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**Knowledge and Power: Actors,
Organizations and Systems in
the Pursuit of Change
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1 – Change is a systemic problem

I argued in 1977 in my book *Actors and Systems* that change is a systemic problem I was emphasizing the fact that the behavior of people within any kind of organization must be understood as the behavior of actors within systems. Systems limit and orient the action of actors. But systems themselves are made of actors whose behavior makes them exist. Actors make systems and systems command actors.

In order to operate in a system, we must use its patterns id est follow the games of which the system is made of, but by doing so we make it exist we confort and reproduce it.

This is a recipe for stability in a functionalist interpretation. But systems change. In order to get out of functionalism, I worked on the concept of crisis. Crisis means, for a system, to change its old patterns and reorganize them in new ones. This is a sociological problem. Even if the crisis comes from a non sociological problem, it means that this is men who change and not men passively but actively, not individually but collectively in their relationships to one another. The result will be a sociological innovation.

For theoreticians of change, in the past, the basic problem was the occuring of a crisis. When do contradictions within a system will become so unbearable that a rupture will take place and a crisis will occur. Or in other terms, at which threshold of contradiction, the capacity to effect integration will be called into question so that the system will crumble.

This was the basic creed of all the revolutionary politicians who worked for change. They did not care very much about the kind of change that will then take place. For them, the construction of a new system will be almost natural. It will be enough to get rid of the old world.

The new world will take its place without its defects.

But the experience of most revolutions are quite clear. Crises are blind if they are not guided, they bring about first chaos and then oppression. They do not evolve easily towards a new stage of rationality. This second problem therefore becomes dirimant. How is it possible to guide a crisis to entail better results ?

2 – Unguided crises mean constraint

The debate in Western Europe has, for a longtime, around two basic examples, the French and the Russian revolutions.

The French revolution is a moot case since it could be argued on both sides, first that it was necessary to go through its ordeal to achieve the passage to a more rational society as delineated by the philosophers of the enlightenment but second, that the chaos it precipitated, provoked a regression of the whole Society while orderly change was possible, even probable, if crisis had not occurred in a violent way.

The lesson of the Russian revolution, on the contrary, was clear. It is a case in point. It was triggered by war and military defeat. The chaos it provoked was of much greater magnitude and, instead to introduce the rationality of more modern countries, Russians were aiming at, it reintroduced the worst features of the tsarist Ancien Regime.

What was lacking there ? A much deeper diagnosis on the Russian polity and enough knowledge on its key points. Oppression, revolt and a police state were the basic elements of the vicious circle of the tsarist system. Russian people had to be trained in learning new games more appropriate to a new freer system. They were of course not and these vicious circles which were only part of the Society, were extended to all walks of life.

Why ? Whether or not the participants in a system are partisans of a given reform and, of course, even more for a revolution is not of great importance. They may accept the goals wholeheartedly in all sincerity but the problem is not beliefs, it is acts. And in order to act, people will refer to the games in which they perform whith their partners it would be too much to

require them to give up their autonomy and their power to control their own actions. Without this minimum capacity, they would no longer possess the means necessary to accomplish their tasks even in favor of the reform and of the revolution.

3 – Knowledge of the key regulations as a substitute

Unguided crises bring about impossible problems of governance. Since people do not change their behavior because they are prisoners of the old games they are committed to survive, they escape even if unconsciously the command of the new authorities. Enthusiasm and charismatic energy will not be a realistic substitute, but for a short time. Authorities thus will be led necessarily to extend the scope of the command society and to use more and more constraints to replace the traditional system of rules and incentives.

How can we get out of such a vicious circle ? Curiously enough, this is in the US, the most sophisticated market economy, that a new empirical concept has developed, the concept of regulation. The US Congress has created Federal Regulatory Agencies that would be watch-dogs to prevent behavior detrimental to the fair functioning of these markets in order to police the markets and enforce laws to moralize successively many markets. These intrusions into markets helped develop empirical evidence for a better understanding of the functioning of the economy and for society as a whole. A very important legal literature covered these experiences. Later, sociologists have come to the problem of regulations in a more restricted and systematic way. This made it possible to get out of the stale debate between the market and the command economy.

