Seminar Notes On 'Intra Organisational Network Development ~ The Humberside TEC Experience'.

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Abstract: Treating people as autonomous responsible agents and dispensing with rules and procedures traditionally seen as necessary in an organisation may seem radical, but Peter Fryer takes us through the changes that were made during his time as CEO of the Training and Enterprise Council and tells us how he used the principles of complexity theory to build an efficient and adaptable organisation.

Presenter: Peter Fryer

I want to tell you about my journey in complexity with the Training Enterprise Council (TEC) and the practicalities of running organisations using some of the principles.

By way of an introduction I want to give you some background about the TEC which was set up by the previous government in the UK by privatising the part of the Civil Service which dealt with training and business support. This comprised some seventy private companies. We covered the Humberside region and employed at the end about two hundred staff and had an annual turnover of about £35m(50m euros).

The journey was somewhat chaotic with some blind alleys but also some wonderful surprises. We didn't sit down and say, 'Here's complexity theory, what do we have to do to run the organisation on these principles?' Because the reality was that in a way complexity found us. I attended a conference in London run by the Santa Fe Institute and met Eve and we became associated with the London School of Economics and some of the things we found out about complexity explained to us why some of the things we had been doing were working. So really we started with the practice and then found that the theory explained it.

And the other point I want to make about complexity is that it's not like business process re-engineering or 'total quality' management or any of those management fads that came along a while ago. Our organisation was a complex evolving system whether we wanted it to be or not. So it seemed like good sense to say: 'Lets look at it as one and see what questions that raises and what answers it gives us and what opportunities might arise that we can exploit?' And we unashamedly pursued this path because we wanted to be a more effective commercial organisation so that we could spend the money on the community and the things that we existed for.

The model that we used was the one originally produced by Chris Langton of the Santa Fe Institute. It's a very simple model which assumes there are a number of agents which are connected. We cannot predict or dictate what is going to happen between those agents but from those connections regularities and patterns form which then feed back into the system. And that simple model enabled us to ask a whole host of new questions. What were the boundaries of our system? Who were the agents and how were they connected? What were the patterns forming? What were the mechanisms of feedback that we had. Those questions by themselves brought about change because we would never have dreamed of asking them before.

Another insight we had later was that the known universe or the one that we were interacting with was made up of three things:

- 1. Objects such as computer, the mouse, my pen and other hardware tools.
- 2. Closed systems like the electricity supply and health and safety checks.

3. Open systems like the organisation itself, the way people related to each other and the networks, the creativity activities we were carrying out, the conversations we were having with each other.

And what we also then realised was that in most organisations people insisted in treating open systems as if they were closed systems. They wanted to treat the creativity activities in the same way as the treated the health and safety policies. And one of our tasks was to recognise which of our systems were closed and should be closed and which were open and treated as open. That again made a huge difference. Unfortunately a lot of the people we interacted with, especially in the government, never really understood the concept of open systems and all the time tried to make us treat them as closed. That's what a lot of organisations do and that's what leads them into trouble.

However I do want to concentrate on the networking aspect of the journey and I will shortly talk about the networks which arose within the system. When we talk of networks we tend to talk of them as if we can pick out a network cleanly, but all our different kinds of networks are also interspersed with other networks and they all affect each other. The TEC itself was a network of networks and part of a community which was another network, part of all the training and support providers, part of the national learning infrastructure network and the national TECs network and so on. So anything I say is a simplification. In talking about the networks within the TEC I want to run through what I see as five critical aspects of networking. They are: autonomy, connectivity, feedback, community and leadership and I want to spend a little time talking about each of these aspects.

First autonomy. Most of us these days tend to think of our organisation as the people in it. But if they were just sitting there you wouldn't have an organisation. You only have an organisation when those people talk to each other and one of the insights I had was prompted by Ralph Stacey who made the observation that organisations are 'conversations through which people pass'. We tend to think of organisations as the bricks and mortar and the people but it's actually the conversational connections through which we pass. There are organisations which we used to work for and have subsequently passed through.

If we're thinking of people as agents each has to be free to decide what they feel is best. The first stage of the journey was to start treating people like adults. People at work often have a bunch of rules and regulations that force them to ask for permission for a whole host of things that in their private lives they wouldn't do. So we started by taking out a lot of the rules that treated people like children and then we also realised that when you treat people as adults there should be no real punishments or sanctions, apart from saying that someone couldn't work for us anymore. So we could say: 'If you don't behave like a responsible adult then you can't work for us', but there were no intermediate steps.

