. We wanted four, and two were obvious: ‘Technical’, which included engineering and building, and ‘Trading’, which included the various shops and restaurants, Mail Order etc. But the other two were simply ragbags. Nevertheless, this process was carried out and suddenly the Overview Group consisted of ‘delegates’ from the four groups.

The result was fascinating and unexpected. As ‘delegates’, the new members felt they should press the interests of their own ‘constituencies’, rather than acting in the interests of the entire organisation. Very soon the Overview Group broke into vying factions with the Director powerless to prevent the coherent and powerful constituencies dominating the ‘ragbags’, and indeed imposing their own agendas on the organisation as a whole. It showed very graphically a kind of ‘ascribed status’ (Linton, 1936) for technical people and their disproportionate value to the organisation. Shockingly, they were not above exerting any power that fell into their hands.

In retrospect, this was a crucial moment: it showed that what might have been thought of as core values were not universally or automatically shared, and could be infringed by certain kinds of organisational procedures. It demonstrated that groups of staff were quite ready to pursue personal or sectional interests if ‘allowed’ to do so, and this flaw in the system needed to be addressed. It was a nasty moment, and after a few showdowns the experiment was abandoned. The system reverted to staggered general elections from the whole body of staff, as before. We could no longer rely on a Shared Vision. As the Founding Fathers of the USA insisted, we needed checks-and-balances to forestall power-grabs (Hamilton, Madison and Jay, 1901). Not so ‘alternative’ after all.

Structure of the Economy:

As we have seen, CAT’s operations and staff grew substantially over the years, and income was needed to support all this activity. Yet, as with most ethically-based NGOs, income-generating activities must not baldly contradict the underlying ethos and messages. The result was an interesting collection of sub-enterprises. Had CAT found the secret of simultaneously advancing its goals and earning money? Could this be a vindication of cooperative organisation (Whyte and Whyte, 1991), or even ‘capitalism with a human face’ (Brittan, 1996)?

Examples include

* Running an on-site shop selling ‘eco’ goods and books
* A mail order wing of the shop, with the same product lines
* An on-site restaurant selling wholefood vegetarian meals
* A shop in the nearby town selling whole foods
* Running environmental courses for schools, universities and the general public
* A consultancy service, advising on ‘green’ energy, building, sanitation etc
* Manufacturing electronic controls for small-scale renewable energy systems
* A membership organisation providing a magazine and annual conference to members
* Hiring large spaces for functions such as conferences and weddings, providing a politically and environmentally sound ‘green ambience’.

During Phase V, it could be said that the economy of CAT was robust and well-balanced, consisting of a large number of ‘slices’ none of which was overly dominant, and with a turnover of around £4 million a year. The pattern for 1998 is shown in Figure 9.

