

SUMMARY SYNERGETICS

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This article presents to the management consultant a global description of the Synergeticmodel, originally developed by Ilja Prigogine (Nobel prize for Chemistry 1977) and others. The article illustrates the model with some curious phenomena in Dutch society. It shows that process control by an existing regime gets into trouble when peace is disturbed by rebels. The rebels make the system unstable by demonstrating paradoxes in the relationship between rules and reality.

The rebels stimulate a preferred kind of disturbance. The situation for the regime becomes chaotic and all kinds of behaviour occur that are not allowed. But there is also a new collective coherent behaviour and sometimes a special kind of oscillation in the behaviour of the social system.

Out of this chaotic situation results either a new, more complex order with a new regime or a regression to a previous order with some or total disturbance of the system. On the basis of this new model some provisional conclusions are formulated to advise managers and management consultants.

SYNERGY

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SYNERGY

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PREFACE

In 1977 Ilya Prigogine was awarded the Nobel prize for chemistry for his theory of dissipative structures - "dissipation" being the conversion of energy, matter and information into quality. Dissipative structures are open structures that, influenced by their environmental dynamics exchange more and more energy, matter and information with their environment, getting more complex themselves in the process.

The origin and further development of a dissipative structure was called "selforganization" by Prigogine. As this term, however, is being used more and more as a definition of an other notion (with an entirely different meaning): in the area of welfare for the various kinds of selfhelp, we will use the term "synergetics" introduced by Hermann Haken of Stuttgart.

Synergetics is an appropriate term for this phenomenon as we shall see: the arrangements that arise in dissipative structures are the result of interactions between various processes occurring simultaneously.

Prigogine developed his theory in explanation of so-called chemical clocks (oscillating chemical reactions) and Haken mainly worked on the explanation of the laser.

Their insights prove to be of far-reaching significance, now that they are able to explain the thermodynamics of these phenomena and to simulate their chemical, respectively physical behaviour in mathematical models. Great expectations indeed for numerous scientists, biologists and sociologists alike.

It's quite an exception that the exact sciences and physics regale us with a fundamentally new insight into our every-day environment, but that is exactly what it looks like this time. Dissipative structures abound around us.

Not only the chemical clocks and lasers, studied by Prigogine and Haken, are dissipative structures, but also confection-streams, vortexes in running water, clouds in the sky, termitaries; any complex ordered structure, such as a living creature and its social structure may be regarded - and perhaps better understood - as dissipative structures.

It seems to me to be worthwhile, particularly for organization-experts, to acquaint themselves with these models which show the way arrangements may come into being.

An important quality of these models is their strictly logical construction. This means that blunt statements can be made by deduction about behaviour, qualities and conditions within the model. These statements can then be used as a hypothesis based on which phenomena within organizations can be studied, better understood and possibly influenced by induction.

Organization-experts' appreciation of exact models is rather ambivalent. It is a fact that the present-day models in no way explain the phenomena within organizations and that empirical theories will remain indispensable. However, any empirically developed theory needs a logical construction: a mathematical model can thus provide a solid backbone to an empirically developed theory.

This is not exceptional in organizationalism: the model of controlled change or cybernetics is an example of such a model. Whether planning, budgeting, information management, or strategic are concerned, handling of conflict or changes in culture, the phenomena observed in such a framework and the propagated activities are always connected in the same logical way with which at least controlled changes are hoped to be guaranteed.

All the same, the co-operation with the exact scientists who know a much larger number of such models than we will ever use, doesn't function smoothly. A remarkable anecdote illustrates this:

Norbert Wiener, the godfather of cybernetics, is said to have refused an explanation to number of sociologists who were "critically" examining the possibilities of cybernetics and asking him for an explanation for the umpteenth time, because "they kept on showing they didn't understand any of it anyway".

The sociologists then concluded that even Norbert Wiener apparently admitted that cybernetics hadn't offered what it had been expected to.

A logician won't fail to notice the piquancy here.

