

## An Idea for Our Times: the Legacy of Stafford Beer

by Prof. Peter Kawalek \*

### Introduction

In September 1666 the great conflagration destroyed two-thirds of the City of London. The thirty-three year old Christopher Wren was at that time already working on designs for St Paul's Cathedral. Having recently returned from France, the fire motivated Wren to propose a whole-scale reconstruction of London to make it a city of boulevards and avenues as great as its *trans-manche* neighbour. The plans were never accepted. Perhaps uniquely amongst major capital cities, London suffered a great conflagration only to be rebuilt on the same street pattern as before.

Born in London in September 1926, Anthony Stafford Beer grew up in a Britain between the General Strike and World War II. Before his 19th birthday, Beer was with the British Army in India, preparing for an invasion of Japan when the atomic bombs were dropped on Hiroshima and Nagasaki. Later he served as Staff Captain, Intelligence, and then back in London as an Army Psychologist doing operational research – a field that had not even existed before the war.

Stafford Beer died on August 23rd 2002. By this time he had lived a life worthy of a great biographer. One day it will happen, the biography will be written. For Stafford lived an extraordinary life, from wartime in India, to pioneering work in Operations Research, some wealth and riches, service of President Allende in Chile, a renunciation of materialism, two marriages, eight children, and the publication of some of the greatest works of management science. Beer is one of Britain's most eminent thinkers. All that remains is for him to be more generally recognised as such. Like the biography, this too will happen. Stafford Beer will yet be given the recognition that he deserves.

His ideas do have a worldwide audience – it should not be implied that he is unappreciated. His books have been translated into many languages, he has received honorary degrees and worked as a Visiting Professor in many institutions. His ideas feature in many curricula, a select few management consultants and political advisers live by him, and he even has celebrity appreciators (Brian Eno, David Bowie). Yet, surely, more recognition will come to Stafford Beer for his ideas are ideas for our times. They tell us much of our current fate and predicament, and much of how we might address the difficulties we are in.

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\* Peter Kawalek is Professor of Information Systems and Strategy at Manchester Business School. He is also a Visiting Professor at Instituto de Empresa in Madrid and Letterkenny Institute of Technology in County Donegal. He is an external examiner at Trinity College, Dublin. Peter's PhD is in Computer Science. He has experience to board level in media and rail industries, and works extensively with government, including Office an Taoiseach, Department of Communities and Local Government, the NHS and local government. Contact details : [pkawalek@dom01.mbs.ac.uk](mailto:pkawalek@dom01.mbs.ac.uk) | 0778 753 1507

## Cybernetics

Stafford Beer's work is normally labelled as cybernetics, the study of regulatory systems, or in Beer's term 'the science of effective organization.' The roots of cybernetics are perhaps most associated with two Americans. Norbert Wiener was of Polish and German Jewish origin, and studied Zoology at Harvard and Philosophy at Cornell. Warren Sturgis McCulloch was a neurophysiologist who studied Psychology at Yale and Columbia. Crucially, McCulloch also worked at The Research Lab of Electronics at the Massachusetts Institute of Technology. The influence of these Americans, and especially McCulloch, was profound but it was a British psychiatrist who most inspired Beer. William Ross Ashby's two books, 'Design for a Brain' and 'An Introduction to Cybernetics' would set the template for Beer's own work. Indeed, Beer labelled Ashby's 'Law of Requisite Variety' as an insight of Newtonian perspicacity. This law states that only variety absorbs variety. The label 'variety' means the number of potential states of a system under study. So, in short, the regulator needs to be able to match the number of states of that which it seeks to control. Extending this, the Conant-Ashby theorem states that every regulator needs a model of that which it regulates.

To bring this into the light of our modern predicament, we see now why a Western banking collapse was inevitable. The financial services industry was able to invent products and push markets into new states far more quickly than any regulatory system was able to map and model what was going on. Writing well before his death, Beer predicted that we would face just such a collapse. Through Ross Ashby's work we also gain insight into the struggles and failures of social services in Haringey. In the notorious case of 'Baby P', we see that the family unit easily swamps the variety of the visiting social worker and that the whole regulatory system comes to depend on a model that supposes the mother will protect the baby from the boyfriend. These are, as the title says, ideas for our times.

## The Viable System Model and Syntegration

The greater body of Stafford Beer's own work is embodied in two, elaborate ideas, the Viable System Model, or VSM, and Team Syntegrity. The former is the more famous. It sets out the rules and structures by which a system can continue to exist in some environment. So, if the system under study is an organization of some sort, the VSM can be used to diagnose its fitness and ability to prosper in its milieu. Essentially this is done through a recursive structure of five sub-systems, each needing to have sufficient autonomy to prosper and contribute to the overall viability of the system. Team Syntegrity, meanwhile, is concerned with knowledge-sharing and decision-making outside of hierarchical control. It builds an icosahedron of 20 sides and 30 edges, each of which represents a person. If this seems an entirely alien way of depicting organizational communication, then you might reflect that it is probably less arbitrary and certainly more sophisticated than the organizational chart that you live under. Most of us manage our organizational lives in the variety flows of some conventional dog-leg chart, occasionally augmenting it with an away-

day or sub-team group meeting. This behaviour is only normal to us because you have not questioned it yet.

