

Obliquity

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Strange as it may seem, overcoming geographic obstacles, winning decisive battles or meeting global business targets are the type of goals often best achieved when pursued indirectly. This is the idea of Obliquity. Oblique approaches are most effective in difficult terrain, or where outcomes depend on interactions with other people.

If you want to go in one direction, the best route may involve going in the other. Paradoxical as it sounds, goals are more likely to be achieved when pursued indirectly. So the most profitable companies are not the most profit-oriented, and the happiest people are not those who make happiness their main aim. The name of this idea? Obliquity

The American continent separates the Atlantic Ocean in the east from the Pacific Ocean in the west. But the shortest crossing of America follows the route of the Panama Canal, and you arrive at Balboa Port on the Pacific Coast some 30 miles to the east of the Atlantic entrance at Colon.

A map of the isthmus shows how the best route west follows a south-easterly direction. The builders of the Panama Canal had comprehensive maps, and understood the paradoxical character of the best route. But only rarely in life do we have such detailed knowledge. We are lucky even to have a rough outline of the terrain.

Before the canal, anyone looking for the shortest traverse from the Atlantic to the Pacific would naturally have gazed westward. The south-east route was found by Vasco Nunez de Balboa, a Spanish conquistador who was looking for gold, not oceans.

George W. Bush speaks mangled English rather than mangled French because James Wolfe captured Quebec in 1759 and made the British crown the dominant influence in Northern America. Eschewing obvious lines of attack, Wolfe's men scaled the precipitous Heights of Abraham and took the city from the unprepared defenders. There are many such episodes in military history. The Germans defeated the Maginot Line by going round it, while Japanese invaders bicycled through the Malayan jungle to capture Singapore, whose guns faced out to sea. Oblique approaches are most effective in difficult terrain, or where outcomes depend on interactions with other people. Obliquity is the idea that goals are often best achieved when pursued indirectly.

Obliquity is characteristic of systems that are complex, imperfectly understood, and change their nature as we engage with them. Forests have all these features. Fire is the greatest enemy of the forest. From the late 19th century, the policy of the US National Parks Service was of zero tolerance towards fire. Every outbreak, however small, would be extinguished. But the incidence of fire did not fall: it increased.

Computer simulation of fire control policies suggests the explanation. Most forest fires are small, and burn themselves out. In doing so, they remove combustible undergrowth, and create firebreaks that limit the spread of future fires. In 1972, the National Park Service determined a new policy: it would put out man-made fires, but allow natural ones to burn.

Sixteen years later, the largest fire known swept through Yellowstone National Park. In extremely dry conditions, several fires – some sparked by lightning, some by arsonists – joined together. The blaze was fought by 25,000 firefighters at a cost of \$120 million; more than a third of the park's vegetation was destroyed.

Today's guidelines allow forest rangers to use their judgment in deciding which fires should be tackled and which left to burn. Experience has shown that too much effort devoted to fire extinction is counterproductive. Time demonstrates, but only slowly, whether policy has gone too far in one direction, or the other. Forest management illustrates obliquity: the preservation of the forest is not best pursued directly, but managed through a holistic approach that considers and balances multiple objectives.

Forests are not the only systems structured in this way. Obliquity is equally relevant to our businesses and our bodies, to the management of our lives and our national economies. We do not maximise shareholder value or the length of our lives, our happiness or the gross national product, for the simple but fundamental reason that we do not know how to and never will. No one will ever be buried with the epitaph "He maximised shareholder value". Not just because it is a less than inspiring objective, but because even with hindsight there is no way of recognising whether the objective has been achieved.

For most of the 20th century, ICI was Britain's largest and most successful manufacturing company. In 1987, ICI described its business purpose thus: "ICI aims to be the world's leading chemical company, serving customers internationally through the innovative and responsible application of chemistry and related science.

"Through achievement of our aim, we will enhance the wealth and well-being of our shareholders, our employees, our customers and the communities which we serve and in which we operate."