**Figure 9: Pie-chart of income sources for 1998**

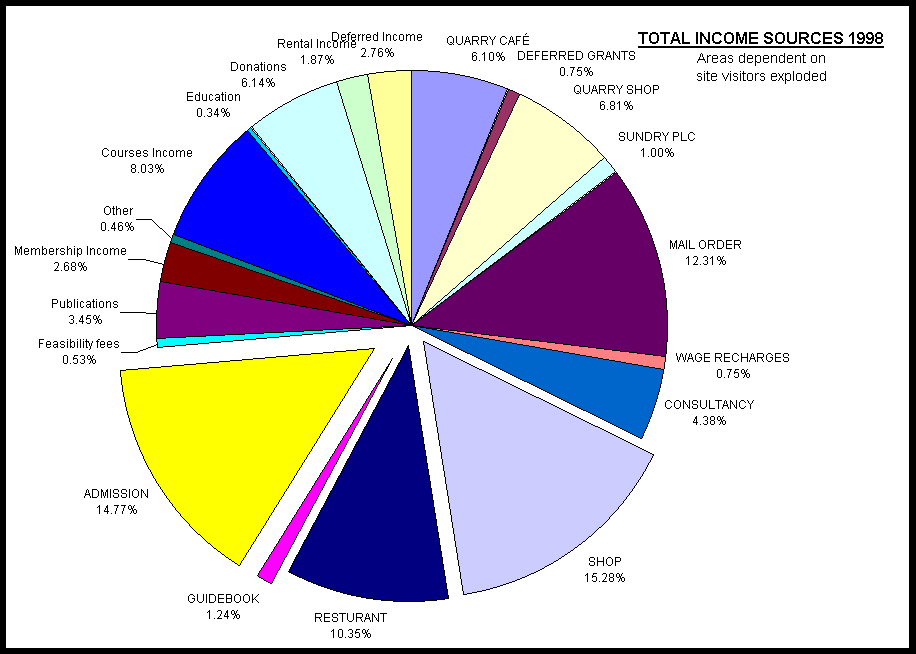


Figure 9: Income sources for the year 1998. Tourism-related segments are exploded

PHASE VI: THE HIGH-WATER MARK

By the turn of the millennium, it was again becoming obvious that some activities were less viable, for example the mail-order business, in its heyday the largest cash-cow, was now eroded by the internet. Further, visitor-numbers were in decline as British holidaymakers (apparently) chose warmer, sunnier locations. These were significant ‘exogenous’ factors outside the organisation. But there were also serious ‘endogenous’ problems arising from the organisation itself, many to do with the relationship of individuals to the organisation.

This distinction has been invoked in the case of entire civilisations (Tainter, 1990; Diamond, 2006) but the parallels with CAT are striking.

At this stage in the account, I need to make a methodological point. Documentation for the latter phases is scarce or non-existent, so the account relies on a personal narrative ‘as I saw it’. I have striven to be objective, yet human interpretations of individual and group feelings and reactions are essential for third parties to grasp their significance. I must rely on other co-witnesses to express different perspectives in the future. Sadly, as time goes by, this becomes less and less likely.[[26]](#footnote-26)

The Problem of creativity and talent

CAT quickly developed a brand and reputation, certainly within the green movement, but more generally in *bien pensant* British culture. This meant it was able to attract highly talented workers willing to work for relatively low wages. Unfortunately, it was often unable to keep them, and here is another ‘endogenous’ process common to highly egalitarian organisations.

In many ways CAT was an interesting and exciting place to work, and many new appointees achieved considerable success. However, it is a curious feature of a non-hierarchical organisation that there is little sense of ‘career progression’. Life stays much the same, doing much the same things, serving the whole. Yet dynamic and creative people want to do dynamic and creative things, perhaps to take risks, to develop brilliant new ideas, to generate a career-arc and so on.

Theoretically, they should have been able to do this within the frame of the organisation, but in practice it was almost impossible. There was no spare risk capital. A dazzling new initiative for one person or department would have felt awkward, and given them a special position that would generate resentment among those obliged to perform merely routine functions. We were all paid the same, why should some people have all the fun? Here was old-fashioned human nature blocking possibilities for improving the organisation’s scope and income base, and for retaining the best and the brightest (Abramitzky, 2008).

**Figure 10: Tree house**



Figure 10: Tree-house built by a former member of CAT staff who founded a company to provide tree-house accommodation, near CAT. A proud spinoff or a missed opportunity?

The frequent upshot was that, after a few years, the most creative people would leave to start their own enterprises in which they could take risks, follow their dreams, achieve a sense of progression and fulfil their imagined destiny (Figure 9). These ventures by ex-staff can often be counted as ‘spinoffs’ that redound to CAT’s credit[[27]](#footnote-27) -- but not to its bottom line. In many ways the organisation was surprisingly conservative.

The Rise of Engagement with Higher Education

As, once again, a financial crisis threatened, a controversial new possibility opened up. In the early years of the new millennium, higher education was booming in the UK, in particular taught postgraduate (masters) level courses, which were receiving very generous financial support from the UK government. CAT formed a partnership with one of the London universities to teach postgraduate architecture courses on the site. The courses were delivered in a ‘pulsed’ format, with students attending once a month and staying five or six days. This format was very successful, appealing in particular to older students able to manage some days away every month. Numbers quickly built up to around 100 per cohort.

This seemed solid enough to create an entirely new institution, the Graduate School of the Environment (GSE) to deliver higher degrees. In many ways, this was a happy outcome. CAT had not proved terribly good at tourism, or show-business, or selling things, but it was extremely good in teaching, at all levels. So, the development of the GSE was probably CAT’s destiny.