Synergetics will improve all this. Prigogine and his staff are convinced that their insights will bridge the gap between exact and empirical sciences. Their models represent interactions between various controlled processes and their consequent arrangements. They liberate us in this way from the ghostly suggestion that originated with the second principal law of thermodynamics: all changes tend to chaos. We now obtain some insight into the way the world arranges itself and we discover that we can no longer regard this process from a distance, as all our own actions conscious and unconscious are part of this process.

In this article the synergetic model will be described first in the following three paragraphs. The model will be explained and illustrated with some social phenomena. Although this article was written for the benefit of managers and management consultants, attempt has been made to select examples from their daily experience (practice). Such examples would probably be less easily recognized and accepted due to self-protection than the ones chosen here which will be more remote. In conclusion some conclusions will be drawn based on the new insight.

1. GENERAL VERBALISATION OF THE SYNERGETIC

Something that can be observed in any gradual process of change is that it runs more or less smoothly under the influence of a regime that is part of the organization, within which the process takes place. The regime has its own code of conduct which controls this process.

The gradual changes we are referring to are the result of growth in a certain direction. It is always a matter of growing dissipation. The regime with its process-control is geared tot maintaining stability and continuity within the organization by means of correcting or softening all possible (fluctuations) within the process, thus stimulating the dissipation.

Such process-control runs smoothly until the organization in its gradual development, has reached an area in which disturbances start to make themselves felt, either from internal or external sources. These disturbances differ from the norm in nature or size in such a way that the prevailing regime with its process-control has apparently hardly any grip on them, even when it increases the capacity of its process-control to the utmost. When any method can be perceived in these hardly-to-be-softened disturbers, because they keep occurring - or for other reasons - we call them: "preferencefluctuations" and their apparently systematic cause: "disturbers".

The increase of preference-fluctuations gives rise to an unstable situation within the organization, in which many things happen that shouldn' t or couldn' t according to the prevailing regime.

Curious systematic phenomena appear as well, such as oscillations and collective behaviour.

In the apparently chaotic organization a new process will be looked for under a new regime that in new circumstances will again be a guarantee for a stable development, but this time at a higher level of dissipation and complexity.

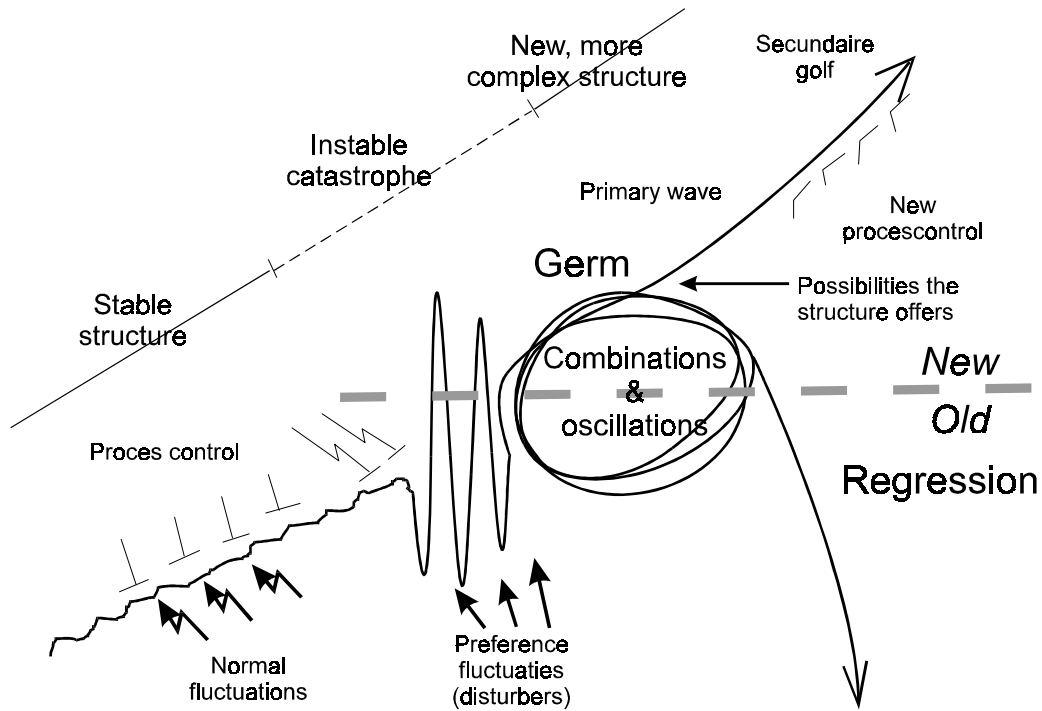
This new order will probably come into being sooner or later - if the environment the structure and qualities of the organization provide no insurmountable restrictions.

