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*Is Hierarchy Unnecessary? If so, what are the alternatives?*

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Gerard

Why are hierarchies so prevalent and why do we seem to turn to hierarchies whenever there is a problem? I'd like to start by exploring that question. In the animal kingdom the majority of species seem to have some kind of pecking order. The term 'pecking order' of course comes from chickens. There's always a top chicken who pecks all the others and a second chicken who pecks the rest and so on all the way down to the unfortunate bottom chicken who gets pecked by everyone. That's the way chickens organise their social system and presumably the bottom chicken manages to survive so the ecosystem may not be as nasty as it appears. At least we could say each chicken knows what it's position is although it probably tries to move up the pecking order though sometimes they get moved down. Now I don't want to spend much time on chickens but the point I want to make is that this appears to be a pretty universal feature in the life of vertebrate organisms and may apply to invertebrates as well.

If we look at human culture and I don't mean just formal organisations but school playgrounds and inner city gangs and dare I say it, universities there are pecking orders or hierarchies which seem to emerge pretty spontaneously and if that doesn't happen then there's usually someone that starts organising them. The fact that it emerges in all sorts of human cultures that until recent times didn't have much contact with each other suggests that there might be a genetic influence on humans as well as chickens. So if it is in our genes we ask the question whether it is inevitable and that if it's always there should we stop worrying about it? My answer to that would be 'no'. There are genetic predispositions in human beings for all sorts of things, they are often conflicting predispositions and that it is perfectly possible for human society to organise itself in ways that get away from such predispositions. For example there is almost certainly in some humans a predisposition to murder and rape or just to be very nasty to others and yet civilised societies emerge in which such behaviour is not expressed. This is because there are conflicting predispositions which condition people and depending on the social circumstances one type of behaviour is elicited and another gets suppressed. So my first point is that I believe that there is a reasonable case for hierarchy being connected to the genetic predisposition because that is what biological evolution has told us to do. It may be inappropriate in the 21<sup>st</sup> century but because such genes evolved some 200 centuries ago in different circumstances they may be part of the genetic baggage we all carry. We do of course individually carry different genetic packages but generally speaking there is a strong content of genes that dispose us to hierarchies and make us want to be top of that hierarchy.

That is not the whole of the genetic story because the producers of wildlife programs like to show alpha males defending their harems of females and beta males contending but actually most of the time they're not fighting each other because then they wouldn't be passing on their genes. Most of the time the beta males accept their

subordinate positions though they may always be looking for opportunities to climb the ranks. So there are genes that tell them to accept their position and make the best of it and find ways of using the hierarchy to their advantage. We can see that there are plenty of predispositions in humans to behave in that way.

And the last of the genetic predispositions that I'm going to mention, is the extreme interest in the cult of celebrities and the competitive spirit; who's going to win the Wimbledon Tennis cup for example. It comes out in artificial ways sometimes so it's clearly something that nearly all human beings are interested in. They like understanding and paying attention to the details of rank order. I would claim that there is an urge to be top but that there is also a compensating urge to be cautious and careful in dealing with hierarchies. So it's not surprising that hierarchy is the default option for many organisational solutions. That's the first bit of my talk.

To go on to my second part I think many people would agree that organisational dysfunction is rife. There are many organisations who claim to be wonderful, but few that are wonderful in the eyes of insiders and even in the eyes of outsiders. There are some that work reasonably well, but on the whole many do not and the continual outcome of recipes for doing better, such as 'total quality management' and 'business re-engineering'. I've peddled some of these ideas in the past such as team building but if we're really honest with ourselves don't we find that after the first flush of enthusiasm the organisation falls back into what could be thought of as bad old ways. That has been my experience. Other people might say that this is not the case and if this or that nostrum is adopted everything will be fine but this has not been my experience. I concluded that hierarchy might well be the reason why these things are constantly subverted and when something goes wrong and the 'total quality' management doesn't seem to be working someone will say let's get somebody in to 'kick arse' and all those other things that seem to be waiting to come to the surface.