We also worked from the principle that people know what to do. If you go and ask people who have been in the organisation for more than six months questions like: 'Do you know what to do? Do you know what's important? Do you know what your objectives should be? Do you know if you're achieving them or how to achieve them?', they'll answer 'Yes'. So why would they need a manager to keep asking them those questions. People in general do know what to do and providing they are trusted to get on with it they usually will. So we said to everybody: 'We know that you know what you should be doing and we trust you to do it'. And that's powerful because if someone says: 'I trust you', it puts a lot of moral responsibility on you. But it's not that easy because when you give people freedom you have to give them support; how to think and make choices, how to learn, how to develop different strategies and other skills. How many of us here can name four strategies for thinking? Not a question we tend to think about because schools teach

us about say, mathematics, physics and languages but they don't teach us about thinking and we found that we had to give people different strategies for thinking and learning.

We loved mistakes because if people weren't making mistakes they weren't trying. When people joined the organisation I used to say to them if you don't make two big mistakes in the first six months it's out. And in complexity terms the reason why this is important is that when you make a mistake you're in a position you didn't expect to be. One of the problems is that our immediate response is to try to return to the position we were in before, saying: 'How can we learn not to make that mistake again'. Rather than staying in the place where we made the mistake and say: 'How does the world look from here?' 'What can I see that I couldn't see before? 'What are the opportunities which have presented themselves? Many of the best things that we did sprang from people making mistakes.

The other thing that we did towards creating autonomy was what we called 'removing stabilisers'. I developed a model of business that said: 'When you set up a business set it up as if it was a child's bike'. When we first learn to ride a bike we have two wheels with two stabilisers on the back. These are funny things that don't actually stabilise the bike because if accomplished riders had stabilisers they would fall off every time they went round a corner. The reason for the stabilisers is we think of our child when they get their first bike and that the bike will be stationary or going very slowly the child and without stabilisers the bike will fall over. We tend to envisage organisations like that too, either in a stationary state or going very slowly and we build in things we think will support them or hold them up. And they all make sense but the more the organisation grows the more such things get in the way. I often ask people to list things in their organisation that sounded like a really good idea when designed in but which now get in the way. Wherever I go I tend to get the same answers. So I'd like to run through some of those things that have come up and how we dispensed with them.

The first stabiliser we got rid of was hours; signing in, signing out, filling in time sheets, working a certain amount of hours and so on. What we said was: 'You'll get paid at the end of each month. You don't have to be here for any particular length of time as long as the job gets done How you work is up to you'. 'If you have a job which involves say, you being on the reception desk or switchboard then clearly you have to come to some arrangement with somebody else if you want to be somewhere else because we need somebody there all the time'. What we actually found was that people worked longer and harder. The only time we had a problem was when the European working time directive said that people weren't allowed to work more than 48 hours a week and that we had to keep records. The solution we had was that we asked people to record their own hours and said: 'Don't tell us unless you're working an average of more than 48 hours a week'. The moment they had to fill in a form, even if it was because of the European time directive it looked like the organisation was trying to control them.

The next stabiliser we thought to get rid of was the rules, procedures, processes and systems because we found that all these things were based on one factor and that was the "worst person". All our rules seem to be based on the thought: 'Who is the most stupid person we've got and is likely to get this job wrong and how can we draw up a procedure even they will get right'. 'Or who is the most crooked person we have who is most likely to want to forge their expenses claims and how can we have a policy that stops them doing that'. And it doesn't matter how good your rules and procedures are it won't stop the most stupid or the most fraudulent person. We might ask why should we want to employ people who are not able to do the job or going to steal money from us in the first place? Why don't we simply get rid of them and have all our rules based on the best person? And so our expenses policy became: 'We will reimburse all expenses incurred in the course of a person doing their duty' and that was it.