A second master’s course on renewable energy, using mostly CAT staff, was started in 2007. The response from prospective students was so strong that we decided to start fundraising for a major new building to house all the new activity. In due course the funds were in place and work on the building complex – known as WISE, the **Wales Institute for Sustainable Education** – began (Jones, 2010).



Figure 11: The Wales Institute for Sustainable Education building complex

The building was eventually completed, an icon of sustainable architecture. (Figure 11). Thinking back to the fragile bricolage of the early years (Figure 4) it was a remarkable development

Organisational changes in a mature organisation

The general trend across three Directors had been to reduce the relative power of the director. In accordance with the ethos of the organisation, they deliberately gave power away. Indeed, the fourth Director decided the role was not needed, and by 2000 there was *no director at all*. You might say we had had four periods of ‘constitutional monarchy’ and suddenly, a republic. Was this the ultimate triumph of socialist democracy? It seemed so at the time.

In the early 00’s CAT was expanding rapidly, and by 2005 had reached 150. Members of the Overview group, although increased to 5, were all amateur managers still with departmental responsibilities, experiencing considerable overwork. After all, they not only had to take the decisions but were responsible for making sure they were implemented, and evaluating the results. Meetings, and their minutes, got longer and longer, and it became more difficult for the rest of the staff to read all the material and exercise the collective management obligation of active scrutiny. It has been argued that a group size of 150 is about the limit that a human brain can keep direct track of, and this has been dubbed ‘Dunbar’s number’ after the anthropologist who first hypothesised it (Dunbar, 1998; see also Gladwell, 2000). It is noted as a plateau in Figure 3.

The complexities of this scale did indeed seem more than could be coped with by part-time managers. Something more streamlined and efficient appeared to be necessary. Much discussion ensued, with several different ideas being proposed and dissected. Gradually, we homed in on what is in some ways a completely conventional model: permanent ‘civil servants’ directed by an elected body. The elected body could be the existing Overview Group, but this time with a dedicated body to ensure that the decisions were carried out. These were to be new appointments

There was still a choice to be made. Should the new managers be old-timers, suffused with the old ethos, while their former specialist roles were replaced by new appointments? Or should we appoint directly for the new managerial roles? We could not quite see how the former could work, because so many jobs performed by older staff require special skills and local knowledge. Managerial skills however, are common, can be interviewed for, and were thought to be lacking in the organisation. So, we advertised for managers.

It says much about the changed mood and ethos of Phase VI that many staff enthusiastically embraced the prospect of ‘proper, **professional managers**’ who (it was fondly imagined) would be able to organise things far better than we had been able to do ourselves. It also reflected a demographic shift from an idealistic, middle-class elite, now outnumbered by pragmatic tradespeople and local staff. This new and growing majority were accustomed to conventional, hierarchical ways of doing things, habitually respectful of authority, and frankly rather contemptuous of the efforts of the Old Guard to maintain the traditions of collective management.

I was there of course, taking part in the debates. I approved the plans, and looked forward to an injection of managerial skill. I fervently believed that the new managers would behave like new kids on the block, keep a low profile, and diligently execute the instructions of the elected board. I was genuinely hopeful.

Alas, it did not work out as I and many others expected. For many reasons (largely to do with the new building developments) the organisation was in serious financial straits. In truth, we could not really afford new appointments, so the best we could do was offer the new managers the standard ‘equal wage’, very modest by normal managerial standards. It will be readily appreciated that on this account alone, the applicants were not really the ‘proper, professional managers’ we dreamed of, only people like ourselves, but without the ethos and without the long experience of running an NGO like CAT. It was set to end in tears, and it did.

Received wisdom often starts as a joke or satire. One thinks of *Parkinson’s Law*, originally thought an amusing squib, now taught in business schools; or the TV series *Yes Minister*, thought absurdly satirical but which Margaret Thatcher regarded as essentially a documentary. Both lampoon the domination of organisations by the interests of bureaucrats, and this is a widely-recognised phenomenon (Page, 2012).[[28]](#footnote-28) Tragically, the same process rapidly developed at CAT, but we didn’t see it coming. The new managers were inducted with considerable goodwill, but very quickly became a new focus of power. Notionally the servants of the elected authority, they tended to make their own decisions on the hoof, eventually becoming the *de facto* management of the organisation.