If not, regression will set in: a stagnation in development, together with haphazard disintegration of the structure and more primitive process-control than it had at an earlier level.

The new order having germinated somewhere within the organization, will reproduce itself like a (primary) wave throughout the organization under the pressure of the new regime.

A complete chain of secondary changes may follow then, the so-called secondary wave, in which the effectiveness of new order will be at its peak.

Synergic model



At this point we are more or less back where we started: processes within the organization are again stable under the influence of a new regime. Dissipation has grown and the structure is arranged in a more complex and more effective manner. Chaos has passed. Again, a gradual, controlled development takes place, until the next "hurdle" will have to be taken.

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2. FLUCTUATIONS

2.1 PROCESS-CONTROL AND FLUCTUATIONS

The synergetic model will now be more specified and demonstrated with examples of certain social processes in cities.

There the prevailing regime consists of a number of institutionalised process-controllers such as the municipality, police and the law, as well as non-institutionalised process-controllers like the decency of citizens and many others.

Eventually they soften any fluctuation:

A burglar gets caught. A neighbour appeases a domestic quarrel. A car is hoisted out of a canal. The wounded are patched up in hospital.

Although these fluctuations happen regularly, they are always regarded as incidents.

There is a number of notorious disturbers as well:

Squatters, fighting footballfans, shop-lifters, etc.

The process-controllers are more or less prepared for such disturbances and soften them as quickly as they can when they occur.

It is a well-known fact that house grants cause many fluctuations, seeing the jokes about the Central Housing Board.

Houses are sub-divided, medical certificates are applied under false pretences doctors are pressurized, house-boats get towed into the city. Citizens make every legal and illegal attempt to ease the housing shortage or to profit from it.

The process-controllers in the municipality can hardly cope. But they are successful over the years, as none of the attempts mentioned really succeed. It's quite astonishing to see the most improbable method - house-breaking and squatting - succeed.

How is this possible? How can squatting suddenly lead to a preference-fluctuation that is much harder to soften?

2.2 THE UNSTABLE PHASE: PREFERENCE-FLUCTUATIONS AND PARADOXES

Preference-fluctuations may be caused by factors both inside and outside the structure.

One of the characteristics of preference-fluctuations is that such disturbances repeat themselves continually and are easily fortified or whipped up for some reason or other.

Another characteristic - important for organisation-experts - is that preference-fluctuations can be described as a paradox in terms of the prevailing regime.

Behind this lies one of the main causes of preference-fluctuations - at least in social structures:
The process-controller bases his actions on self-image.

This self-image shows him how processes should proceed in an orderly fashion, what fluctuations are and how they may be avoided or softened.

The self-image has been arranged logically and as completely as possible, it contains the laws of the prevailing regime and the logical picture of reality within which these laws have to be enforced. The fact that there are many people looking for houses and at the same time the many vacant houses doesn't fit in with such logic.

This is too difficult: how can a person looking for a house be refused a vacant one?

The politicians in The Hague or the learned gentlemen at the universities may be able to understand why; at the level all this occurs, this phenomenon constitutes a paradox, both for those looking for houses and process-controllers, from their limited points of view.

That's why it is particularly difficult to soften this fluctuation at precisely their level; that is why it becomes a preference-fluctuation, as it is a policy very hard to defend which forcibly removes the "house-less" from houses that afterwards remain vacant!

Two other examples of preference-fluctuations in a large city: footballfans witness their favourites being kicked black and blue in full view of a referee and being carried off the pitch with open wounds, fractures and bruised ribs.

A hundred policemen surround the pitch and they don't lift a finger to stop this. But as a fan, you shouldn't fight the enemies' supporters in the stands?