ICI's corporate portfolio had evolved over the decades – the company's traditional strengths had been dyes and explosives, but its chemical expertise had taken it into other industrial feedstocks and agricultural fertilisers. After the second world war, the management of ICI concluded that in future "the responsible application of chemistry" was most likely to be found in pharmaceuticals. ICI recruited a team of able, young, academic scientists but the team was slow to bring returns.

The pharmaceutical division was a drain of ICI resources until, in the 1960s, the discovery of beta-blockers gave the company the first effective drug for controlling hypertension. More discoveries followed and, by the 1980s, pharmaceuticals had become the growth engine of the company.

In 1991, Hanson, the predatory UK conglomerate that had successfully acquired and reorganised sluggish British manufacturing businesses such as Ever Ready and Imperial Tobacco, bought a modest stake in ICI. While the threat to the company's independence did not last long, the effects were galvanising. ICI restructured its operations and floated the pharmaceutical division as a separate business, Zeneca. The rump business of ICI declared a new mission statement: "Our objective is to maximise value for our shareholders by focusing on businesses where we have market leadership, a technological edge and a world competitive cost base."

While the National Parks Service had moved from a narrow, focused objective to a broader holistic view of forest management. ICI made the opposite shift – from a grand vision of the responsible application of chemistry to a narrow concentration on established, successful activities. The aim of bringing benefit to a wide range of stakeholders was replaced by the specific objective of creating shareholder value from narrowly focused operations. The company translated this into an operational strategy by disposing of the company's interests in bulk chemicals to acquire a niche group of speciality businesses: ICI, once the main supplier of chemical products to one third of the world, was reinvented as a smells company.

The outcome was not successful in any terms, including those of creating shareholder value. The share price peaked in 1998, soon after the new strategy was announced. The decline since then has been relentless. After two successive dividend cuts the company was ejected in early 2003 from the FTSE 100 index, the transition from industrial giant to mid-cap corporation had taken only 12 years.

ICI is not the only company for whom greater emphasis on corporate financial goals led to less success in achieving them. I once said that Boeing's grip on the world civil aviation market made it the most powerful market leader in world business. Bill Allen was chief executive from 1945 to 1968, as the

company created its dominant position. He said that his spirit and that of his colleagues was to eat, breathe, and sleep the world of aeronautics. "The greatest pleasure life has to offer is the satisfaction that flows from participating in a difficult and constructive undertaking," he explained.

Boeing's 737, with almost 4,000 planes in the air, is the most successful commercial airliner in history. But the company's largest and riskiest project was the development of the 747 jumbo jet. When a non-executive director asked about the expected return on investment, he was brushed off: there had been some studies, he was told, but the manager concerned couldn't remember the results.

It took only 10 years for Boeing to prove me wrong in asserting that its market position in civil aviation was impregnable. The decisive shift in corporate culture followed the acquisition of its principal US rival, McDonnell Douglas, in 1997. The transformation was exemplified by the CEO, Phil Condit. The company's previous preoccupation with meeting "technological challenges of supreme magnitude" would, he told Business Week, now have to change. "We are going into a value-based environment where unit cost, return on investment and shareholder return are the measures by which you'll be judged. That's a big shift."

The company's senior executives agreed to move from Seattle, where the main production facilities were located, to Chicago. More importantly, the more focused business reviewed risky investments in new civil projects with much greater scepticism. The strategic decision was to redirect resources towards projects for the US military that involved low financial risk. Chicago had the advantage of being nearer to Washington, where government funds were dispensed.

So Boeing's civil orderbook today lags that of Airbus, the European consortium whose aims were not initially commercial but which has, almost by chance, become a profitable business. And the strategy of getting close to the Pentagon proved counter-productive: the company got too close to the Pentagon, and faced allegations of corruption. And what was the market's verdict on the company's performance in terms of unit cost, return on investment and shareholder return? Boeing stock, \$48 when Condit took over, rose to \$70 as he affirmed the commitment to shareholder value; by the time of his enforced resignation in December 2003 it had fallen to \$38.