Could anything have been done about this? Possibly, but by this time the Old Guard were in a minority. Furthermore, the organisation was entering a period of financial chaos and everybody was far too busy trying to keep the ship afloat to work out ways of reining in the managers. They were clumsy and incompetent, and disdainful of the Grand Old Values, but we’d appointed them, so we let them get on with it.

The Collapse of Pay Parity

As previously mentioned, a mutually beneficial arrangement was made with one of the London universities to deliver monthly modules for a particular postgraduate course, on-site at CAT rather than in London. At first, the university staff would commute to Wales and deliver half the teaching, CAT staff the other half. This worked well enough, but after a few years, new courses were mooted and it made some sense for the university staff to relocate and become, effectively, part of the CAT staff body. As it happens the university staff were paid at about twice the CAT rate, and there are strict legal (‘TUPE’; UK Government, 2006) rules about the maintenance of Pay and Conditions when staff move to do the same job in a new place.

This posed an acute dilemma. We needed these university staff to run the courses that were by that time providing more than half the organisation’s income. But we had to pay them twice as much as ourselves! Naturally the debates were furious: it broke the sacred principle of pay parity. But in the end, we persuaded ourselves that these professional lecturers fell into a slightly different category – the GSE, which could be deemed separate enough from CAT to feel that the principle of Pay Parity was not fatally impugned.

But that was just a stopgap. A further MSc course in the GSE emerged, taught entirely by CAT builders, engineers and architects, all hitherto paid at the CAT parity rate. As we noted above, CAT technical staff were quite aware of their low pay rates relative to the industry norms, and here they were confronted with the starkest possible evidence of this fact. They proceeded to argue for a different form of parity: same work, same pay, often considered the ultimate criterion of fairness. The rest can be guessed: eventually they refused to run the new course except on the basis of parity with existing GSE staff, at twice the prevailing staff rate.

That cracked the dike. The new cadre of managers, not acculturated to the ethos of pay parity, acceded to the demands of the technical lecturers, and to finance the extra pay proceeded to close departments, fire staff and reduce hours, thereby magnifying the disparities even further. Some excellent staff, working well below their market value for the sake of the organisation’s aims and ethos, resigned. Overall, it seemed indisputable that morale and solidarity were damaged.

PHASE VII: Melt-Down or Normalisation?

For most nations, the period 2007-2008 was financially turbulent, and as if CAT were a microcosm of the world, it went through its own financial crisis involving accounting procedures that had become too opaque to monitor. A series of difficult circumstances arose in quick succession, overwhelming the organisation’s ability to cope, either financially or organisationally. Any management system would have struggled, but the process of changing the system, with new players involved, made it even more difficult.

Eventually, total collapse threatened. At this point the **Trustees** intervened. All charitable organisations require a body of Trustees who are legally liable for ensuring financial probity and compliance with charity law.[[29]](#footnote-29) Normally the Trustees have a background watching brief and are not actively involved in running an organisation; that had been true of CAT’s Trustees also. But at this juncture their hand was forced. They appointed an accountant to inspect the accounts, who found a financial ‘black hole’ of debt unrecognised by the existing Finance Department, which had clearly been out of its depth – and which the auditors, too, had missed. Much as we enjoyed a degree of *schadenfreude* at the implosion of capitalism on a world scale, when our own systems were shown defective it was profoundly chastening.

The Trustees faced a stark choice: to wind up the organisation completely; or convince lenders to extend credit. As a *quid pro quo*, the creditors demanded ‘structural adjustments’ (Stiglitz, 2002) that effectively amounted to martial law. The Trustees reluctantly accepted this, and in the decade 2010-2020 the organisation has remained on life-support from sympathetic but risk-averse creditors.

The new regime acted rapidly. The constitution was suspended; the consultant accountant was appointed CEO with absolute powers (and with what seemed a colossal salary); some departments were simply closed; the on-site living community was disbanded; large numbers of staff were declared redundant, including the new managers; others faced reduced hours; zero-hour contracts became the norm; there were no negotiations or consultations; the decision-making process was totally opaque.