There are other reasons why hierarchies are so prevalent. There is the fear that it can engender. A person may be fearful that if they go against it he or she may be disadvantaged. This may range from being merely inconvenienced to being fired or humiliated. So people are rightly cautious of hierarchies because powerful people can inflict damage. But like the chickens there may be a comfort factor; at least you know where you are and you have someone to blame if things are going wrong. It's either them up there on the seventh floor or maybe the people in the basement. They make the wrong decisions and we have to put up with it. That's a comfortable position for many people in an organisation.

There is also the belief in the so called 'great man'. Take the second epilogue to war and peace where Tolstoy tells a story that draws on Napoleon's invasion of Russia. Tolstoy is saying that history is often written from the point of view that some great man or woman is given a leading role in making things happen, but when you think about it one individual can't actually make it all happen. Napoleon gives an order which is passed down through maybe thousands of people, who if they didn't feel hierarchy was an inevitable thing would not pass it on and it wouldn't be obeyed. Tolstoy's conjecture is that there is a kind of 'spirit of the people' or *Zeitgeist* that makes people follow the orders and that even the leader senses this spirit of the time or spirit of the people and frames the orders accordingly. Whether that's a correct analysis of how or why organisations function I won't go into, but what I am saying is that the 'great man' theory is there and reinforces the idea of hierarchy.

One further example of that is that the British and American governments have recently appointed figures such as 'drugs czar'. When you think about the concept, it is ridiculous. It is a person who is given the job of sorting out a totally intractable social problem which needs much more than a single individual to understand the problem and to bring about change. Whether the politicians actually believe in it is another matter, but they certainly think that the populous in general will believe in it because it looks and sounds like they're doing something. It's saying they'll get things fixed, but in fact history shows that that type of thing never does get fixed but nevertheless people believe it because they believe in hierarchy. Obviously energetic, intelligent, charismatic and lucky people can make a difference. I don't say they cannot, but in the end it is much more than a single individual that makes things happen. And we all really know that, but somehow we get seduced into thinking that a new CEO or a new political leader or a new conductor for an orchestra can make that difference. Sometimes they seem to do it, but not much is due to that single individual.

More support from hierarchy comes from many writers. One is Thomas Hobbes who, in his book *Leviathan* in 1664, wrote about the need for a dominant ruler to stop the war of all against all. In other words he thought that the only way to stop us fighting was to have somebody who could tell everyone what to do. Again a crazy idea when you think about it, but it's one that took over very strongly in political theory and is still believed today as part of the 'great man' theory. Max Weber was a similar perpetuator of this idea. We generally think of him as writing about bureaucracy in a measured and persuasive way but when you come across the passages that deal with authority he takes the view that there can be no organisation without a chain of command. To him it is essential for the whole concept of organisation that there is that hierarchy. He gets very cross and authoritarian if that is questioned. So that's the kind of intellectual reinforcement of the idea going back through many centuries.

The assumption is that the choice is between hierarchy and anarchy. It's ingrained in us all and when I give talks as I'm doing now I often get a response such as; 'yes, but would you like your plane maintained by a bunch of hippies?' Well I would prefer my 747 to be maintained by a hierarchy rather than by a bunch of hippies. I haven't worked in the aircraft industry, but I have worked in the petrochemical and pharmaceutical industries which are both capable of killing lots of people if you don't get it right. Masses of tonnes of hydrocarbons flowing through great pipes are dangerous and I wouldn't like it maintained by a bunch of hippies, but I also wouldn't like it maintained by a bunch of people who are only doing their job because they're scared of the boss. Those are the people who are more interested in what the boss thinks than the job. If you're interested in the job you internalise the ideas of safety and professionalism and you are careful in all that you do. I do not think that those things are inculcated by hierarchy but by training and experience and a professionalism that gives rise to human responsibility. The same is true in pharmaceuticals. If you make a bad batch of something and it gets injected into people it can be just as life threatening. It is not fear of the boss that makes people behave well in their quality assurance activities, it's because they believe it is right to do so. And that is my counter argument to the assumption that the alternative to hierarchy is anarchy.