Shopping "the proletarian way" (= shoplifting) has an identical paradoxical background. The "shoppers" have been unemployed for years so their incomes have decreased significantly - but you "have a right to housing, water, gas electricity, telephone, even a holiday", some politicians and social workers say. So all the official bills are paid - otherwise you'll be evicted or cut off. But when there's no more money you simply go to the shops and steal your food, drink, small household goods. You have a right to those, haven't you? In court people who do this sort of things show indignation rather than remorse.

"Doesn't a simple calculation show that there was no other way? And now you get convicted by the same authority who thought it all up."

It's very understandable that the process-controllers get up in arms and are made rather nervous by such preference-fluctuations: there's something wrong in their system, but what should be changed? Everything ought to go according to the rules, oughtn't it?

2.3 COMBINATIONS OF PREFERENCE-FLUCTUATIONS

It is no mere co-incident that in the case of repeated preference-fluctuations combinations occasionally occur, which prove to be particularly resistant. The example of the squatters and the hooligans is wellknown.

Initially there were the squatters who playfully barricaded their houses against the law-enforcers. On television they could be heard to protest that they didn' t have anything to do with knuckle dusters, bicycle-chains an flying bricks. They didn' t want to hurt anyone, they simply wanted to live. There was no link with the hooligans, who were hardly intelligible anyway, when asked what possessed them. All the same their campaigns coincided time and again, and succesfully, at that.

What' s more, I myself got involved in one of these riots once, as I happened to pass by. Law the process-controller act with unprecedented violence which disgusted me intensely: I very nearly pulled out a brick myself and joined in. I wouldn' t have wondered until much later how to justify such an action and that wouldn' t have been very hard, as a noble objective can be formulated in no time after the event.

In this way passive squatters, militant hooligans and innocent citizens suddenly find themselves to be in the same boat. This is called collective behaviour. And the process-controller has even more difficulty with those incomprehensible relationship and the ensuing superior forces!

Thom calls this unstable phase a catastrophe, because the prevailing regime is threatened with destruction. The originally Greek notion "catastrophe", moreover, meant that a new, feasible regime would follow which is as yet unknown.

Prigogine calls this phase a bifurcation because the developing organization takes a new road here. At a bifurcation there often are various possibilities and it depends to a great extent on minor coincidences which one is chosen.

There is also a real chance of regression, as will be shown later.

2.4 COLLECTIVE BEHAVIOURS

During the unstable phase the combinations of preference-fluctuations provide collective behaviour.

Apparently this is done in a far from conscious way. It sometimes occurs almost simultaneously in different places: "Time is ripe".

Great numbers of people suddenly behave in an identical way for completely individual and different reasons; not for some identical motive but because the process-controller has to tolerate this deviant behaviour as it doesn't fit in with his system (selfimage).

2.5 OSCILLATIONS

Vicious circles or oscillations are another remarkable characteristic of this unstable phase in the synergetic process. This is caused (amongst other things) the almost equal power of process-controller and disturbers of the peace. Where all fluctuations and preference-fluctuations were softened by the process-controller sooner or later, the oscillations remain more or less stable.

They are oscillations within the field of power between process-controllers and disturbers that cannot be controlled by either of them.

This is in itself an instance of remarkably complex dynamics that already signifies a more advanced arrangement, if stable for a long time.

There are various kinds of oscillation. A well-known example is the pendulum: the slowness of the pendulum competes with a spring or a weight on a chain. A more complex example is the hunter-model: predators run much faster than their prey. So at a given moment practically all of these will have been eaten.

Consequently, many predators will starve. As few of them will survive, those that do will be able to multiply to their hearts' content and will flourish, and so on and so forth.

However, the oscillations in these examples do not lead to synergetics.

The above mentioned paradoxes can lead to a remarkable kind of oscillation, however, belonging to the synergetic model. The possibility of a paradox signifies the actual existence of two regimes with conflicting self-images: the prevailing system next to the way it is regarded by the disturbers. Evidently, a new self-image of a new regime in a future new arrangement is still unknown at this point in time. The interaction is like this: the prevailing regime naturally thinks that it is right and that the disturbers should recognize the fact deep in their hearts, as well.