And then we had another inspiration, which was that most of our policies went from the specific to the general. Take our policy for grievance for example, this stated very clearly that if there was a grievance between two people, such and such steps would be taken to sort it out. But it wasn't a requirement that the problem should be solved. What it was, was a requirement that everybody should follow the steps and we said: 'That's silly. The requirement should be that the problem is sorted out'. So we changed it to 'that the parties should sit down with whatever support they need in order to resolve the problem to everyone's satisfaction'. What they did was entirely up to them. They could take their jackets off and have a fight in the car park or toss a coin or whatever they liked provided that they could sort the problem out in a way that suited their needs. So now all our policies went from the general to the specific. We said: 'This is what we want to achieve'. One of the policies we inherited was 'the special leave pay policy' when someone died. If a close relative such as a father or a mother or a child died you got five days leave with pay and if another relative, three days off with pay, and if just an acquaintance died, you got one day off with pay. It didn't have anything to do with how upset you were or what you had to do and managers would say to staff: 'Well if it was up to me it would be different'. So we thought OK, let's make it up to them and said people could have as much time as necessary provided it was reasonable and negotiated with all the people affected. It was no good having a person at work who's head was somewhere else.

The hierarchy chart was something else we scrapped. Eve has mentioned charts in connection with Rolls Royce. I remember I was doing a presentation in Torquay and I was talking about complexity models and someone said: 'Yes, but it's only a metaphor' and I said, 'Yes, but so are hierarchy charts'. So we scrapped official hierarchy charts. Of course in reality everybody had one because they drew one for themselves, but they were all different because people drew charts with lines on that made sense and mattered to them.

Job descriptions were another thing. Most people couldn't say where theirs was. Even if they knew where it was they hadn't probably read it for six months and many things were not on it that they now did and vice versa. We got rid of them in the same way that we got rid of targets. I said to people you know what you should be achieving. I want you to do what you think is right and I'm sure they did a lot more than I ever dared suggest to them. We always exceeded the mandated targets that were given to us by the government that I did not share with people because I didn't want them to focus on them.

Budgets were pretty scary stuff, but what we found was that they forced people to concentrate on the wrong things. If we say you have a budget of £500 or 500 euros you will feel obliged to spend it because next year you won't get it if you don't. You focus on the money, whereas what we wanted was for people to focus on the activity. So in our planning we authorised activity but not money. We said: 'You are authorised to do X, Y and Z, tell us how much you think that will cost against how much money it will bring in'. In that way we saved a lot of money.

One of the things we discovered was the 'paradox of the perverse proxy'. When you start to measure things or count things, you actually end up with people doing something you really didn't want them to do. Sounds rather paradoxical but governments are a good example of this. The government sets a tough target for a certain number of exam grades in a school in order to improve the performance. So the school says: 'I've got say, 200 pupils in the school; 50 will get the grade anyway, 100 have no chance and therefore we'll put all our resources into that remaining 50'. But that wasn't what the government wanted at all. They wanted schools to give each child the best education that was possible with those resources. Yet the consequences of setting the target was that behaviour was driven towards achieving the target and not doing the right thing.

The last business 'stabiliser' I will mention is managers. The two most expensive activities in any organisation are 'checking' and 'managing'. Firstly it takes up the time of the person doing the managing or checking, which could be more usefully employed in doing productive work, and secondly it stops people doing their jobs by asking them questions and so on. So we said to each person, 'You are your own manager'. And again we saved a fortune.

On the face of it such stabilisers seem necessary to maintain a productive network, but we found that they didn't and we used to go on what we called 'stabiliser hunts'; looking for things which looked like a good idea but actually got in the way.

The next critical aspect of networking is connectivity. We brought people in to help us improve our dialogue and conversational skills. And this was important because when we started most of our conversations tended to take the form: 'This is what I think and this is what you think and we'll have an argument till one of us wins'. Whereas the form we really wanted was: 'I've had an idea', 'Oh that's an interesting idea can we build on it to arrive at a totally new perspective?' It took a bit of time to instil this new dialogue.

Then we hit on what we called: 'Just in time information'. In the UK we have a quiz program called: 'Who wants to be a millionaire?' one of the things the contestants can do if they get stuck is that they can phone a friend. Most people in an organisation are swamped with some sort of data in their working day. And it's usually data that we ignore because it doesn't relate to our view of the world on that particular day. But the thing is that tomorrow we might need it and when we do we want to say: 'Who do I know that will know that?' And we thought if that's the way we get data how can we build on it? Because in those circumstances two things are necessary. One is that we have to know the person and we have to know what he or she knows. So what we wanted to do was to increase the connections between all the people in the organisation so that these two conditions were enhanced. That wasn't so easy. Ricard mentioned built in redundancy. We used to have quite a lot of built in redundancy in that we used to recruit people who we didn't actually need at the time but because they had skills that we thought we might need. These people did necessary jobs but not using these skills What was important was that their view on life was different from ours and this brought in a rich diversity. We used to set up events where people had the task of meeting and getting to know five different people within the organisation. There was also a time when I couldn't find a room for meetings. So what we did was set up a coffee shop. We chose the busiest part of the organisation, the part where most people walked past, and built a cafe with free coffee and tea. After that it was always possible to find a free room. We even had people from outside ring us up and say: 'Can we have a meeting in your cafe? The advantage was that often other people walking past would join in the conversation, whereas before if someone had booked a room for an hour they used it for an hour, now conversations only lasted only as long as they need.