The next thing to consider is leadership and this comes back to the example of Napoleon and his like. I have agreed that charismatic and dedicated people do make a difference, but the assumption is that the dedicated charismatic person has to be at the

top or at least in a superior position in an organisation. But there are plenty of counter examples to that. A recent one is that of Nelson Mandela, who from prison was able to inspire a whole movement and in fact the world, to get a dreadful regime changed in a peaceable manner. That seems a far more amazing achievement than that of a Napoleon. He did not succeed because of his position in a hierarchy. If you look around organisations you can easily identify people who are willing to give a lead regardless of their hierarchical position. It is of course easier if you're in a senior position to give a lead because people listen to you more easily and because of the comfort factor, they have someone to blame if it goes wrong. Whereas if it is someone who isn't in a hierarchical position and you listen to them then you could be blamed for listening to somebody who wasn't authorised to give a lead. Nevertheless if you look at where the creative leadership comes from, it often isn't from the top but from individuals who believe in something and are willing to stick their necks out. I think that shows leadership is not dependent on hierarchical position. So I would say that hierarchy is not necessary for discipline, for systematic ways of doing things or for leadership. I think the alternative to hierarchy is not chaos or anarchy. It is only our addiction to it that shows we have a predisposition to believe that all of these good and necessary things only come about through it

Many hierarchies are I think largely symbolic. We can see that in Japan where a traditional industry has a few senior people at the top who actually don't have and are not expected to have, any real decision making power, but are the embodiment of the organisation and when eventually they are asked to make a decision they make sure that that's the decision that is going to be acceptable in the organisation as a whole. It's not actually an egotistical expression, and we could say that things like the kind of constitutional monarch that we have in Britain is another example of a hierarchical position which is very largely symbolic. In some cases the top person is there to be praised or blamed or even to be a scapegoat and really doesn't function as the driver of the organisation at all. There are often other informal organisations which are quite counter to the formal organisation and to use a philosophical term you would describe that kind of hierarchy as an epiphenomenon; something that goes along with the organisation, but isn't actually connected to the way that it works.

I've spent quite a lot of time talking about hierarchy, why we're addicted to it and why we needn't be. For the rest of the talk I'm going to concentrate on the alternatives. I've done a lot of thinking in this area and I was prompted towards it largely by complexity ideas. I will explain as I go on what the connections to complexity theory are, but to start off I'm going to go back to genetics. Humans, even male humans are actually quite keen on co-operation. If anyone has read Rod Axelrod's book, *The Evolution of Co-operation*, which is now 20 years old or more, but well worth reading, it shows that human beings have a natural tendency to co-operate. The received wisdom is that hierarchy or competition is the best way to organise things, but actually co-operation spontaneously emerges and evolves. Since Axelrod wrote his book there's been a whole raft of games theory type investigations on co-operation on a theoretical as well as practical level, which show that co-operation evolves quite easily and that there are good reasons, why it should evolve to achieve the outcomes that people desire. If we think in genetic terms there are good reasons for people to co-operate; a group of humans could survive attack and do a better job hunting and gathering etc. than if they didn't co-operate. So intuitively we can see that a group would have a strong survival and reproductive advantage and it is possible to show that co-operative behaviour is stronger between people who have genetic links. But that's not the only reason for co-operation as games theory shows.

Of course hierarchical and co-operative behaviours tend to mingle and potential leaders know that. Offering an attractive program of co-operation is a good leadership strategy. Again, it's not a question of hierarchy or co-operation, and sometimes these work well together, but I do want to suggest that there are predispositions towards co-operation.

So what are the fundamental alternatives to hierarchy? I believe there are two. The first can be called heterarchy, which means dispersed or divided rule or power or influence, whereas hierarchy tends to imply a single head. A simple way of looking at the operation of heterarchy is through the childrens' game of 'scissors, rock or paper'. We remember that scissors cut paper, rock blunts scissors and paper wraps rock. In other words none of the elements has power over everything but it does have some power and in this game each has power over only one of the other elements. This is a very simplistic model but it encapsulates the concept. There are now models of animal behaviour, admittedly for microscopic animals, for which the scissors, rock, paper concept is very apt. It seems there are genes for each of these predispositions and that these together produce a set of complex activities. A more complicated, but perhaps more realistic example is the concept in politics of the division of power between the legislative and judicial executive branches of government. In the US constitution there is the President who has power, but so does Congress and the Supreme Court and other judicial courts. The British system which stems from a monarchical Hobbesian model is theoretically without that division, but in practice there are a lot of elements of heterarchy.