Burglary, fighting, stealing is not allowed!

The disturbers on the other hand, have discovered something in the nature of: "necessity knows no law"; they have also discovered how to break the law, which happens all the time according to the same procedure. This is the kind of oscillation we have in mind.

In the case of the squatters, for instance, time and again identical legal ways were followed, hardly ever leading to an acceptable solution. And that is the way it is with many other social paradoxes.

Every time the process-controller (politicians, Member of Parliament, civil servants, scientists) is asked to explain, a vicious circle is being closed: the answers to the paradoxes are evasive, confused, not clear and contradictory.

This "torment" can be heard and seen almost every week on radio and television in all sorts of discussions.

A diplomat, a negotiator or a confidential agent may commute to and fro between the two regimes to help make known the continuous small adjustments in the self-image of either. Such a person plays the part of catalyst and is very important as such: the oscillations are a stable process in themselves through which the structure may be guided away from its unstable phase.

In the meantime tension grows. The structure obviously is trapped. How to escape this deadlock?

3. TOWARDS A NEW ORDER

3.1 ESCAPE FROM THE TRAP

There are three possible escapes from the trap: the tension drops, a new order germinates or, at worst, regression. First of all the trivial possibility of the tension dropping from the process.

Something within the structure was growing (growing dissipation). This growing tension caused the continually growing disturbances - and when the tension drops any change is stopped and everything stops.

As soon as prosperity and employment return, "shopping-the-proletarian-way" ends. This, however, is not the kind of solution that counts, because the correction that doesn't change anything.

We therefore must assume that the tension grows.

3.2 THE GERM

A direct cause of the growing tension is that practically anything that is not allowed, is now repeatedly tried out in any possible combination!

"Total chaos" old-fashioned people say.

"The world is now threatening to become more and more complex", They say nowadays. But some clever ones have noticed that squatters, hooligans and passers-by together were successful and that they have proceeded to create a militant squatters-front. They don't talk about complexity, but about success.

It is striking that those clever ones do nothing but confirm the almost spontaneous new order of, for instance, squatters, hooligans and passers-by. Their aims are only formulated after the takers and form the new regime. They are the first to know the new order.

All kinds of groups with an unconsciously collective behaviour, which were already in existence under the old regime, are part of this new order. The squatters must remain true to their original aims to be able to continue to live in their houses, hooligans must continue fighting, if the militant leaders are to be able to co-ordinate.

In this way, together with the hierarchy in the structure, a hierarchy of aims is founded: aims that are controllable at any level, but quite possibly at odds with each other.

The arrangements are seen to be taking place at different levels; they are relatively minor in our examples and they might turn out to be fluctuations that will be softened later on: but what will the changes be at the social level?

As yet we do not know, we are still in the unstable phase. It seems as if the new order may go in any direction - but some prediction can be made: the preference-fluctuations should be taken notice of, as they are the fore-runners of the new order!

It's obvious that in all the examples proprietary rights are violated time and again; not in a revolutionary extreme way as visualised by the anarchists: "everything belongs to nobody, therefore to everybody", but in a more subtle way. The existing situation is, as it were, incorporated: everyone retains the right to his possessions, unless collective interests demand a better distribution. This complication of proprietary rights has been progressing through the centuries in leaps and bounds, introducing taxation, expropriation, etc. Where it all will end I don't know, but one of these days the solution will be found through endless fluctuations and combinations.

The germ of a new order with new acceptable and more complex proprietary rights will have been planted. In this respect, the phase in the development of proprietary rights that has been reached, will be a standard for the social order. It may serve as the parameter of order that is mentioned in Haken's theory.

3.3 REGRESSION

Establishing a new order, for that matter, isn't always successful. The third possible escape from the trap is regression. This is either a backsliding to a previous level or total disintegration and it occurs where the structure turns out to have too few possibilities to admit a new, more complex order.

This explains our fear of fascistoid organizations: their policy is to get regression. All the current and subtle social acquisitions are to be liquidated from their point of view.

The more or less go back fifty years or more. This is not really exceptional, however, as all dissipative structures (living beings and social structures) are doomed to disintegrate sooner or later.

