SYSTEM APPROACH AND MANAGING DIVERSITY IN COMPLEX SYSTEMS: TOWARDS DYNAMIC STABILITY

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ABSTRACT

This paper aims to contribute to the search for an adequate concept of decision-making in the light of developments in system methodology and the demands of sustainable development. These two issues call for a rethink of the rationality of decision-making simply as a matter of finding a formal representation of problems through technical procedures.

Sustainability aims at the "survival" of systems that change. In order to survive, a system has to be prepared for a large variety of actions/ counteractions in the face of a variety of the perturbations to which the system may be subjected. However, a large variety of possibilities cannot be described in terms of bounded rationality, but rather in terms of meta-rationality.

In this paper we analyse the evolution of the decision-making process from mono-rational forms to meta-rational. We propose to extend the term "meta-rationality" beyond its present meaning as a combination of multiple forms of reasoning. We argue that meta-rationality has to overcome the separation between rational and emotive aspects in decision making, by transition from bounded rationality towards "interpretive reason".

Keywords: Rationality, multi-criteria decision-making, self-adaptive system, sustainability

«Quand nous aurions beaucoup plus de travaux consacrés à la recherche sur toutes les branches, puis et seulement alors nous serions capables (en rassemblant, en groupant et en comparant les données de différents secteurs) de poser une question sur une vision global, serions capables à donner les

nouveaux impulsions au développement humain pour le changement fructueux.
Autrement, il ressemblerait à galoper avec deux ou trois idées simples et approximatives. Il signifierait, alors, de manquer dans le plupart des cas le spécial, l'individuel (ou le «déviant»), en bref, de rater le plus intéressant».

(Lucien Fevre « La terre et l'évolution humaine », 1949)

INTRODUCTION: SYSTEM APPROACH AND MANAGING COMPLEX SYSTEMS

With the development of system methodology and evolutionary theory, problems have arisen in management practice known as "the crisis of public decisions" (Bailly, 1999). In part these problems are the result of methods used in the natural sciences which have been applied unchanged to the human sciences. Recognition of the realities of post-modern science, such as emergence, complexity, or uncertainty, requires a reflection on the limitations of human intervention in (and regulation of) social systems, and a rethinking of system approach methods applied to these new realities.

Systems Theory, including Systems Science, Systems Technologies and Systems Philosophy (Bertalanfy, 1975), has provided a conceptual basis for such methodologies as Cybernetics and Research Operations, which are widely applied in Administrative Science. The evolution of ideas concerning the relationship between Information, Systems Approach and Business Administration has been analysed by Berdugo (Berdugo, 1993) and might be represented in short as follows:

- The 60s, where companies were viewed as cybernetic systems. One of the most eminent works is Anthony's model of the company as a triangle: 1) strategic planning; 2) control at the functional level; 3) management at the operational level.

- The 70s, where companies were seen as equipped with memory and able to organise the decision-making process. This model, "Information - System - Process", was based on the conviction that human reasoning and subsequent decision making could be structured and programmed according to certain simulation processes.

- The 80s, where companies were seen as having to act on strategic opportunities which were offered, but limited by their comprehension of the business environment. The concepts of interactive decision support systems and the utilisation of expert systems offered alternative choices and solutions for analytical reasoning (in a way which led to a single solution generally considered as the optimal solution).

- The 90s - the model of the "Strategic Triangle" (Tardieu, Guthmann, 1991) was a typical example of the articulation of a company's strategy, its organisation and its structures with adequate information technologies, where these three dimensions were interactive. The integration of the information and communication systems in decision making helps a company's strategizing.

This reveals an evolution in the understanding of the role of social factors, and of the possibilities and limitations of formalisation, of a gradual transition from a "linear" to a "non-linear" model of management, and of a transition from unification to an acceptance of the diversity of many value-based systems.

Social systems belong to "Open systems" (De Gaulejac, 1993) which are: interactive, unstable, indeterminate and self-organized, dynamic and non-linear. The phenomenon of self-adaptation to environmental changes and to regulating actions makes it impossible to apply cybernetic methods to business administration. Furthermore, our knowledge of systems at any given moment is incomplete. Therefore the achievement of desirable goals for such "open" systems is not a priori (not evident). Indeed, the term "complex system" was introduced for the formulation of management issues from a systemic point of view. Different social, economic, or political factors in management issues cannot be described separately from each other and then just summarized as an explanation of integrity.