This is not weak compromise between hierarchy and anarchy but a way of organising that is conceptually separate and in heterarchy people adapt to each other. If the power is dispersed then A has to take account of what B feels and wants and vice versa. The two have to accommodate each other all the time. In a heterarchical system there is interaction between all the elements and each element theoretically has an influence and has to take into account the influence of all the others. That is the concept of co-evolution within a social ecosystem because the elements are not determined either by a hierarchical ordering system or by an external influence by the environment. It's a mutual adaptation, a mutual learning and a co-evolution. The learning is important because in a pure hierarchy, learning only takes place at the top because everyone else has to follow what the top says. This is extreme, but some organisations come close to it. That's fine if you have a very creative boss but things go badly wrong if you haven't and one of the advantages of heterarchy is its compatibility with extended and diverse learning.

The heterarchy concept is an ideal, a way of thinking about organisations and the way they work. It is not saying you can go out and find a system that works exactly like that. They probably don't exist, but you can find organisations that are similar in having a much greater admixture of heterarchical features than either of the other ways of doing things, but we have described an ideal type.

There is another concept in thinking of ways of getting things done and that is autonomy. This is where there is a demarcation of areas into which power does not extend. Power is dispersed and acts between the different elements, but there are certain areas into which power does not enter. Within those areas people are, at least as far as the outside world is concerned, left to do their own thing. This might seem a recipe for self-indulgence or even for anarchy, but autonomy can also go with accountability, and that's more or less what the 'invisible hand' of the market

suggested by Adam Smith does. It determines the way that, in his example, capitalist markets behave. Another good example is the academic research system.

Theoretically, academic researchers chose the field they want to work in, work in it and then try to get it published. If it's published in prestigious journals and other people come to respect it then that academic thrives. If it's not, then they will not get tenure, or promotion or grants etc. This again is an example of autonomy with accountability. Of course we know that this is not what always happens and that there are power aspects within academic organisations in the shape of vice-chancellors and so on and there can be non-performance reasons for giving people tenure. So you don't get pure autonomy, but you may get something close to it.

The complexity idea that I would like to introduce now is that of complex evolving systems and clearly the idea of autonomy with accountability is just that. The accountability provides a drive that allows the autonomous element to evolve. If that element is interacting with other elements, either in a market or a network situation or even in some kind of heterarchical organisation, it will change its behaviour as a result of its interaction with other units around it. The market model or the academic model has interaction with other units but in the end the accountability criterion is in some ways separate from that interaction or at least can be conceived as such. Autonomy with accountability can be modelled as a complex evolving system with suitable criteria as drivers such as publication, market success or in a political system it might be whether people vote for you.

Thus there are three ways of getting things done in organisations. The first is hierarchy which is probably the default option. The second is heterarchy in which elements interact and power is dispersed and the elements co-evolve. And the third is autonomy with accountability. These are ideal models, but real organisations are mixtures with different proportions of each. How can we make use of these ideas in practice? I think it is useful to be aware of just how much hierarchy is inbuilt into us genetically and culturally, but is not inevitable. Just realising that, I think, starts to make you think differently about organisations. You would be foolish not to take account of hierarchy but it's as well to be questioning about whether it's really necessary and whether it's doing the job that it's supposed to be doing. The second suggestion that I would make is that we are actually involved in organisational design all the time on minor tasks, it doesn't mean a McKinsey type complete makeover. To be aware of the three possible ways of getting things done is valuable in managing change, design and function. The third way of autonomy with accountability is more theoretical but will help us see the ways in which complexity theory is applicable to organisations.

We are not as a result of this talk, going to see an end to hierarchy but there is the possibility of change. Over a fifty year period I have seen a lot of change in the way organisations work. Fifty years ago there were almost no female executives in organisations and very few even thirty or forty years ago. Today it is not unusual to have female executives and I don't think many people would have forecast that fifty years ago.

Eve: What we will do now is to take some questions and then later Gerard has two questions which we will ask you to discuss in small groups. And the suggestion is that you work with people that you know least.

