

Systems Philosophy in use

0 Introduction

The ambitious intellectual who takes the trouble to read old philosophers like Aristoteles or Immanuel Kant will be surprised to see the actuality of their wisdom. We may also find that systems science is not as new as many of us think. The French systems scientists professors Edgar Morin and Jean-Louis le Moigne have seen this and they bear "witness" of their learnings by the book "L'intelligence de la Complexité" (noted Harmattan 1999, ISBN 2-7384-8085-3). They also convey their own constructivist synthesis, in glory of a subjective, homeomorph modelling for modern design and management.

A review of this book is now presented to an English-speaking audience. We offer some hints of the intellectual milieu it represents. We try to summarize the book and to record its message. Morin and Le Moigne do not, as many others, only criticize the positivist approaches for complex design. They give a coherent advice though in abstract terms. We have the pleasure to make a referee's assessment and we have come to a conclusion that this is an important book.

1 Kontext in France

France is a continent intellectually. Especially there is a rich milieu with the intersection of management and systems research. Besides le Moigne and Morin we have among others Claude Riveline and Jean-Claude Moisdon, from the Ecole des Mines de Paris with a very conscious phenomenological metaphysic.¹ We have Michel Berry and Christophe Midler from the Ecole Polytechnique who offers a more conventional engineering approach with a face value empiricism. The English-speaking world has got good reasons to share this knowledge and a very symbiotic cooperation could arise. English pragmatism and French phenomenology are different, but we need both. I am glad that this journal has taken the initiative to introduce some of the latter.

2 Morin och le Moigne, a team

The present authors, Morin and le Moigne, have been cooperating for many years. They quote each other generously, though the *Intelligence de la complexité* seems to be the first book they really wrote together. Morin is the leading ideologist. He is well known from his four volumes about La Méthode. Le Moigne is the extrovert organizer of an important network of enthusiastic systems colleagues. Both have a refreshing pathos for honest and defendable *knowledge management*, though they themselves have not yet come to use this expression à la mode.

¹ See for example J-C Moisdon et al. La mode d'existence des outils de gestion.

Especially le Moigne is controversial by his provocative open-mindedness and by some post-modern constructivist perspectives.

3 The book

I recommend two books among the many existing ones for those who wish to learn about French projective systems research: *La modelisation des systèmes complexes* by le Moigne and the mentioned co-production *L'intelligence de la complexité*. The first one is specifically about descriptive modelling and modelling for specific use in management. The second one is more broadly about management and its theoretical backings. It is solid, but it does not lead all through to applicable methodology. It offers a wake up however. It offers a very necessary wisdom and ethics for our difficult times so full of superficial consensus and parochialism. Do you agree? I think however that the two books complement each-other nicely.

L'intelligence de la complexité Boken handlar om tankeprocesser d v s intelligens, förstånd och komplexitet i skapande ledningsarbete. Den utgör klangfull och krävande läsning. Många formuleringar är helt enkelt lysande och paradoxerna tankeväckande. Språket har virtuosens ledighet. De kan både sin filosofi och sin samhällskunskap. I boken säger författarna sig vilja vara ett vittnesmål för ledare av alla slag om vilken kunskap som finns tillgänglig för dem på det modernt metodologiskt plane för att stärka såväl etik som logik. Resultatet är inte helt lättillgängligt och det beror inte bara på det franska språket. En riktigt givande läsning skulle nog kräva kunskaper i såväl filosofi och samhällskunskap som organisationsteori och praktisk management.

The authors give us the tough message that that there are limits to useful simplification. Certain perspective simply must be taken into account by all who have got a public of financial responsibility, in fact by every actor, by everyone. They convince us that “travailler à bien penser”² is necessary and they give this phrase a content.

4 Concepts and Backings

The authors' scientific backing includes more or less everything including the history of philosophy, systems science, design sciences and management. Other backings are a general political knowledge, a vast and heterogenous network, partly on the web, and a formalized life with professional societies. As in many others of their books they mention Jean Piaget and Herbert Simon as their most important references. They also mention Anton Bogdanov, Kenneth Boulding, Heintz von Foerster, Ilja Prigogine and Paul Valery. Rabelais is mentioned as a serious philosopher, interested in multiple perspectives, not only as a gargantuan author. Modern theories explicitly quoted are the Information Theory, Cybernetics, Systems theory with its concept of synergie, holism and an area of auto-organization and autopoiesis.

These quotes enable our authors to distinguish different *paradigms*. Synonymously they also use the word *metasystem* when they wish to show the power and and stable character of a *paradigm*. To explicit a paradigm is a way to demonstrate ones otherwise tacit awareness of ones proper and inevitable subjectivity. The *barbarian reason* is defined as claiming truth or right without offering

² Free translation: "learn to think".

the arguments in contrast to the *heroic reason* which dares to be explicit about its backings. The latter way of discourse is really heroic. It enables criticism, but at the same time it is honest and scientific.