In Yellowstone National Park, at ICI and at Boeing, the attempt to focus on simple, well defined objectives proved less successful than management with a broader, more comprehensive conception of objectives.

The 20th century saw the rise and fall of modernist rationalism in many activities. Nowhere was the change more visible, or the results more disastrous, than in architecture and town planning. In the modernist vision, technology emancipated builders from tradition and accumulated knowledge. Twentieth-century planners could redesign our environment from first principles.

Charles Jencks, the architectural commentator, announced that modernism ended at 3.32pm on July 15 1972, when demolition contractors detonated the fuses to blow up the Pruitt-Igoe housing project in St Louis, Missouri. Less than two decades earlier, the scheme had won awards for its pioneering, visionary architecture. Tower blocks were the supreme expression of Le Corbusier's view that "a house is a machine for living in". Corbusier himself designed the first such buildings, the Unite d'Habitation on the edge of Marseille.

But a house is not simply a machine for living in. There is a difference between a house and a home. The functions of a home are complex and the utility of a building depends not only on its design but on the reactions of those who live in it. The occupants of the Pruitt-Igoe scheme, like those of similar buildings, were alienated by the isolation of a living environment that saw no need for accidental, unplanned social interactions. They showed no respect for its public spaces. The functionality of the blocks proved, in the end, not to be functional.

Communities are complex organisms, imperfectly understood, and their functioning depends on their social relations. Great architects implicitly understand obliquity, but obliquity is so important to the design of towns that the most successful towns have no designer at all. The planned city was conceived in the

late 19th century. Baron Hausmann swept away the jumble of Paris streets that had developed over the centuries to create grand boulevards. From the 1920s to 1968, the powerful, autocratic Robert Moses controlled the physical environment of New York, driving expressways through apartments, offices and factories.

The zenith of these ideas was reached in planned cities such as the designed capitals of Brasilia, Canberra and Chandigarh. But all these cities are dull. They lack the vitality of real communities. As with tower blocks, their very functionality is dysfunctional.

The National Park officials who thought they could eliminate fire; the managers who thought they could reinvent ICI and Boeing; the architects who believed they could discard thousands of years of experience and redesign buildings on purely functional lines; the planners who attempted to rationalise the patchwork evolution of historic cities: all made the same mistake of underestimating the complexity of the system with which they dealt and the value of the traditional knowledge they inherited. And the answer to their problem is not better analysis and more sophisticated modelling, but more humility.

Such humility is not commonly found in the business world. Re-engineering the Corporation by Michael Hammer and James Champy became a New York Times bestseller in 1993. Hammer and Champy are as radical in aspiration as Le Corbusier: "Re-engineering means asking the question 'If I were re-creating this company today, given what I know and given current technology, what would it look like?' Re-engineering a company means tossing aside old systems and starting over. It involves going back to the beginning and inventing a better way of doing work."

Obliquity gives rise to the profit-seeking paradox: the most profitable companies are not the most profit-oriented. ICI and Boeing illustrate how a greater focus on shareholder returns was self-defeating in its own narrow terms. Comparisons of the same companies over time are mirrored in contrasts between different companies in the same industries. In their 2002 book, *Built to Last: Successful Habits of Visionary Companies*, Jim Collins and Jerry Porras compared outstanding companies with adequate but less remarkable companies with similar operations.

Merck and Pfizer was one such comparison. Collins and Porras compared the philosophy of George Merck ("We try never to forget that medicine is for the people. It is not for the profits. The profits follow, and if we have remembered that, they have never failed to appear. The better we have remembered it, the larger they have been") with that of John McKeen of Pfizer ("So far as humanly possible, we aim to get profit out of everything we do.")