Questioner 1: I work at the defence environment for the Ministry of Defence and one of the things that we're struggling with at the moment in terms of organisational

change is the dynamic of change of the external environment. The thesis that we've built up is that hierarchies work best or are perhaps optimal when the environment is stable but when you need to create an organisation that's agile and adaptable then you need to move away from the idea of hierarchies to something which is much more self organising and that's something you haven't really touched on.

Gerard: No, I haven't. It's a very good point and a big subject of so-called 'contingency theory' in which you have an organisation adapted to the situation that it's in or for the kind of contingency under which it operates. As well as being defined for a stable or unstable environment it can be defined as a task which is very clear, and for clear tasks, the argument is that hierarchies are best. The Burns and Stalker distinction of 'less clear task', came from an innovative organisation which had a very unclear task environment which was typically R and D (research and development) whereas the production line, where the physical technology defined the task and individual initiative was bad rather than good. That was a so called 'mechanistic' organisation and the flexible or 'organic' one was for a less defined task.

I think when you get into it there are quite a lot of things to say against that. I can quote from my book, of examples that come from a military background before Napoleon, where success came from a less hierarchical and more inspired way of behaving in what today is called 'vision and values', although I think there is a different term for it in the military. The idea is that if you get people committed to the task which constitutes the shared 'value' about possible ways to perform it, and they have a vision of how they're going to perform it, then you can let them get on with it. That was found to be a successful way of working in very different circumstances from today. I would also argue that the so called 'clearly defined' task often isn't. People like the idea that it's clearly defined, and one of the reasons they like it is that it reinforces the concept of hierarchy; that things are all defined and you can leave it to the boss. It seldom works that way even in the examples that are cited as well defined task situations. So I agree that is a very important if you want to get the right mixture of hierarchy, heterarchy and autonomy.

Questioner2: I am interested in these natural predispositions to these two ways of organising. Do you see them as analogous to the working of the brain in terms of the processes of mutual adjustment? Would this be an explanation of why we see things in certain ways?

Gerard; Yes, this is another very interesting area and in fact the word 'heterarchy' when used in Ancient Greece, meant rule by an alien. At the beginning of the 20<sup>th</sup> century the word was used by a neurologist called McCallough to describe the situation of mutual control through negative or controlling feedback and ( he said ) that neurological organisation has a terrific lot of heterarchy in it and there are some very interesting models from that. Some people model neurological processes in a hierarchical way but recent developments in neurology tend to show that there is much more heterarchy than hierarchy.

Questioner3: I am not quite sure that 'hierarchy' and 'heterarchy' are conceptually distinct. The sort of things you have been describing seem to be a number of different hierarchies operating in a situation in which no one hierarchy is able to control all the resources in order to make all the decisions. This is of course true of all hierarchies

and all organisations in that no organisation controls its entire ecosystem. All of the illustrations you gave were in fact extremely hierarchical ones and I wonder whether you could clarify the real distinction between these two concepts?

Gerard: Well you say I used examples which were extremely hierarchical, but are we not mixing up power and hierarchy? I'm not saying that there shouldn't be power and the ability to get people to behave in a different way as a result of what you may want, if I can use that as a definition of power. I'm not saying that heterarchy is without power, but I am saying that it is not dependent on a positioned or pyramid-ranked type of organisation. For given real organisations you are absolutely right and there is usually an admixture. Let's look at the professional service firms like lawyers and accountants. The traditional law firm had partners who were pretty independent. No one told them what to do or in the short run held them to account as far as what they did, but they were hierarchies in terms of their partnership groups. They had non-partner lawyers and support staff reporting to them but in relation to the partners it was a heterarchy and like 'scissors, rock, and paper' they all had power but none of them had absolute power. So I do think there is a conceptual difference (a) if you recognise that power is part of organisational life and doesn't disappear when you dispense with hierarchy and (b) accept that situations in real life are always mixtures. You don't get examples of the ideal concepts in real life.

Questioner3: I just wondered why you think that might be, because in the original discussion about the natural world hierarchy is an emergent property and there seems to be some uncertainty as to why these ideal types are not manifested.