Legal regulations were instruments to prevent the misuse of the rules of the market. But they were also instruments to reform the markets and even to create new markets in the very active new fields of technological activities. The overwhelming movement of deregulation, which submerged the West, did not suppress those interventions but helped make them more sophisticate. What we need, of course, is the less intrusive kind of intervention possible to get the best results.

Sociological analysis of systems has proven that changing some key elements of a system may have important consequences as regards the functioning of the whole regulation system and thus may become a major element to reform the activity itself.

Knowledge here will make it possible to limit intervention.

4. Shared knowledge will help close the gap even more, two French Cases

It seems easy to call for more knowledge on the basic key regulations of a society. But how can we get at these ? How can you prove that those we have selected are the key ones ? How can you convince society you are right ? You can do it only with experiments but since, you cannot experiment with large scale societies, this is a self defeating proposition. This will therefore remain a very theoretical one for a longtime. But it will help deflate however the current illusions on the possibility of overall change. It will also call for sizable investment in institutions of knowledge that could be capable of studying these regulations in such an instrumental way.

A more promising development however exists. It concerns the regulation of smaller organizational systems. A methodology has been elaborated among consulting firms to achieve change in medium-sized, or even by firms. A large scale prescriptive movement has developed whose main features have been to cut down on bureaucracy and to give much more initiative to the lower echelons of the hierarchy. « Empowerment » has been the key word of these reformers. Such people, like Michael Maccoby in the US, have been its proponents.

But these efforts have relied only on social psychology and general knowledge about human behavior. They did not dwell on more specific knowledge about the regulations of the systems on which people are part of.

I would like to present now two experiences I have made of using this kind of specific knowledge to help organize change.

The first of this experiment concerns the French railroads. After a major social crisis which paralyzed the whole system entailing important political consequences, I was appointed, as a member of a panel of three « wise men », to report on the reasons of the strike.

We showed that the knowledge existing in the organization was false or misguided and we decided to interview, to start with, the engine drivers who were the key actors as regards the strike. They were 20 000 of them, distributed in 100 units among which we selected, in agreement between unions and management, five of them. Then, we selected again, but this time randomly among these units, twenty drivers to the total of a hundred and then have them interviewed by trained students in deep open interviews. We analyzed the protocols of those interviews very carefully and presented our results in a short nine pages report which we immediately reported and discussed with the drivers concerned. As we had hoped, but almost to our surprise, they were enthusiastic about these findings which corresponded, they say, exactly to their feeling.

The main problem that came out of the analysis was the problem of the scheduling of the work of the drivers who were totally subservient to a work schedule elaborated nationally. This schedule was a monthly schedule. It was calculated a new every month to optimize the movement of trains in the whole country. Drivers could not discuss and make arrangements in view of their own personal problems. Yet a lot of minor arrangements could have been achieved that would change their lives. But no one had the power to make them, since the « regulators » were in the central bureaucracy.

The hierarchical system was put into question but it seemed absolutely impervious to change because it was organized around the security system of the railroads in which you cannot meddle through.

We decided not to answer directly about the confrontational problem but to take care first of the communicational problem that was at the root of it. We bargained two months with general management to obtain that they make these findings public as they had agreed to. They decided to make it in a big way. They convened, in Paris, all the members of the hierarchy from the lower grades on, id est 200 people to discuss at length the nine pages report during one whole

day. We insisted that the representatives of management participated on the presentation of the facts but did not try to explain them which would have looked as explaining them away. Facts were to be accepted completely before coming to the problem. The next morning was the convening of the joint union-management regular meeting to which the same nine pages were presented. Unions had to accept the facts because it had been accepted by their people. And the next week-end, they were also published integrally in the house organ of the railroads as the report of the independant experts.

Then only the internal staff of the circulation branch of the railroad, responsible of the scheduling, were called to act. They were backed by the common acknowledgement of the whole personnel that it was indispensable to find a solution. To summarize it briefly, the main elements of the solution were :

Suppress the key element of the technical hierarchy, the regional technical manager who was in charge of appointing the foreman and give their power to the line managers of the 100 units¹.