Collins and Porras also paired Hewlett Packard with Texas Instruments, Procter & Gamble with Colgate, Marriott with Howard Johnson, and found the same result in each case: the company that put more emphasis on profit in its declaration of objectives was the less profitable in its financial statements.

Similarly the richest men are not the most materialistic. Sam Walton, founder and principal shareholder of Wal-Mart, the world's largest retailer, drove himself around in a pick-up truck. "I have concentrated all along on building the finest retailing company that we possibly could. Period. Creating a huge personal fortune was never particularly a goal of mine," Walton said. Still, five of the top 10 places in the Forbes rich list are occupied by members of the Walton family.

Henry Ford was sued by stockholders who resented his determination to expand his automotive business rather than distribute the profits. When they won their case, most of the dividend that the court required the Ford Motor Company to pay went to Henry himself. He used the money to buy back stock and regain freedom of operations. The dissatisfied stockholders would have done better to keep quiet.

Warren Buffett, the most successful investor in history, still lives in the Omaha bungalow he bought almost 50 years ago and continues to take pleasure in a Nebraskan steak washed down with cherry Coke. For Buffett: "It's not that I want money. It's the fun of making money and watching it grow."

The individuals who are most successful at making money are not those who are most interested in making money. This is not surprising. The principal route to great wealth is the creation of a successful business, and building a successful business demands exceptional talents and hard work. There is no reason to think these characteristics are associated with greed and materialism: rather the opposite. People who are obsessively interested in money are drawn to get-rich-quick schemes rather than to business opportunities, and when these schemes come off, as occasionally they do, they retire to their villas in the sun.

And so, the greatest happiness is rarely achieved by those who set out to be happy. The development of psychology and neurophysiology gives us more insight into the real determinants of happiness. Author and psychologist Mihaly Csikszentmihalyi explores the nature of happiness by listening to what people say about their activities through what he calls experience sampling. He pages people frequently to write down structured reports of exactly how they feel about what they are doing at that moment.

Although we crave time for passive leisure, people engaged in watching television reported low levels of contentment. Csikszentmihalyi's systematic finding is that the activities that yield the highest for satisfaction with life require the successful performance of challenging tasks. These moments are encountered as frequently in work as outside it, and they constitute the state of mind which Csikszentmihalyi describes as flow. "Flow tends to occur when a person's skills are fully involved in overcoming a challenge that is just about manageable."

Csikszentmihalyi's formulation exactly parallels that of Boeing's Bill Allen – "the greatest pleasure that life has to offer is the satisfaction that flows from participating in a difficult and challenging undertaking." Flow is as characteristic of the successful business as of the contented individual.

Yet there are fundamental differences. While the quest for happiness is complementary – by achieving it we make it easier, not harder, for others to achieve the same goal – the development of business is competitive. Tolstoy claimed in *Anna Karenina* that "All happy families resemble one another, but each unhappy family is unhappy in its own way."

However, the opposite is true in commercial life. Unhappy businesses resemble one another: each successful company is successful in its own way. Business achievement depends on doing things that others cannot do – and still find difficult to do even after others have seen the benefits they bring to the imitators. So the most profitable companies are those that are successful with major challenges – like Boeing's creation of the jumbo jet or ICI's development of a pharmaceutical division. For Csikszentmihalyi, flow is the accomplishment of a difficult task, involving the successful match of capabilities to environment. In the less elegant language of business gurus, Collins and Porras describe the same phenomenon in business as the achievement of "big hairy audacious goals".

Companies that succeed in such challenges are disproportionately represented in the case studies of business schools. We don't hear much about business innovators who adopted big hairy audacious goals and failed, although failure, not success is the norm. For every Bill Gates, Sam Walton and Warren Buffett, there are a hundred people with similar ambitions, and not necessarily much less talent, whose pictures will never be seen on the front cover of *Fortune* magazine.