3.4 THE PRIMARY WAVE

Fortunately germination of a new order is very likely to happen. The new solution, occurring somewhat arbitrarily, is felt to be relaxing and soothing by the people involved and it will spread smoothly throughout the structure (society, in our example).

Thus squatting is not only done in Amsterdam, but in many big cities on the Western hemisphere.

The new sub-regime, complete with process-controllers and self-image, has undulated and become established everywhere.

The new regime formulates a new aim for the new order and guards it with its own process-controllers. Doing that, it has to be careful not to set its aim too high or too remote.

When militant squatters immediately preach the gospel of total social reform, their aims do not suit them. The new order will be only abstract, not concrete. It will only suit a small group of impractical idealists among them.

The aim therefore has to be a true copy of the realised order.

Former process-controllers are not wiped out but subjected and incorporated. In their new positions they can continue playing their original parts! I know the remarkable example of a Dutch judge in Surinam who couldn't continue functioning under the Bouterse regime. He didn't flee as so many others did, but he became a barrister in Paramaribo and thus found ways and means to oppose the new regime legally from his own point of view.

That way he didn' t have to force himself to keep on living and working in that country.
The obvious question arises: who effectuated the new germ and the primary wave? Who or what organised him/itself?
This question springs from our traditional, control-g geared way of thinking. To be sure, it wasn' t the old regime! Certainly it wasn' t the disturbers with their mutual conflicts.
The new regime doesn' t become recognisable until the new order is established. Synergetics apparently is a process that occurs in certain areas of the organization and in which every group plays its own part at its own time. It is the entire structure that organizes itself.

4. WIDENING THE MODEL SOMEWHAT

4.1 HISTORY AND STAGNATION

It must have been a surprise for Ilja Prigogine, who had wanted to become a historian when he was young, to find that his dissipative structures were shaping history not only figuratively, but in reality as well.

Up till then history hardly figured in the exact sciences: in most formulas time "t" might be denoted both positively and laws of nature seemed to be equally applicable in the past, the present and the future.

The dissipative structures offer us a different insight, as the evolution of such a complex structure is for the greater part an irreversible process. Once an unstable phase, a catastrophe or a bifurcation has been overcome, there is no way back.

Constructions that are almost impossible to reconstruct are lost in these transitions.

The development of a biological or human structure evolves through a series of consecutive catastrophes. The structure that has an abundance of possibilities for development is able to choose from numerous germs for its next phase at every catastrophe. Situationally-constricted possibilities and limitations play a crucial part.

A major number of the other possibilities for development are implicitly excluded with any choice.

The very nature of a structure is a reflection of its history.

A structure can only be understood by tracing which choices were made at what past choice-moments.

A curious illustration: some transport-businesses in the USA buy large areas of fallow land on the outskirts of large cities. They build roads, they put means of transportation on the market and then wait ...

It is obvious that the expansion of the city will take place with the help of their means of transportation by their roads, and their land won't be a bad buy either.

The same formula, used by authorities for underdeveloped areas, keeps failing. The new infrastructure more often than not stimulates people and businesses to move away even faster from the underdeveloped area to the developing centres.

Sometimes a certain development fits in nicely with the historical perspective, at other times it may even lead to regression.

In such developments stagnation never means a simple standstill or a reversion.

When there is stagnation the structure disintegrates; it may succeed in stabilizing itself around still viable nuclei, but it will have added an extra category of failures to its possibilities and restrictions.

If, in due course, it were to experience new growth in better circumstances, the remnants of the regression will remain to be stored somewhere within the structure. These remnants will hamper the further development as compared with a younger structure, that is not burdened with such a history.

4.2 EVOLUTION AND EFFICIENCY

Somewhat crudely stated: a dissipative structure is very much like a parasite on a stream of information, energy or matter. Initially it grows and grows without any problem, because it finds itself in a comparatively rich environment. This situation deteriorates when the dissipative structures within one and the same environment in competition with each other.

A greedy structure will obviously be in distress sooner and more often than an economical and efficient one. A selection will have to be made to the advantage of the more efficient structures.