As well as defining complexity as a great number of objects which interact in a complex manner (Simon, 1965), it is necessary to emphasise that, as a rule, any complex issue has several possible solutions, each of which can be appropriate to different goals. Complexity is an expression not only of complex structure but also of the character of interrelations where the behaviour of one element influences another (Saaty, 1985). This point indicates the importance of taking into consideration the synergy of interactions between interconnected elements, when the result of such synergy is a new emergent property, which does not belong to any of the existing elements. An analysis of causality is not enough for problem solving because often new interrelations might be discovered after a "decision" has been made.

The rethinking of system methodology (Checkland, 1981) is connected to the necessity for reconsidering the methods of system analysis created in the early stages of system methodology development which were badly adapted for the investigation of human activity systems. Checkland calls it "hard system methodology" and proposes the term "soft system methodology" for a social system where interrelations have a changeable intensity, i.e. are unstable and flexible. Thus, the accent moves towards the dynamics of the system (non-linear character of interrelations). Furthermore, the system approach should help to formulate the system goals, as well as achieving them.

The achievement of immediate and longer term goals is considered a necessary condition for progressive development in terms of a normative approach. Such an approach excludes from consideration the effects of self-organization and the potential capacity of a system to adapt. It is important to note that in order to decrease entropy, it is necessary to strive for the formation of goals which do not compel, but which animate the actions within a system. This is in accordance with the theory of social contract, where social development is a consequence of changing the balance between the interests of different social groups, which is possible only by reconsidering the public contract. A wider social basis provides a longer life cycle of this contract. According to I. Prigogine (Prigogine and Stengers, 1984), that means a longer time period between two points of bifurcation and therefore an increase in the dynamic stability of the system.

We argue that from an understanding of progress as an absolute necessity for the achievement of goals, we have to move towards "content-related progress" (Petit, 1999), oriented to meanings and not simply to results. The principal points in the functioning of social systems are not the structural elements but their interrelations and their dynamics. The functioning of social systems depends on concrete cultural values. Thus, an understanding of a social system as a system based on socio-cultural interrelations in an organizational context requires us to enquire into adequate methods of management.

STRATEGY MODELS AND THE DECISION-MAKING PROCESS: NEW ACCENTS

Accepting that uncertainty is characteristic of social development, we have to remember that the idea that society regulates everything is not realistic, and similar to mechanistic determinism. Furthermore, social systems are capable of adapting to regulating impacts and such a response has a non-linear character. Post-normal science considers a social system as a Self-Organizing Holarchic Open System (SOHO) (Kay et. al., 1999; Lane and Oliva, 1998), where the prevailing explanations in terms of linear causality and stochastic properties are inappropriate. Multiple possible pathways for development need to be considered. In policy analysis the response to the inadequacies of logical positivism is known as "a critical multiplism" (Cook, 1985).

Traditional disciplinary reductionism in science and in experts' predictions has limited applicability for adequate descriptions of the dynamics of SOHO systems. A search of preferences concerning the attributes of SOHO systems for "increasing the range of human choices" (Anand and Sen, 2000) leads to the introduction of adaptive and participatory principles of management.

The adaptive principle of management is considered to be a continuous process of learning, revising, resolving tradeoffs and planning to adapt to unfolding situations (Kay et. al., 1999). The participatory principle of management indicates a transition from government to governance on the basis of learning values, beliefs etc.; it is considered as a never-ending process, which refers to the accumulation of insights into systemic causes and effects, by anyone with an interest in decisions or issues (Meppem and Gill, 1998). The participatory approach is required in order to find a reasonable reconciliation of conflicting interests (Martinez-Alier, 1995).

The following trends apply to the most important principles of community strategies (Williams, 2002): co-ordination, a long-term vision for the area, adaptation of holistic and integrative approaches and the empowerment of people and communities to articulate their needs, aspirations and priorities. A realisation of new principles of management requires a new strategic model. Some features of such a model in comparison with the classical model are shown in Table 1. A post-modern strategic model assumes the inclusion of rationality. However, this is not simply a matter of finding an adequate formal representation of problems through technical procedures (for example, mathematical modelling), but is also concerned with finding

an adequate conceptual representation of problems, which requires self-conscious and critical choices between competing world-views, ideologies, and myths (Dunn, 1994).