Success through obliquity is a product of natural selection in an uncertain, but competitive, environment. It is almost certainly true that, on average, profit-oriented companies are more profitable than less profit-oriented companies. It is very likely that on average people who are interested in money are richer than people who are not. But at the same time that the most profitable companies are not the most profit-oriented, the richest people are not those most interested in money. Outstanding success is the product of obliquity.

This oblique relationship between intention and outcome is the subtle, but frequently misunderstood, message contained in Richard Dawkins' metaphor of the selfish gene. The gene is not actually selfish: the gene has no motive at all, in the sense in which we normally talk about motive. Genes that survive the processes of selection are those well adapted to their environment, and such adaptation was not the

product of any conscious design. And this is also true of the forests we travel thousands of miles to see, the great capital cities of history, the traditions of classical architecture, and the development of great businesses. All of them are the product of evolution in a universe too complex and unpredictable for any of us fully to understand. All of them survive and prosper because they are well adapted to their environment.

The University of Sheffield Sports Engineering Research Group, after analysing David Beckham's performance on the football field, announced in 2002 that they had discovered a physics genius. The scientists had identified the complex differential equations that need to be solved to bend it like Beckham. No doubt their computers are already crunching numbers to tell Jonny Wilkinson how to drop a goal.

But little research is needed to confirm that Beckham is not a physics genius. Solving equations of motion is a means of understanding what happens, but is not a means of making it happen. Similarly, the financial returns of a business record what it achieves but are not the means by which it is achieved. Successful companies do maximise long-term shareholder value, or at least create large quantities of it. But that does not imply they were any more capable of formally calculating the results of their activities than Beckham can. Still less can we infer that such calculations were the basis of their achievement.

Would Boeing really have benefited from careful analyses in the mid-1960s of the prospective return on investment from development of the 747? An analyst would have had to anticipate the oil shock, the globalisation of world markets and the development of the aviation industry through to the end of the century. Anyone who has built models of these kinds, or scrutinised them carefully, knows that the range of possible assumptions is always wide enough to allow the analyst to come up with whatever answer the person commissioning the assessment wants to hear.

ICI might have made calculations in the 1950s that estimated the market capitalisation Zeneca would have achieved in the year 2000. Their strategists could then have put that number into a discounted cash flow calculation to estimate a return on the company's early investment in its pharmaceutical business. But no one would or should have taken such a calculation seriously.

The distinction between intent and outcome is central to obliquity. Wealth, family relationships, employment all contribute to happiness but these activities are not best conducted with happiness as their goal. The pursuit of happiness is a strange phrase in the US constitution because happiness is not best achieved when pursued. A satisfying life depends above all on building good personal relationships with other people – but we entirely miss the point if we seek to develop these relationships with our personal happiness as a primary goal.

Humans have well developed capacities to detect purely instrumental behaviour. The actions of the man who buys us a drink in the hope that we will buy his mutual funds are formally the same as those of the friend who buys us a drink because he likes our company, but it is usually not too difficult to spot the difference. And the difference matters to us. "Honesty is the best policy, but he who is governed by that maxim is not an honest man," wrote Archbishop Whately three centuries ago. If we deal with someone for whom honesty is the best policy, we can never be sure that this is not the occasion on which he will conclude that honesty is no longer the best policy. Such experiences have been frequent in financial markets in the last decade. We do better to rely on people who are honest by character rather than honest by choice.

In a similar way, the statement "we look after employees because we care" is not the same as the statement "we have introduced new compensation arrangements because, having calculated the relative costs of benefits enhancements and staff turnover, and commissioned a consultant's report on the policies of competitors, we believe it will produce a net enhancement of earnings per share". Even if the pensions and healthcare benefits are the same, the response from those affected is different. That is why companies that put the second statement in their board papers and investor presentations typically put the first statement in their press releases and communications to employees. But people who work in a business generally know its nature well enough to see the instrumentality at work.