Change the commande of the schedule by computers. So that it would come one week earlier and would open enough leeways for change. The computer people who had said earlier that it was impossible, declared then that higher management had underestimated their capacities.

Appoint the regional director who had been the principal adviser of the « wise men » to be director of personnel in charge of enacting the reform.

The completion of the reform took three years but no one opposed it, even the communist union was so impressed that it organized among its people a small consulting firm to compete with management. But it was impossible to extend the scope of the reform to other parts of the railroads because for political reasons, the president of the railroads was obliged to resign by the President of the Republic and moved to another job.

¹ This was a radical change of the power system and of the regulation which had been organized around it.

The morale of the drivers however changed substantially. If one tries to draw a lesson from this experience, one should underline the following elements :

The traumatic experience of the crisis that the hierarchy had to live through was a decisive element of the context. There was a sense of urgency.

The shared knowledge of the people concerned was indispensable. It could be achieved by a careful survey of the people concerned. This knowledge thus became « public knowledge » in a spectacular event.

The people in charge of the reform had participated to the elaboration of this knowledge made public.

I was able to test these propositions when I was asked to intervene in a similar crisis at Air France, a few years later. Air France was completely paralyzed by a strike that one understood as a traditional confrontation over wages and work load, after the failure of two major plans to reduce costs by using sophisticated methods of cost accounting whose results were for employees to raise their productivity while deficit increased dramatically, Air France was almost bankrupt². The president was changed and the new president asked us to make an audit in a very short amount of time. He had to prepare a third plan to get the authorization of Brussels to obtain a very big loan of the French government. We bargain to have our survey made before any plan was presented.

We then organized, within a few days, 120 interviews in a campaign, the way we had done it in the railroad experience. It was very well received by the employees and it showed that the very root of the problem was the organization of work. It was a hierarchical, almost taylorian, organization with few capacities to organize the cooperation between the units of the organization. Therefore the more the productivity of the units increased, the more the losses increased in the interunit cooperation. As a consequence, there were losses of market share, intolerable waste and the demoralization of employees.

² If it would have been private, it would have been bankrupt but it was state owned and managed

These results were reported immediately to groups of interviewees and union friends. They were made public a month later after a big postal survey where 20 000 people sent answers 3 produced the same results. The president organized the elaboration of a plan that was clearly in line with the criticisms made by the employees :

The cutting down of the hierarchy from ten to four levels

The organization of lateral communication which corresponded more or less to the process of reengineering which developed at the same time in the US.

The president who was a very charismatic figure forced the unions to accept a referendum if they did not want to agree to the proposals. The CGT, the communist union, refused and the referendum which was organized by mail, gave 80 % of answers and among those who answered, 80 % of approval. The first measures were implemented very quickly. Later, the command of the reform became confuse and we could not master it after one year. But changes had been enough important for Air France to get away from the red and to become finally the most profitable airline in Europe in a few years.

Here again, the basic recipes for success was :

The traumatic experience of the crisis

The revelation of the feelings of the people to become « public knowledge »

A direct relationship between public knowledge and action

From solving crises to change in society as a whole

Societies change continuously by making minor adjustments that help them adjust to change of the environment in all its parameters, technical, economic and social. But at a certain level of complexity, these changes become difficult because they put into question basic regulations that keep them operating.

¹⁰₃ An unheard of percentage in France. *UNESCO Forum on Higher Education Research, Research and Knowledge*

Change of these regulations are imperative but they are possible only through major crises that are very costly to them. We raised the problem of guiding those changes by using knowledge of these regulations. We tried to show some cases drawn from our experience of organizational change which showed how one could solve these crises and bring about lasting changes. What kind of lesson could one draw of these cases ?

1 – Although one cannot extrapolate from an organization to society as a whole, one can build up some important lessons since the same problems are at stake and because successes in such cases help make people amenable to change at a higher level.

2 – One could and one should invest heavily on the methods that make it possible for people to make diagnoses and solve crises.

3 – One should train leaders and managers at all levels to use these methods and draw lessons from these experiences.

4- One should even propose to leaders to engineer artificial crises that would help make the necessary changes before disruptive crises could occur.

Michel Crozier,

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