Gerard: Well I'm sorry if I haven't made it clear. My suggestion is that there is plenty of manifested heterarchy and autonomy around, but that there is a predisposition to think in terms of hierarchy. I think there is plenty of manifestation of heterarchy and I'm suggesting that we should be aware of that and also that we may find it valuable to move more in the direction of eliminating hierarchy although the consequences have to be proved in practice of course.

Questioner 4: My question relates to leadership attributes. To build on comments made earlier, have you given any thought to the sense of self or the competencies and attributes a leader would need to have where heterarchy is part of the organisation?

Gerard: I think you are right in that you would have to educate and train people differently for heterarchical situations than for hierarchical ones as far as what you would suggest as good ways to behave. I think you would also select people differently with those models in mind. I remember in the past that the leadership models tended to be the sort of John Wayne ones; a sort of gung ho leader who says 'come on boys let's storm the dugout'. Leadership was seen in terms of decisive action, courage and charisma Nowadays leadership is defined more widely than that although it might retain those elements. So yes, in a heterarchical situation you would want to emphasise different attributes and train and select people for those.

Questioner 4: In your research and observation have you seen any common themes of, for example, 'server leadership' being a key ingredient for this kind of complex adaptive system to work?

Gerard: Yes, I've not only seen it but I have practised it, because I found when I was CEO that actually people were most effective when they were doing the least prestigious looking jobs. Sitting behind a big desk and thumping the table was almost completely useless. The most useful thing was to get in there and help with things that



people were finding difficult, to talk things through with them and to give them sometimes reassurance and sometimes criticism and sometimes actually doing the work yourself and showing by example that a different method might be successful. That was inspiring and motivating for people and in a way quite heterarchical although that was in an organisation that had a formal hierarchy.

Eve: I would just like to give an example of the leader's role in an heterarchical organisation. When Nazreen and I worked for the Humberside Training and Enterprise Council their CEO said that the role of the leader in this kind of heterarchical organisation is to 'hold the space'. In other words to make it possible for everyone else to do what they need to do and almost to protect them from interference.

Questioner 5: I work for the Department of Farming and Rural Affairs and my question is about the very hierarchical systems that exist in Government departments. Despite the modernising Government agenda and despite all the numerous reviews that take place we still retain those structures. In this 'Brave New World' that you describe do you see that ever changing, and if 'yes' how do we speed up the process? I mean the process of flattening the management of the dinosaur-like structures that have probably existed since maybe sixteen hundred and something.

Gerard: Well of course as the 'drugs czar' example illustrates, many of these structures are actually epiphenomena in that they don't have much effect on what actually happens. People might do a bit of posturing and setting of targets and say 'I'm in charge' and so on, but they don't actually change much on the ground. But when something goes wrong people have to find a scapegoat and all those awful things that happen in modern government happened in old governments. So yes, it's going to be hard to change the addiction but at least in a democracy there is a fundamental assumption that it isn't a total hierarchy and that there is accountability and there is consent. We might have the cynical slogan that 'if voting made any difference you wouldn't be allowed to do it', but there is in the end accountability for the way that governments perform and I think that will change because it will come to be realised that central targeting and so on actually is a crazy way of working and that different ways have to be devised. You can think of all sorts of constitutional changes along the lines of division of powers and that might make a difference, but a lot of it depends on change of attitude of mind and an end to the belief that hierarchy actually works.

I will stop there but my questions for discussion are:

1. Can you give from your experience, practical examples of where things in your organisation have moved away from hierarchy towards heterarchy and autonomy? Did these moves work, so that it appeared to those involved that it was a good thing and what facilitated the changes? Of course that's a hard question because when things happen in life you are often not sure why they have happened, but if you can give us some idea.

2. I've put forward a typology of hierarchy, heterarchy and autonomy. Is this a complete one or are there other things? People often talk about network organisation or market organisations. Are these actually further example or do the categories hierarchy, heterarchy and autonomy cover everything. This is an important question for me and if there's a flaw in my argument I'd really like to know it. I'm not just talking about the terminology but the three ideal concepts that I've given you. And

moving on from there how can this typology help in the daily life of organisations? Is it just another set of jargon words or might it really be useful?