Marks and Spencer was famous for decades for the breadth of its staff welfare programme. In particular, the company pioneered the provision of high-quality meals at nominal prices. The policy did not originate in any nice calculation of costs and benefits. It was adopted when a shop assistant fainted as Simon Marks was making one of his legendary store visits. Marks discovered that her husband was unemployed and the family did not have enough to eat. Marks was not engaged in philanthropy – he did not offer to feed his employee's family. Nor was his purpose the creation of shareholder value. Marks was making a sincerely felt statement about the kind of business he wanted his company to be. Such statements about the nature of the business defined the iconic company Marks and Spencer became. As at ICI and Boeing, Marks and Spencer was to sacrifice that status in the rationalist 1990s in the ultimately unsuccessful pursuit of growth in earnings per share.

You don't prolong life much by adopting long life as your goal. Nor do you learn much about the sources of longevity by asking very old people how they did it. Medical interventions don't have a large overall impact on life expectancy – medicine is to health what fire control is to forest management. The most important influences on life expectancy are environment and general health. We extend our lives most effectively, not through hypochondria, but by caring for our bodies and ourselves in a comprehensive, holistic manner.

Happiness is achieved in the same way. As John Stuart Mill said: "Those only are happy who have their minds fixed on some object other than their own happiness... aiming thus at something else, they find happiness by the way."

The great cities of the world lift our spirits, not because some great designer set out to achieve that effect, but because of their lack of planning, their diversity and vitality, their unexpected encounters and conjunctions. And they evolve, not through conservative preservation or planned change, but by a process in which undistinguished buildings are torn down and only the best examples of each era are preserved.

Forest management is unexpectedly complex. The regimented plantation proved as unsuccessful as the planned city, and ecologists today are tearing such plantations down. Monocultural forests are not only dull to look at, but vulnerable to disease and fire. Managed woodlands are economically and environmentally superior. But no one knows the best way to manage a forest, or even what "best" means in this context. Our objective in a complex system is not to find the optimum, because no one can know before or after whether such an optimum has been achieved. We can and should be satisfied with an outcome that is good enough.

What is true of forests is equally true of businesses. The great corporations of the modern world were not built by people whose overriding interest was wealth, profit, or shareholder value. To paraphrase Mill: their focus was on business followed not as a means, but as itself an ideal end. Aiming thus at something else, they found profit by the way.

This is how Hewlett Packard described it: "Profit is a cornerstone of what we do... but it has never been the point in and of itself. The point, in fact, is to win, and winning is judged in the eyes of the customer and by doing something you can be proud of."

Obliquity is relevant whenever complex systems evolve in an uncertain environment, and whenever the effect of our actions depends on the ways in which others respond to them. There is a role for carrots and sticks, but to rely on carrots and sticks alone is effective only when we employ donkeys and when goals are simple. Directness is appropriate. When the environment is stable, objectives are one dimensional and transparent, and it is possible to determine when and whether goals have been achieved. Obliquity is inevitable when the environment is complex and changing, purposes are multiple and conflicting, and when we cannot tell, even with hindsight, whether they have been fulfilled.

Balboa made the first transit of the American continent. The last great crossing was the completion of the Canadian Pacific Railroad, which runs almost 3,000 miles from Toronto to Vancouver. The most impenetrable stretch of the Rockies was the Selkirk Mountains. The builders of the railroad, faced with a

costly detour, offered \$5,000 and naming rights to anyone who discovered a pass. These incentives worked. On the Trans-Canada Highway today you cross the Selkirks through the pass named for the ambitious and intrepid Major A.B. Rogers. But even here, obliquity kicks in. The Rogers Pass is more or less parallel to the Panama Canal, and your westward journey across Canada is best accomplished by veering south-east to traverse it. But sometimes directness is the best solution. In the 1910s, after struggling to keep the Rogers Pass open in an area that often gets 100 metres of snow per year, Canadian Pacific bored a tunnel that runs straight as an arrow through Mount Macdonald.