The evolution of the strategic management model is a reflection of the development of system methodology and the necessity to answer demands for sustainable development. Systemic perspectives can redress the balance, but not if they are seen as empty abstractions. Emotions can be applicable to organisations, not as metaphors, but as an interpretation of discrepancies in the modelling process (Gaines, 1993). Indeed, we can never escape the modelling process; all we can hope to do is identify our current preconceptions (Gaines, 1993). It is human nature to fantasize and reify models which are not grounded in our physical environment that gives rise to those human characteristics that we most value. Therefore, it is irrelevant to analyse these in terms of correspondence to reality. Decision-making support systems can be useful, if we use the systemic models, as a means to our destination and not as ends in themselves.

Sustainability aims at systems which "survive" change, i.e., which maintain a continuous identity, even though their states may change (Heylighen, 1991; Maturana and Varela, 1980). According to the law of requisite variety, a large variety of actions is more adaptive than a smaller one. Therefore, in order to survive (development without destruction) a system has to allow for an increasing "degree of freedom" (Turchin, 1977) or diversity at the lower level. This means that in the management process, voluntary heterogeneity should replace aggregating information. There is a new basis for a rational procedure of reasoning with the focus on meaning.

The diversity of human actions cannot be described in terms of bounded rationality, but rather in terms of meta-rationality. Understanding meta-rationality as multiple forms of reasoning, systematically represented, is not new. This term has appeared in relation to complex political decision-making and in the field of policy analysis. In this paper we analyse the process of the evolution of rationality from mono-rational forms to meta-rational, and propose to extend the term 'meta-rationality'. We argue that meta-rationality is more than a simple combination of mono-rationalities. Meta-rationality proposes a mechanism for overcoming the separation between the rational aspects of decision making (reasoning in itself) and the emotive aspects (values evaluation, i.e., interpretations), which allow for a transition from "pure reasoning" towards "interpretive reasoning" (Favereau, 2001).

In business, system approach expressed in multiple perspectives allows for the integration of suppliers' and customers' interests and the provision of long-term development. This approach does not end with integration of technical, organisational, or personal dimensions. As Courtney (2001) states, it also explicitly brings ethics and aesthetics into play.

Table 1. Changes in Strategic management model

Decision-making process	Rational (classical) Model	Post-modern (towards "meta-rational") model
Definition of the problem	Predetermination; Detachment; Formalization	Uncertainty; Interdependence (e.g. networks); Part-formalization
Goals definition	Forward-looking	Back-Forward process, systemic reviews
	Achievement of a particular goal	"Going concern "/ Maintenance of Goals (Parunak H. Van Dyke. 1999)
	Strategic plan	Strategic architecture (Hamel and Prahalad, 1994)
Identification of the alternatives	Forecasting means prediction	Long-term vision/ Risks
	Invariable quantitative techniques and forecasting tools	Sensitive and imaginative management (qualitative, holistic and conceptual) (Williams, 2002)
Identification of environmental impacts	Linearity	Non-linearity
	Competitiveness	Co-operation
	Planning context: uniform	Planning context: diversity
Definition of criteria	Lack of appreciation of the role of other actors in the implementation process	Embracing the full range of actors and stakeholders in the strategy making process (Williams, 2002)
	Single decision maker (or tightly bound group)	"Loosely coupled society" (Parunak H. Van Dyke. 1999)
	Economic rationality	Reasonable reconciliation of conflicting interests (Martinez-Alier, 1995)
Resolution	Pseudo-compromise: planning, constraint satisfaction	Consensus: interaction mechanism, integration
	Model " Winner-Loser "	Model " Winner-Winner "

**DECISION PROCESS AND RATIONALITY:
TOWARDS META-RATIONALITY**

Strategy, therefore, becomes the task: how to provide dynamic stability and at the same time to allow a variety of changes in order to increase the adaptive capacity of any system? People's diverse and often competitive aspirations, values and goals are to have a place in natural evolution as a basis for multiple possibilities, while the common goals of social development are achievable through co-ordination and consensus, rather than competition. Strategy and a theory of values (ethics) are both concerned with well-founded actions: in strategic terms this requires the formulation "where are we going?" and in ethical terms the answer to "why are we going there?"

Human systems, like natural systems (but unlike technical systems), are adaptive. Thus the initial purpose(s) of a system and/ or the intensity of purpose can change as well. The decision process helps to evaluate the effectiveness of a plurality of goals in such cases. The core of a decision process is how to manage, i.e. how to modify the system and to provide dynamic stability. We need an analytical view of the world which helps to shape the future, rather than adjusting to it; and we need an alternative to formal rational reasoning. This means that strategizing and the decision making processes, not rational in themselves, increase our capacity to be "rational", i.e. to think systematically "what for?" Following F. Heylighen (Heylighen, 1991), the fact that a controlled sequence of combinations can be generated and explored as to its consequences might be defined as rationality.