A new, much more conventional, hierarchical business model emerged, with large pay differentials[[30]](#footnote-30) The GSE had its own pay structure, similar to that found in universities. The rest of CAT adopted a pattern fairly typical of larger NGOs, with a highly-paid CEO, a small cadre of highly-paid managers, and a larger body of staff paid at a much lower rate. This might be considered unremarkable in the wider context, but in the light of CAT’s history and ideals, it was a striking *bouleversement*.

Indeed, it seemed that the organisation had turned into the opposite of what it set out to achieve thirty years earlier. Its militantly disruptive stance was brutally crushed. Yet it has continued to function and to generate what are arguably its most important and distinctive products: residential courses for the general public, postgraduate courses in the GSE, and the *Zero-Carbon Britain* reports (CAT, 2010, 2013). Prior to this period, CAT’s ideologues would argue that an alternative management structure is key to guaranteeing the quality and integrity of the products. They have been proved wrong. I was among them.

Figure 12. Changes of 'weight' for different kinds of activities to 2012,

Figure 12: Proportions of different activities at CAT 1974-2014, normalised to 100%. The depth of the areas is a subjective assessment based on a mixture of staff numbers, time spent and cash flow. Notable features are the early dominance of the onsite residential community and tourism, later displaced by the rapid expansion of higher education. This might usefully be compared with Figure 3.

CONCLUSIONS

The many difficulties CAT experienced in reconciling theory and practice were partly due to its extremely rigorous standards of radical/alternative values. It tried to disrupt everything, to explore the polar opposites of the customary and normal. It charted unknown waters, and has much to tell History on that account.

In terms of the analogy introduced at the beginning of this article, the bold forays across the mountains were in the end totally abandoned. The organisation was forced back into the well-trodden valley-bottom routes, along with everybody else.

Was the task impossible? Was it bound to fail? There was undoubtedly a measure of bad luck, of malign exogenous forces; but surely this is quite normal. In its early days, the organisation enjoyed remarkable good fortune, but could not presume on this for ever. Ill-Luck and happenstance, incipient nemeses of any organisation (Ormerod, 2005; Liu, 2019; Kaufman, 2018) finally asserted their statistical claims.

But there were also *endogenous* forces. In retrospect, the simple notion that everything conventional must be wrong, was – to be generous – naive. CAT deserves credit for disrupting convention and testing the limits of radical procedure in so many directions, but could not take on the whole world. The novel systems had their own inconsistencies, and often contained the seeds of their own destruction. So perhaps the eventual implosion was due as much to endogenous as exogenous processes.

*Did* the project fail? A distinction should be made between CAT’s tangible products and its intangible processes, which originally were thought to be inseparable. The radical processes—the living community and the disruptive business model—have vanished.[[31]](#footnote-31) The tangible products however, endure, dominated by graduate education. The changes are summarised in Figure 12. Even after 45 years, these continue to fulfil the organisation’s original goal: to make a distinctive contribution to ‘saving the planet’.

We might say then, that this was not so much a collapse but a kind of phase-change. Perhaps it was an inevitable adjustment to the times we live in.