Another thing we did to improve connectivity was to give people the power to 'commit'. Anybody who went to a meeting inside the organisation, on behalf of their team had the power to commit their team. And anybody who went outside on behalf of the TEC had the power to commit the whole organisation. This made us make sure that the people who went were trusted enough to possibly commit the rest of us and it also put number of pressures on the individual to think about what was involved or what was needed. But it got things done. It stopped the kind of meeting at which there were people who were just there to feed back what was happening.

We did a fair bit of work on story telling and also got people in to help us. This was an exercise on how we could best present information about ourselves to ourselves and to others. We also set up an exploration fund that was a spin off from

our staff training and development project. By definition training and development is about how to do the job better, so we encouraged people to go off and find out different things. I went to a conference in Edinburgh on 'space'. It explored all different aspects of space including three-dimensional space, Euclidean space, the use of space in sculpture, astronomical space and the effects of gravity. And you might think: 'What's the good of doing that?' but it enabled me to think back about the organisation in a totally different way. It took me beyond my paradigm of thinking to a whole range of different areas.

When e-mail first became really popular younger staff were much better at it than those who had been in the organisation for some time. So we set up a 'dinosaur club' in which individuals were assigned a junior member of staff to teach them. The connections set up actually lasted much longer than the club and changed the perspective in the way that junior and senior members of staff interacted with each other. Actually one of the most interesting things was when we banned smoking about 12 years ago. Rather than have people standing outside the front door we had a smoking room. And if you were a smoker and wanted to know what was going on in the building, much like going to the cafe, you went to the smoking room. When you're in the smoking room you're not the chief executive or a manager you're just a smoker. And I found out so much about what was happening in the organisation. That for me improved connectivity enormously.

Another thing we used to say to people was: 'You are responsible for being communicated with'. There's always a problem in making sure people know the things they need to know. I mean I couldn't cope with what I needed to know let alone be responsible for making sure that other members of staff knew what they needed. So we said to everybody: 'You're adults and this is a responsible organisation. You are responsible'. It didn't stop us having the best communication system we could, whereby if information came in we shared it with the people it was relevant for, but it promoted people to set up their own networks and devices for making sure that the information they needed came to them.

The third aspect is Feedback. Feedback is an important part of the model in which external patterns were fed back into the organisation, but it was also important in considering how the internal networks functioned. Like complexity, feedback is happening all around us all the time; the looks on your faces, the attitude of your bodies etc., all of that is feedback to me about how you're receiving what I'm saying. So we trained all our people in picking up and giving feedback. One of the results of this was that we all became very direct. Perhaps not wishing other people to go merely on signs we all made sure we expressed ourselves verbally.

Another thing was consequences, and this is something Ricard mentioned in his example of the rabbits and the Large Blue butterfly. We wanted people to understand the nature of consequences. For everything we did there were good consequences and bad consequences. We couldn't say: 'I want the good ones and not the bad ones'. It is a package and you have to decide on balance whether the package is OK. In order to get people to understand we set up a number of feedback loops to make sure that the consequences of people's actions and decisions came back to them rather than someone else. Most of us shelter our bosses from the consequences of their actions. We tend to put things right rather than let our boss suffer the consequences. But if people don't understand the consequences of what they do they don't change and if they are not accountable to a manager then they have to be accountable to all the people who will be affected by what they do or don't do.

In this way we came to realise that our appraisal system was another stabiliser, because what it did was concentrate of the individual. Job competencies, job descriptions, appraisals are all about a person, but the critical things are the relationships and the connections. So we introduced a different kind of appraisal

system that appraised the connections, though admittedly, at the time we didn't realise that was what we were doing. We introduced what we called a '360 degree paperless appraisal'. The way it worked was that first we said to everyone: 'You are responsible for your own appraisal' and the person would call a meeting of people who they were accountable to and those who were accountable to them and customers and suppliers internal or external. The group usually consisted of about ten people. Whilst the person was out of the room the rest were given four flip chart boards on the walls. One had 'stop' one had 'start' one had 'continue' and one had 'change' written on the top. Everyone had a different colour pen and went round the room writing what they wanted the person to stop, start, continue or change doing. The person would then come back into the room and go round each board and talk about what people had put. What this ended up appraising were the relationships between the person and those other ten people in the room. People were far more straightforward, because when you're filling in an appraisal form you worry that you have to get it exactly right. Whereas if there are ten other people you think well if I've got it wrong other people will have it right. And people took criticism far more easily this way and we got far more change than we ever got with the old system.