Morin and le Moigne distinguish conceptually the subject from the object, of course, but they also stress the importance of making an object out of the subject. This may seem not so original, but still the subject is very rarely modelled, they write, and personally I agree on this.³ The unconscious, “objective”, realism and absolute rationality is still so dominating in most areas of society.

Quoting classical philosophy, Immanuel Kant among others, Morin and le Moigne elaborate the concept of conscience e g a self-critique in ethical and epistemological perspectives. Aristoteles and Descartes are the clear counterparts. The “barbarian” individualism of the former and the reductionism of the latter are rejected. Kritiken mot Descartes sammanfattas som att hans förenklande syntax för vårt tänkande passar illa till den nyanserade semantik som nästan alltid behövs och att detta leder ända till utarmning av den mänskliga intelligensen.

5 The World-view

Morin and le Moigne fight a ruling world-view though they have also a certain tolerance. They wish to engage different paradigms in a constructive dialogue. It is not only intolerance or a fiction straw-man they fight. They are precise enough about their opposition.

In general terms the evil target is the mechanistic and deterministic world-view where uncertainties and ignorance may be piecewise amended and where processes of knowledge about chaos and laws converge towards truth, as Hegel thought it for example. The second law of Descartes’ method, where he advises the division of all problematic into parts, is the special target of rebuttal in our book. Perspectives instead of parts it should be.

As a basis for deductive reasoning our authors focus on the following simplifying characteristics of a ruling modernism. This is in extreme abbreviation what they criticize at the same time as they reintroduce parts of it into their framing.

- Laws and general laws of thinking are sought, independent of situations.
- Models of equilibria are drawn where irreversible process perspectives would have been more relevant.
- Atomic worldviews are drawn in areas where models of relations or still more complex models would have been more relevant.
- Deterministic laws are sought instead of dialectic relations between stochastics and intent, outer and inner causes.
- Feed-back is favoured at the detriment of *nuova*-design.

³ There are exceptions though. I wish to mention the strategic methodologies of Colin Eden and John Friend both summarized in *Rational Analysis for a Problematic World*, ed J Rosenhead. Wiley 1989. We also have *Planning under Pressure*, Friend & Hickling. Elsevier 2005.

- Synergies are denied and autopoietics⁴ is not discovered. Synergifaktorer försummas och möjlig autoorganisation förstås inte.

They believe in the myth of neutral, objective observation.

Man tror på den neutralt, objektive observatören.

- Responsibility, autonomy, roles, relations, being and moods of existence are studied by a paradigm of science. (En existensialistisk revolution is needed here)

- People do not know of the Gödel theorem so they present false backings.

- There is a fear for contradictions and paradoxes. The inspiring richness of such are not seen.

They identify and reject the modernism with fixed structures, separable problems and an absolute logic. With a certain pathos they regret the ruling “denial of complexity”. Ontological clarity shadows the operational clarity, with the result that no one will want the analysis and the results produced. Systems goals shadows operational goals since the contexts for our intervention are not understood. Analysis of the possible goes in the shadow of the possible. Participative decisionmaking is forgotten. Dialogues between means and ends are not organized. Freedom of action is spoilt. This not so encouraging world-view is turned into a challenge however: We would need a method which connects our scattered cognitions, faces the uncertain and makes a fair logic.

6 Methodology

Our authors own method is to “remember” from different sources throughout history and to make their own deductions on this basis. One point of departure is a precision of what paradigm they do not want. They make a modern synthesis. They identify a new strategy for a vast field of research, decision-making and thinking in general. Modelling, in a vast sense is made a key issue in intelligent thinking. They present themselves as constructivists, which here means that modelling inevitably depends on subjective factors, personal goals and systems goals among others. This is not a bad subjectivity as long as you as a modeller are ready to make your motives explicit. This is in line with a long philosophical tradition including Immanuel Kant among others.

In their methods recommendations to us, the readers, they state that not all existing intelligence should be thrown out. The idea of order and fixed structures for example can be used in dialogues of organization where also positive elements of disorder would appear. A certain provisional separability in line with Descartes second method’s paragraphe may be used in dialogues with holistic perspectives, even when the latter offers contradictions, as they often do. Let us just give the exemple from particle physics where models of matter and models of electromagnetic waves contradict eachother. This duality and many others are just fine. The cross-cueing that such an antinomy offers makes good teaching.

The book also offers a summary of their methodology in “seven principles of complex thinking”.