Although the language and structures of Beer's ideas are unfamiliar, the patient student is rewarded by insight into the predictable and familiar ills of organizational life. The potential for 'cancerous' activity of over-controlling management, the misconception of strategy and policy, and the failure to understand the mutual interdependence of the organization and its customers; all are set out with precision by Beer. Moreover, as we recognise such ills and relate them to our own experience, we begin to appreciate that this is indeed management *science*, that we are building models upon testable law. Only variety absorbs variety.

For students to see the science in management is one of the highlights of teaching VSM. It is a rewarding experience. Moreover, despite impressions given above, VSM is not especially difficult to teach. The author recalls a good moment when working as a lecturer at Warwick Business School. Some colleagues were complaining of the time it took to teach VSM and that it could not be squashed into a three-day module without sacrificing other content. Fearing the loss of the VSM from the course, the author volunteered to teach it.

"How long do you need?" I was asked. "About half an hour," was my reply. Thinking now, I do not know why my colleagues agreed. Perhaps they cared to see me fail. They certainly looked incredulous. Whatever it was, a few days later I faced a class of about twenty senior managers. "Imagine a baby, newly born, just after the umbilical cord has been cut" I said. "Imagine that this baby is on its own, without anyone, in some environment somewhere."

"Is the baby viable?" I asked. "No," came the interested reply. "Then what do we need to make it viable?" I asked. Quite soon, the students had put mother back in the picture and had her providing some sustenance and shelter. Dad came along too and there was some laughter as we debated the ways in which he might too be dependent on the mother (at least according to the wives there present), but also contributing guardianship to the baby. The half an hour ended there but the next day the students volunteered to return to VSM. They started putting in grandparents to the scenario, debating whether they should be active or passive policy-makers. Friends and relatives joined the picture on the look-out for new threats and opportunities for the baby. The community grew. Soon again, as the baby himself grew, he demanded more autonomy from those around him. All roles adjusted as a result. The organization adapted. Those who know VSM will see that I am describing a meta-system to the baby, Systems 3, 4 and 5 of the model.

### **Meeting Stafford**

I wrote a letter to Stafford Beer. I think it was 1996 or 1997. Somehow I found his address in Canada and despatched a short appreciation and enquiry. Presently a fax came back. Its first lines ticked me off for relying on the postal system rather than

fax, and for thereby introducing “systemic lags” into our conversation. Thereafter a short exchange of faxes took place. We discussed a number of things. He commented warmly on his time as a Visiting Professor in Manchester Business School. He also told me about the time David Bowie put his “Brain of the Firm” at number two in a list of his top ten books in a Daily Mirror chart. It was worth more in sales than any number of academic reviews, recounted Stafford’s fax.

Later came the chance to meet. This was at King Alfred’s College in Winchester where Stafford had a visiting role. I noticed first the veneration in which Stafford was held by students and staff. I am not being unkind when I say that it bordered on being a fan-club. I was in that club too. I am also not being unkind when I say that Stafford himself was an imposing figure; a great, white, Merlinesque beard and a gnarled walking-stick. He was in that great tradition of professors who would not need the attentions of a make-up department before proceeding to the set of Lord of the Rings. He already looked the wizard.

Another observation struck me: his students had gone to great lengths with their work. They presented assignments using the stylistic tricks of Stafford’s books; coloured pages, ‘Later in the Bar’ sketches, those characteristically elaborate VSM diagrams. If my memory does not deceive, at least one student had hand-built an icosahedron. To meet Stafford amongst his students was to encounter the professor as inspirer. As inspiration. For his students, the artistic representation of the work was as great a concern as the science beneath it. For the holistic teacher Beer, this would undoubtedly have been of satisfaction. Today, increasingly, I come across concerns that our 20th Century (sic) pedagogy detaches creative design from the material facts of knowledge; that academe now prizes only the latter. It seems that Stafford Beer never fell into this trap.

Later, I spoke with Stafford himself. It was at lunch in the sunny garden of a pub. We were accompanied by one of his PhD students from Swansea. She was a teacher studying the ill-effects of the modern curriculum’s subject areas on the ability of young children to think systemically. Again, today, I hear echoes of this concern in new debate on creativity and children. It was so typical of Stafford to be a full yard ahead of the pack. I wonder sometimes when the debate will reach the shores of Universities, with our ever more sophisticated and nuanced proliferation of academic study areas. Are we building silos of the mind? About a year later I saw Stafford again. It was again at King Alfred’s College. This time I was accompanied by Professor Richard Vidgen of Bath Management School. As we arrived, Stafford turned to me, shook my hand warmly, and said, “Oh hello, Peter.” “So, you are on first name terms with the guru,” said Richard. But that was that. My own career intervened and with the arrival of my first child in 2000, my life became busier. I did not meet Stafford again. It is a matter of some regret that I did not at least send him an annual postcard those last three or four years of his life. I would have liked to have known him more but back then, perhaps, I did not feel ready to be in the circle of the wizard.