In the end we came to the conclusion that the organisation functioned like a real community which is the forth aspect of networking. One of the things that scared me was that if I went round the building at eight o'clock at night I still found a lot of people there and the same thing at seven in the morning. So the people on the management board took it in turns to start early and stay late to talk to people to see why they were there and we found that people were often there because they felt part of the community and because it was more fun than being in the other communities they were part of. And we were seriously worried that we might be breaking up other outside relationships. We were on the point of inviting families in to help us with development work when the government decided to wind up the organisation.

Therefore we treated the organisation as a community and gave everybody the simple rule that they must always act in what they perceived as the best interests of the organisation. So people couldn't just do what they liked. They had to be pretty sure that they could convince other people of what they believed. So trust was important and everyone had to feel valued and everyone had to value.

And in fact we ran a number of events called 'valuing the difference', which helped us to understand peoples thinking styles and practices, similar to what Eve was talking about when she mentioned 'architectures of the mind'. It enabled us to appreciate that, say, the people in finance didn't do things a certain way because they wished to be difficult, but it was the way they saw their work world. And people trying to get business into the organisation saw the world differently again. This was also part of the reason why we tried to recruit so many diverse people because it made it easier to value diversity.

The last important aspect of networking is leadership. We practised some thing we called 'holding leadership'. My role as leader was not just to decide where the organisation was going because I didn't know where we were going but I wanted us to be fit for wherever we were going to end up. So there was no grand strategy, though it did mean that we had to have lots of different skills and talents to change quickly and to spot patterns and changes as they occurred if not before. This meant that we had to give people space to try things out and 'holding leadership' entailed creating the space of possibilities. My job as a leader was to hold that space and to protect people within it, and allow them to make mistakes and co-evolve with the environment. Leadership does however have to make sure that people understand what the organisation is for. The reason that is important is that if you're going to co-evolve with the environment it can be done in one of two ways: one is that you can change or two that you can change the environment and you have to

know when to do which. So if a change affects what we are for, then we have to try to change the environment. As an organisation responsible for helping businesses do more training then if businesses said: 'We're not going to train anybody, we're going to poach people from other employers' then that went against what we were for. On the other hand, if say, various business regulations changed that didn't affect what we were for, then we had to adapt. That's what makes human complex organisations different from those in the natural world. We can say in a cognisant way, 'Hang on a moment we're not going to co-evolve with this change in the environment we're going to try to change the environment'.

So you may say "why would the TEC need a CEO". I saw my role as CEO comprising four things:

- 1. I explored the environment by being very well networked both internally and externally and I probably spent half my time doing that.
- 2. I exploited these networks constantly and when I saw patterns emerging I then came back and linked people up creating new links and networking to maximise the knowledge and information that we had.
- 3. I cleared pathways by finding the stabilisers that looked like good ideas but weren't and took them out of the organisation and thereby gave people the autonomy to decide what they should do what links they should make and also the power to commit.
- 4. I helped people feed information back to others more directly, gave support and helped them grow their connectivity.

Now before I open the floor open to general questions. Someone earlier asked the question: 'If organisational networks have nodes in an organisation and you remove them isn't the organisation then in danger'. We didn't deliberately build nodes, they just emerged, but one of the real insights I had was that when the government down shut 'Training and Enterprise Councils' down and created something called 'Learning Skills Councils' taking the whole thing back into the civil service. At that point several people left, and these happened to be the" nodes" But the rest of the people were still there, they still had the skills , resources and knowledge and knew that they worked, yet it went back to a command and control structure because the key hubs or people who held the space of possibilities left.

Questioner 1. Peter, your agency is called 'trojanmice' and you have been tantalising us with a mouse but you haven't told us what 'trojanmousing' means.