On second thoughts, many dissipative structures are to be regarded as collections of dissipating sub-structures.

That's why the efficiency-aim accrues within such a dissipative structure; during the so-called secondary wave, in fact.

Initially dissipation-growth is aimed at (primary wave), followed by the aim to increase productivity (secondary wave).

Efficiency evidently is not only a notion in scientific management, but much more a natural quality, which is realised in the course of evolution. Here Prigogine draws attention to the possibility of integration of the theories of evolution of *Lamarck* (adaptation to environment) and Darwin (survival of the fittest).

We have already seen how important history is for the qualities of the structure and now we realise that in every unstable phase development progresses wherever conditions permit, after which the best solutions are selected and stimulated, at the expense of the less profitable. Dissipative structures both learn and select in the course of a natural process.

5. SOME CONCLUSIONS

Although the possibilities synergetics offer are as yet incalculable, the organization expert is already able to draw remarkable conclusions from the insights described, on the basis of the model.

5.1 MANAGERIAL DILEMMAS

The phenomenon, during the past years described, as the "complexity" of our society - a term suggesting some measure of ratio and control - may be better described as "chaos", a term that acknowledges our inability to understand what is going on.

Conspicuous is the fact, that today a great many social and scientific developments seem to be stagnating because of some managerial dilemma or other, comparable with the paradox in the self-image of a regime in trouble.

Some examples:

- Doctors, who protect life, are asked for abortions and euthanasia.
- The more our environment is protected, the more artificial it becomes.
- Keynes' economic theory doesn't apply anymore, because the according to the theory - mutually exclusive phenomena like growing investment, growing inflation and growing unemployment can apparently exist side by side.
- Organization-experts are struggling with the problem whether it is the process itself or the content that counts.
- Professional help appears to corrupt society even more (Illich).
- Psychiatry commutes between Freud and Assagioli.
The one digs around in the personality till death follows, as it were, whereas the other builds up the personality with the available material, irrespective of the quality of the foundations.
- Watzlawich and other psychologists come across paradoxes in communication and do little more than put on a first dressing of counter-paradoxes.

- Organizationalism itself has culminated into Haldes' and Olsens' "garbage can", in which Ambiguity plays the leading part and incredible decisions are the result.

Synergetics leads us to see that such barriers cannot be broken down in a controlled, gradual and planned way.

Catastrophes will have to be suffered to find the arrangements of a higher order, where these false paradoxes do not occur anymore.

Another striking aspect is, that for the past years we in the Western world have been consulting the people in the East, who appear to have known and developed synergetics intuitively since time immemorial.

There synergetic principles occasionally seem to be recognizable as such, individually in education, and in the social structure as well. The principles can be found in the training of Zen-Buddhist monks who receive a "koan" from their personal development. Even more striking is the social structure of, for instance, Japan: a multi-layered structure with a functionally coherent social order at every level. Obviously dilemmas occur there as well, but these seem to fit naturally into the processes at higher levels.

The Japanese language even has a special word for dealing with dilemma "mu" meaning something between our yes and no.

"Mu" as the answer to a question doesn't signify uncertainty in the sense of not knowing whether the answer should be yes or no - it signifies the speaker's certainty that the question is wrong; shouldn't have been asked; has been formulated from the point of view of a wrong regime. The answer to the question whether one of the above-mentioned dilemmas can be solved, would be "mu" in Japanese - suggesting the speaker ought to inquire more fully what is actually meant first.

5.2 ITEMS REQUIRING THE MANAGER'S ATTENTION

To be able to handle the insights of synergetics a manager will have to learn to differentiate between fluctuations and preference-fluctuations, first of all

Then he'll have to learn to think in terms of the self-images of other regimes to be able to visualize the situation his own territory is in. He will start to differentiate between at least two kinds of change-processes: the controlled, gradual changes and the uncontrolled, catastrophic ones.

spasmodic process-control is only a stay of execution and blue-prints of the future new order only makes matters worse.

For, if it is at all possible to form a picture of the new order, it should contain the various elements that are being fought against by the prevailing regime and its process-controllers consciously or unconsciously.