## A World in Torment

Alongside his key works on VSM and Team Syntegrity, Stafford Beer has made notable contributions through radio broadcast, set-piece speeches and special papers. A particular treasure is 'Designing Freedom', the book of his Massey lectures on Canadian Radio. The title is a typically brilliant piece of insight: that freedom does not just happen, that it is not simply the removal of chains, but that it depends upon the optimal regulation of the system. Witness the long journey of Black America. With the chains long since gone, is the system yet designed to be fair? Lately, I have been re-reading Beer's December 1992 paper, 'World in Torment'. Arriving after the fall of the Berlin Wall, its title and message are at odds with the optimistic spirit of the times. It can be contrasted, for example, with Francis Fukuyama's imperially optimistic, though still not stupid book 'The End of History and the Last Man' from the same year. Unlike Fukuyama, Beer saw little reason to believe that the West had stumbled upon a flexible and lasting social model. Instead, the message of World In Torment is that the collapse of the Soviet Union only foreshadows a western collapse arising from the same causes. Beer writes:

*"The collapse of Soviet Communism was formal, and it was heralded by the West in a spirit of vainglorious triumphalism. They were wrong; ergo we are right. But to say this one must blind oneself to the facts. As in the East, dysfunctional over-centrality has underwritten disaster: diagnosis uncovers the same cybernetic illness, only in the West the symptoms are different. And as often happens with mortal disease, people refuse to look at those disquieting symptoms."*

'World in Torment' is not my favourite of Beer's writings, that title would be 'Heart of Enterprise.' Nonetheless, history has forced me to return to it and to try in my way to absorb its messages. I am not convinced by all parts of the canvas that Beer paints, but am wise enough to say this only tentatively. I do recognize that throughout it is typically prescient. Here, Beer is talking of the 1980s of Margaret Thatcher, but the cadence with the coming era of Tony Blair is inevitably uncanny:

*"The promotion of greed was backed by the facilitation of credit, and it was this massive increase in indebtedness that promoted the fake boom."*

But the message we can most easily take from World in Torment is the cybernetic error of over-centralisation. East or west, nation-state, locality, estate or family group, we need to respect the autonomy of the next level. Without autonomy, humanity itself is lost. Remember that the baby himself grows and demands more. This is intrinsic to the development of human creativity. Of identity.

Over-centralisation becomes an identifiable error that we can begin to seize upon and correct as we seek to recuperate from the failure of past years and, indeed, decades. It is not a simple enemy, the baby may claim more autonomy than he can handle, but it is an appreciable, common and erroneous tendency that the globalised world has brought with it. What most bridles Beer is the very un-Britishness of it.

*“The educational authorities and the health authorities that hold decentralised federal power in counties, municipalities and even villages, were an intrinsic part of the British way of life. They had Requisite Variety in local knowledge and insight; and their existence encouraged care and concern and voluntary action. They were virtually abolished, because they were divested of power; policy-making and planning were centralised in London. A national curriculum has been introduced, and school inspection privatised. Small hospitals have been closed as inefficient and London determines most aspects of health care delivery, including dentistry. This wholesale bureaucratisation conflicts with the ideology of individual enterprise. The ingenious if disingenuous way round this has been to urge medical practices and schools to opt out of the social framework that has characterised Britain, and commit themselves (still under central direction) to the profit-oriented definition of ‘care’.”*

Come to think of it, none of Britain’s glories was commissioned by Whitehall. Not Shakespeare, not the Highland Games, not the industrial revolution, not Manchester, not the Beatles, not the Eisteddfod, not Oxford, not Cambridge, not cricket, not football, not Formula 1, not Parliament, not the Trades Unions, not the canal system, not the computer, not Tim Berners-Lee, not regional accents, not Cockney rhyming slang and not the English language itself. All of them, every single one of them, germinated and flowered amongst a small group and then a wider community.

For this is where the Great Fire of 1666 comes back to mind. The idea of great boulevards in his name must surely have appealed to King Charles II. But that was not the way that London was run. There were the little people to consider; the local landholders and tenants. They had lost possessions and property but they still had agreements and contracts, every one of which was a potential fist- fight in court. And it was a respect for that variety that gave *London after-the-fire* its distinctiveness and energy. Its street-pattern survived but so too did its enthusiasms. Even today the great city is often referred to as a collection of villages. London’s own history tells us that if Britain had a golden age, it was an age before over-centralisation of decision and control.

Recently we have had a conflagration of a different sort. This took flame not in a baker’s oven, but in economic systems that were over centralised, beyond regulation, and stoked by value systems that were artificially attenuated. Beer’s insights seem to present us with a plausible course out of the predicament that we now inhabit. This course is to rediscover, reaffirm and enhance the traits of locality and autonomy that once gave us national cohesion. His is an idea for our times.

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