Answer: In the TEC in order to deal with some very complex things we developed "sound-bites" or one or two word phrases that conveyed a very complex concept. Many of these phrases don't translate here but one of them was 'trojanmice' which was a change concept. When people bring about change in an organisation what tends to happen is that they use the Trojan horse version of change where the management calls in consultants who analyse where the business is where the management wants it to be and the processes to put in place in order to bring that about. So it's all worked out and one day the chief executive comes in and announces the changes but in a short space of time people tend to forget about them and reject them. Because we tend to tie up our identity with the jobs we do, when change threatens this identity we reject it. A trojanmouse change on the other hand is a lot of little changes fed in on a regular basis, but small enough for people to accept and own. Once they own the change and make it theirs they will make it work. And you don't need lots of trojanmice because a critical little change will go round the system a few times and can have a mammoth effect.

I was working with a chap who had taken over an organisation and found that it was rather bureaucratic and too internally focused in thinking about their customers. He tried all sorts of things like training and customer awareness, but it didn't work and my advice to him was to send an e-mail to everyone, offering them

a crate of scotch for the best mistake that somebody made with a customer over the next six months. He said, 'Why would I want to do that?' and I said that:

- (a) it would get them thinking about customers and
- (b) realising that mistakes are OK because procedures are not that important and people will see that you are valuing different things and that they can also value different things.

It's no good you telling them to value different things they have to see you mean it so giving them a crate of scotch says: 'Yes I really mean it'.

Questioner 2. How did your results compare with the other TECs in the UK? And when you said you had no managers can you tell me something about the salary model that you used?

Answer: All the independent measures of the organisation show that we were one of the top performing TECs in the country, but the big eye opener for us was when the government introduced bench marking and they took 750 different measures in the organisation which showed us how differently we were operating. And we were operating with 30 less staff than all the others of comparable size and the performance we were getting from the staff was much better than them. In fact I had huge difficulty with my board because they were convinced that I had done some strict 'command an control' cost cutting measures in order to achieve the performance.

As for the salary model we used to use a model called 'above and below the water line'. I picked the idea up from a company in Scotland called W.L. Gore that makes Gortex from which clothes for ramblers and suchlike are made. They say that anyone in the organisation can make any kind of commitment, but before they do they have to ask themselves the question: 'Is it above or below the waterline?' 'Above the waterline' means that if they make a decision and it goes wrong it may be embarrassing but it won't affect the organisation. 'Below the waterline' means if it goes wrong the organisation could sink and therefore before making that kind of commitment you have to talk to some more people. So basically we paid people on the basis of how far above or below the waterline there decisions were. So the more capable you were in your job of sinking the organisation the more you were paid.

Questioner 4. I was fascinated with the presentation and the question which came to mind is whether there is a particular size of organisation at which the kind of face to face relationships on which it builds no longer hold. Maybe one of the reasons that you move to one of these command and control processes is that you can't recognise people coming through the door on a Monday morning. You say trust is a key aspect and from the way you describe it, it is a key component, but what is the reach when you might be going through six different connections and what is its reach when you cross cultural boundaries where value systems change. So the model seems very valuable, but what is its generalisability under various kinds of complexity, variety and cultural differences?

Answer: Well I'll give you a rather contradictory answer. I do agree that in some ways that size is a factor and 150 to 200 people was about as big as I could manage. As our staff crept up to 200 I was straining to remember people's names instantaneously. But at the same time the trust was not between me and everybody else, but between people and the people around then who were affected by what they did. And therefore I think that if you get the principles right you can get bigger and bigger providing the framework allows for that. In fact AES, which is a utilities company in America and in the UK, have operated for many years on that premise and have a 30,000 odd work force. But they do tend to break the organisation down

into smaller units. A person can be in a 150 to 200 network within a large organisation.

Questioner 5. We are also running an organisation under the same principles as you were and we are having two different problems. The first is that people will often ask what they have to do from a health and safety point of view and secondly we also have to deal with other parts of the organisation where this way of working is not prevalent. How do you deal with this?

Answer: Well first of all many aspects of health and safety are closed in the sense that there are rules and regulations and you therefore have to accept that. For example you don't have any choice about how you fill in your tax forms. You just have to do it how the Inland Revenue wants you to do it. But you don't have to allow this kind of mentality to predominate.

The question of how you introduce the principles to other parts of an organisation is that you just have to do it a bit at a time. If you start and people see the effects it has in terms of the figures they will want to see how you do it. I truly believe that in twenty years time the only organisations left will be those running themselves using the principles of complexity theory. The others will disappear because they will not be quick or effective enough to survive.