The explanation for the fact that planning-methods (budgeting, net-work-planning, etc.) are all the same often quite successful, is to be found in the great need for topical images during catastrophic changes.

During an unstable phase everyone wants to know what is happening everywhere and this major need is fulfilled by a planning method by means of its images.

The basic documents, specifications, plans or budgets of the planning-system are, in contrast with their pretentious, by no means images of the future. Their effect is actually the same as that of topical images.

They resemble the science-fiction film made in 1932 dealing with 1980. In retrospect such a film doesn't say anything about 1980, but it says a lot about 1932! That is the reason why so many more plans are made than effectuated. Although they are designed for control, they are only used as topical images, then immediately forgotten and replaced.

Moreover, in catastrophic changes the manager himself, together with the prevailing regime, is involved with the change. It therefore requires a great flexibility to be allowed to become part of the new regime, and the manager needs to pay close attention to his leadership. For the leader is so sensitive to the dynamics of the unstable phase, that the synergetic process takes place inside his brain first of all. It germinates within him. As soon as the organization realizes this, he will be given a free rein to have the primary and secondary wave carried out in the traditional and controlled way.

The leader becomes the very first new process-controller. New light is shed on the notion "motivation" as well. The moment an organization is in an unstable phase, the people involved derive enormous pleasure from doing the very things they shouldn't do.

The situation is comparable with hearing a good joke: at first one supposes oneself to be in a well-known regime, then one starts suspecting it is all about something quite different and as long as the point hasn't been made, one is strongly motivated to start searching for the outcome in happy confusion.

It is beginning to become understandable why brilliant young managers often owe their success to their being little or not at all concerned with the kind of behaviour expected from them by the organization.

And there are many other discoveries to be made by tomorrow' s managers: it would be worthwhile to compare the curious discoveries of Peters and Waterman "in search of excellence" with the synergetic model. Practically all their excellently typified, but completely illogical - according to the present-day theory - sketches turn out to somehow hang together.

5.3 ITEMS OF ATTENTION FOR THE ORGANISATION-EXPERT

Planning and control are certainly relevant for the keen-on-results organization-expert, but only where a controlled, gradually changing process is concerned and as far as his territory extends and he himself has a grip on it.

Fluctuations show him how tight (or loose) a grip that is! Apart from that, he is offered the part of catalyst: so no approach with planned "genius concepts".

They are just repulsive and will end up in a drawer or the waste-paper basket of some process-controller. One may wonder if it is at all possible to effectuate changes without power and control. The cybernetic-concept dines it, but synergetics show us a more subtle way:

The part of catalyst offers at least two approaches. The first is for the organization-expert to try not to become involved as to the content of the process of change and to limit himself to creating the most favourable circumstances and conditions. That is no different from the well-known process-approach. Success is by no means assured.

The second approach does not exclude the first, but is much more fascinating. The organisation-expert does get involved in the content of the process. To start with, he will have to have observed preference-fluctuations and to have analysed their origin, in order to know which way the changes will go. Then a dual approach follows: he will show to the prevailing regime the paradoxes in its self-image, aiming at a paralysis of its process-control, at the same time running the risk of evoking even more process-control. On the other hand he will try to stimulate preference-fluctuations by means of the exact timing and dosing of insights and skills.

Doing this, he will find himself on the side of the disturbers, which is rather risky.

The topical images mentioned earlier, play an important part in all this. Also, the side of the disturbers needs, of course, new concepts and possible images of the germ.

When the organization-expert is the only one to try and generate preference-fluctuations, he will have to take care not to become the process-controller of his own idea. Chances are that he will be exposed in an attempt to get into the (if missing, as yet!) seat of the future management.

He will have to be patient, not waste his powder in a single shot, quite a few preference-fluctuations will be softened. He must keep on trying to seize the opportunity when it occurs. So it is not a planned approach he takes, but much more an incremental one, or perhaps even a benevolent guerilla.

6. CONCLUSION

This is not all that remains to be done. I will only mention the possibility of integrating the teaching-models which are known to be conflicting, into possibly remarkably more efficient teaching-methods.

Anyhow, organization-experts have their work cut out for them.

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