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1. It is probably fair to say that during my time at CAT I was the unofficial historian, aware of the possibility that history was being made, and I took some trouble to collect and preserve key documents and artefacts. Most of these are now duly catalogued and lodged at the Llyfrgell Genedlaethol Cymru/National Library of Wales in Aberystwyth. In addition to these important sources, I assembled a small corpus of historical records about twenty-five years ago and wrote a commentary, comparing events at CAT with contemporary social and political developments in the wider world (Harper, 1995). The book is now out of print, but a facsimile can be accessed at [www.peterharper.org](http://www.peterharper.org). Various other historical materials can also be visited on the same site. [↑](#footnote-ref-1)
2. A further strong influence was a decentralist tradition more often associated with Gandhi or Chesterton, see for example the work of Leopold Kohr (Kohr, 1957). Critiques of the ‘New Left’ such as that of Lindbeck (1971) could apply to the whole alternative movement, and go back to V.I. Lenin’s famous essay *Left-Wing Communism: An Infantile Disorder* (Lenin, 1975). Works of this critical genre scorned the populism of revolutionary slogans such as that of Figure 1. [↑](#footnote-ref-2)
3. The anti-authoritarian strand can be seen very clearly throughout the subsequent ‘textbook’ of alternative technology, *Radical Technology* (Boyle and Harper, 1976). See also [www.radicaltechnology.org](http://www.radicaltechnology.org). [↑](#footnote-ref-3)
4. Similar sets of rules were promulgated by for example Harper and Eriksson (1972); Easlea (1974); Robin Clarke (see Dickson,1974); and Boyle and Harper, (1976). A longer discussion of such rules is in ‘A Conversation with Godfrey Boyle’, [www.peterharper.org/the-library/history](http://www.peterharper.org/the-library/history). See also Harper (1971). [↑](#footnote-ref-4)
5. J.R. Ravetz is a respected philosopher of science (Ravetz, 1971). The notion that science itself might be subject to different values and practices, including ‘no-go areas’, is deeply heretical. Nevertheless, it was seriously discussed by a debating group in 1970/71 of which Ravetz was himself a key member. His later notion of ‘Post-Normal Science’ (Funtowicz and Ravetz, 1993) is a rationalised critique of prevailing practice. [↑](#footnote-ref-5)
6. The whole organisation was often known colloquially as ‘The Quarry’. [↑](#footnote-ref-6)
7. Among many surprising donations-in-kind from the Founder’s industrial contacts was a year’s supply of digestive biscuits, testing culinary skills to the limit. [↑](#footnote-ref-7)
8. Gerard Morgan-Grenville’s research included reading the journal *Undercurrents*, where most of my own work was published. This piqued his interest, and we had a face-face meeting at the Institute of Directors in London in 1972. He chose the term ‘alternative technology’ that I had coined myself earlier that year. I knew Gerard quite well throughout his life and gave a eulogy at his funeral (Harper, 2009). He was indeed, larger than life. [↑](#footnote-ref-8)
9. Although never ‘mentioned in dispatches’, it was noted that the founder occasionally exercised his *droit de seigneur*. [↑](#footnote-ref-9)
10. Others include the special qualities of the founder himself and the fact that the project happened to be in a tourist area, key to Phase IV. These strokes of good fortune were not recognised as such at the time. It is now widely accepted that luck and happenstance play a much larger part in the survival of business and other organisations, than hitherto supposed (Liu, 2019). It is striking that most comparable organisations covered by the French term *ecosites* (Harper, 2003) no longer exist. [↑](#footnote-ref-10)
11. The 1974 Diary has become something of a Holy Relic. It is a remarkable document, reproduced in facsimile on www.peterharper.org/the-library/environment-centres/cat [↑](#footnote-ref-11)
12. Renewable Energy was always a core feature at CAT. See ‘Buildings and Technical Systems at CAT’, on [www.peterharper.org/the-library/environment-centres/cat.](file:///C:\Users\Peter\Documents\TRANSFER\FOR%20EXTERNAL%20PUBLICATIONS\KRISTA\www.peterharper.org\the-library\environment-centres\cat) [↑](#footnote-ref-12)
13. International readers are reminded that the site’s location is in a Welsh-speaking area of Wales. Wales and its distinctive language had a continuing influence, with many signs and interpretations bilingual. Although most of the staff were ‘immigrants’ from outside Wales (not all English) many learned to speak Welsh and raised bilingual children. [↑](#footnote-ref-13)
14. I myself lived in this building for ten years. [↑](#footnote-ref-14)
15. Notably, CAT was one corner of the alternative world where geeks, nerds and Asperger cases were valued and could mix happily with flower-children, beat poets and the ultra-cool. [↑](#footnote-ref-15)
16. For all the emphasis on equality and solidarity, the ‘iron law of oligarchy’ (Michels, 1915) asserted its quiet power, and continued to do so. [↑](#footnote-ref-16)