1. Holism! This fairly worn-out phrase is presented with the relatively early reference of Blaise Pascal where he discusses the whole and its parts. The concept of emergency gets a role in this context.

2. It is shown how the hologrammatic principle is so generally valid. The whole is so often copied

⁴ = selforganization + selvreproduktion.

or projected into its parts. We may in fact see most systemic relations in this way.

3. Norbert Wiener and his control theory is quoted. Feed back is not only for control it is also (together with feed forward) for design and development.

4. Reciprocal relations are argued for between production and regeneration/autopoiesis. The product and the organization co-produces each other.

5. We are offered a relatively concrete method for organization: Auto - eco - organisation - autonomy - dependence. This means that sub-organizations and individuals are allowed to live their own life and struggle in their Darwinian environments.

6. Principles of dialogue. This means that ideas as well as their human proponents have to match each other in a non-algorithmic way. Trade-offs and arbitrations are to be made explicit first by discovery of the relevant dimensions. (No “denial” of important perspectives!) Not until then can there be any sensible trade-off and arbitration.

7. A constructivist message: All knowledge is created by individuals in given cultures and in specific situations. Focus and formats are conscious or not but dependent on the situation. They may form either an unconscious subjectivity or a conscious and efficient knowledge management. Sometimes however knowledge is tacit and it does not lend itself to be transferred in packages.

For modelling our authors offer a more precise methods advice, but still it is a matter of dialogues, dialogues between the desirable and the possible. We have needs to model both object and subject, both external issues and our own control activities. Structure is never a primary issue. The following questions are the fundamental ones:

- What is our object system supposed to achieve?
- How does this system work, and work with you, and why so?
- How can we contribute to its development?
- What is the context of our focused activities?

Morin and le Moigne give us an approach not a methodology. They gather their view of “the ethics of understanding” and “the epistemology of arguments”. They call upon the sciences of complexity for imagination of the possible and for descriptions of the *conditions* for different business and activities. Engineering and cognitive sciences are especially called for. They make this call instead of accepting what they find to be a general trend, to solve problems without a real involvement in a real development process. They even say that instead we solve problems of a kind that no one is actually concerned about.

Basically our authors give a message of multiple perspectives and they are precise enough about which has to be included: Participation, the subject-object dialogue, vision and strategy, means and ends, phenomenological understanding, relevant contexts. We get the tough message that this complexity is necessary. We must work to learn to think it all in an integrated way.

The book has got two summaries; first one which offers a conclusion about how to see and act in the world as an intelligent subject and then another which describes the way to prepare and proceed in order to gain this intelligence. Work for it, they say. This writing is intelligent and elegant by

providing an application of the message of the book into itself. However this is complex, and the competent person who could take their stuff and rewrite it pedagogically for their own local domain would do a great service.

7 Critical Assessment

One of the qualities of the book is its references to the history of philosophy. They give solidity to the message of the book at the same time as they put a strange light to the modern systems science in general. I mean that Morin and le Moigne makes systems science small and insufficient. What is good and true in it was known a thousand years ago and some of it is not so good, we learn. The famous American West Churchman gave a similar message and he was also generous with his philosophical references. He could have been quoted. Foucault with his fanatic, exploding, multiple perspective views could also have been quoted, and so by both of them. A comparison of the three philosophers would be interesting. All four of them have not only a rationality of multiple perspectives but also a pathos about it. They want to improve the world.

I have not found that that the philosophers mentioned contradict each other, but they are different. Morin & le Moigne are the ones nearest to applications in planning and design and they are the ones with most of useful details for applied systems analysis. Churchman has got a relatively easy structure in his writing. Foucault is the politically most conscious one. Anyhow together they give strong evidence that the positivism of Auguste Comte is no more the ruling paradigm. In a way I miss lots of possible references with Morin & le Moigne as well as with the others, but that is no real criticism. The history of philosophy is so huge and so many of them say the same thing. The task of mixing references with a proper text into a coherent message is not so easy.

8 Relevance today

In spite of their abstract language I wish to recommend the writings of Morin and le Moigne to an Englishspeaking audience from systems' and management areas.

Their ambition is to make a timely contribution to the world. They cover vastly almost all global, public and entrepreneurial areas. They meet the demands of tracking and traceability which comes nowadays from democratic ministries and audit organizations. They elaborate this traceability both in relation to overriding goals and in terms of theory of knowledge.

Our book offers an alternative logic to the naive empiricism and superficial consensus logics that is otherwise too common today. Its aim is both better foci and more defensible management. They trace the way towards a more honest and less corrupt society where arguments are formed on a wider basis than the personal preferences of those present.

Morin and le Moigne see the applicability of philosophy, and for the schools which would agree on this, the "L'intelligence de la complexité" would be an excellent complementary textbook for students of business administration and political science.