17. Much is made of the sexual freedom associated with ‘alternative’ world views (Allyn, 2001), but in this respect, CAT was disappointingly conventional. [↑](#footnote-ref-17)
18. Several other putative environmental centres modelled on CAT attempted to copy the visitor-attraction business model, but none succeeded. A clear example is the Earth Centre near Doncaster in South Yorkshire, funded by £50 million from the National Lottery fund in 2000. Eventually it was forced to close through a sheer dearth of visitors. It might be asked why this large sum went to a new project rather than the well-established CAT. The answer seems to have been that CAT was thought to be too ‘alternative’. An unwitting compliment perhaps, but probably CAT would rather have had the money. [↑](#footnote-ref-18)
19. This topic was addressed in depth by an EU research project called Ecolink between 2002 and 2005, but the material has become difficult to find. Some documents can be found on the web site https://peterharper.org/thelibrary/ecocentres. [↑](#footnote-ref-19)
20. This new director had previously been in charge of Friends of the Earth in Birmingham. It is worth remarking that there are ‘alternative careers’ in which individuals move around between Third Sector organisations. Several of CAT’s directors, and many other staff, have followed this pattern. It is a frequent escape route from highly egalitarian organisations where there is no possibility of ‘career development’. [↑](#footnote-ref-20)
21. For the benefit of non-English speakers, an ‘ogre’ is a terrifying fairy-tale giant who eats children. The term, borrowed from its use by a sister institution, the New Alchemy Institute in Massachussetts, USA, was facetiously intended to emphasise the overwhelming power of the Ogre role, and the dire consequences of disobedience. [↑](#footnote-ref-21)
22. The reference is to Lawrence E.G. Oates, a British army officer, who famously walked out to his death in an Antarctic blizzard, attempting to save his comrades in Scott’s Antarctic expedition of 1911-13. [↑](#footnote-ref-22)
23. In an unexpected parallel, this was also the case in pirate crews, as analysed by Peter Leeson in his classic study of the ‘hidden economics of pirates’. The similarities between CAT’s organisation and that of typical pirate ships, is sometimes uncomfortably close to the mark (Leeson, 2009). [↑](#footnote-ref-23)
24. These have both been remarkably successful, outstripping their parent in terms of turnover. Aber Instruments (aberinstruments.com) and Dulas Engineering (dulas.org.uk) were both started on the CAT site and have remained in mid-Wales, part of a largeish group of spinoffs and secondary enterprises benefiting from the presence of CAT in the region. See ‘The Influence of CAT on the Local Economy’ [www.peterharper.org/the-library/environment-centres/cat](http://www.peterharper.org/the-library/environment-centres/cat). This does not necessarily support the co-operative model. In the case of Dulas Engineering, it was ruefully noted that it never made money when a part of the co-operative economy on the CAT site, but became very profitable once forced to make its way in the Big Bad World. [↑](#footnote-ref-24)
25. The term ‘industrial vitamins’ has been used internally for many years, and is referred to in various publications (e.g. Bocco, 2020; Harper, 2016) but has never been formally explained in a published document. It started as a kind of joke, but the analogy is so clear the term has persisted. [↑](#footnote-ref-25)
26. A modest check on objectivity can be obtained from a document originally published in 2002, then subjected to later, dated but unpublished, postscripts. This can be found as ‘Songs of Experience’ (with acknowledgements to William Blake) at [www.peterharper.org/the-library/environmental-centres/cat](http://www.peterharper.org/the-library/environmental-centres/cat). On the same page is a video-interview with a Polish TV crew that summarises the history of CAT up to that point. This (‘Interview with Peter Harper’) is a good one-stop-shop for the ‘up-beat’ perspective, and indeed the whole ‘modernised alternative worldview’. [↑](#footnote-ref-26)
27. See ‘The Influence of CAT on the local economy’ at www.peterharper.org/the-library/environment-centres/cat [↑](#footnote-ref-27)
28. This particular screw is turned even tighter by Armando Iannucci in the TV series *The Thick of It*, where elected and appointed ministers of the crown are reduced to craven puppets by unelected advisors and civil servants. [↑](#footnote-ref-28)
29. The ‘millennial’ Trustees were quite different from the notional rubber-stamp group assembled for strictly legal reasons by the Founder in 1973. They were local people, largely from the bilingual social tier known in Welsh as the *crachach* – although of course they thought of themselves as jus’ plain folks. [↑](#footnote-ref-29)
30. These cannot be incorporated into Table 3 as detailed information is not available. [↑](#footnote-ref-30)
31. It is probably fair to say that in some circles there is an indestructible ‘Myth of CAT’ that still believes the Old Ways persist. One might say the Myth persists in the same way as the smile of the Cheshire er…CAT. [↑](#footnote-ref-31)