Acts are considered rational if they successfully fulfil their goals (operational appropriateness) and do not obstruct other actors (ethical acceptability) (Jokinen, 1995). This explains why rationality leads to the more general context of cultural values and social norms. The separation of facts from values is made not at the lower level but at the "rational", i.e. management level. Thus, rationality is an instrumental concept, a sign of the actor's competence to plan, to co-ordinate and choose actions, so that such behaviour looks competent and fulfils the goals which motivate action. In this article we analyse the development of decision theory with regard to rationality. This last has no single definition. The development of system theory considers deviations from "cause-consequences" rationality, including them in the process of planning. Such deviations underline the transition from rational to meta-rational.

In practice there is an essential gap between descriptive models of political decisions and normative models of economics where traditional use is made of "Costs – Profit" methods. These methods cannot be applied to decision making in public policy to resolve social issues because:

- They are multi-faceted, and thus cannot be investigated by normative models of economic theory in decision-making;
- They are multi-actor, i.e. the decision-making process involves many people with personal values and objectives which may conflict with the common goal.

This is why game theory or linear programming results in decisions which are generally acceptable, but optimal for no one. To emphasise optimisation seems to be insufficient in the light of sustainability, because the main principle of optimisation

focuses on one or several variables, excluding others from consideration. On the contrary, decision processes in the context of sustainable development have to strive for the reconciliation of diverse interests and the consideration of the "ecology" of the problem (see Table 2).

Table 2. Development of decisional approach: from goal-achieving model to goal-formulating model of management

Character of model	Goal-achieving model of management. Model " Top-Bottom "	Goal-formulating model of management. Model "Bottom-Up".
Criterion of effectiveness	Achievement of Goal. (Strictly determined system structure).	Achievement of consensus with regard to feedback "Goal – Consequences". (Flexible system structure).
Nature of Decision	Decision=Act (Of a choice of optimal variant).	Decision=Process (of comparison and choice of models with verification, correction of feedback Goal –Consequences)
Basis for Evaluation	Multi-attribute Utility Max Profit/ Min Costs	Multi-attribute Value Balance/ Harmonisation of local priorities
Focus	Unification	Voluntary heterogeneization and synthesis

When decisions are ethically and philosophically complex such as those including Human Factors, methods based on a single type of rationality should be used only as one component of the input into the decision-making process. But we should also consider that public values and decision processes require moral reasoning.

According to Wenstøp F., Seip K. (Wenstøp and Seip, 2001), there are, historically, two ethical principles underlying public policy-making and two approaches to management:

1. Rule-based management (Duty)/ rule-based ethics inspired by Kant and Weber (Theory of bureaucracy, 1947). The dominant norms are concepts of duty without regard to personal considerations. Everyone is subject to formal equality of treatment, and therefore there is no need for emotive decisions.

2. Management by objectives (Goal)/ consequential ethics inspired by Hume, Simon (Administrative Behaviour, 1945). Management by objectives is based on strategy, where the formulation of visions and goals are basic stepping stones).

Cyert and March (Cyert and March, 1992) also confirm the dichotomy between decision making as consequential action and decisions as rule-based actions; and Sen (Sen, 1995) underlines that it is impossible to conceive of any moral principle for public policy that does not consider the consequences of that policy. We argue that the use of pure reason is not sufficient for an improved quality in the decision making process. Conflicting values, as well as uncertainty about future consequences, must be taken into account. However, in the actual practice of decision making there is a dominance of rule-based action in the sense that people try to decide what they think is appropriate (Wenstøp and Seip, 2001).

MULTI-CRITERIA DECISION MAKING (MSDM) AS A POTENTIAL CONTRIBUTOR TO META-RATIONALITY

Multi-Criteria Decision Making (MCDM) is an operational tool within the larger concept of 'management by objectives' and helps to resolve conflicts between them. Simon (1945) distinguishes these following types of rationality for decisions:

- Objectively rational, if there is correct behaviour for maximizing given values in a given situation;
- Subjectively rational, if it maximizes attainment relative to the actual knowledge of the subject;
- Consciously rational to the degree that adjustments of means to ends are a conscious process;
- Deliberately rational – to the degree that the adjustments of means to ends have been deliberately brought about;
- Organizationally rational if it is oriented to the organization's goals.

However, values are omitted here, since they are considered as given. This omission is rectified by including values, and therefore emotive aspects, in rational decision-making as follows (Føllesdal, 1982):

- Rationality of logical consistency (means that those beliefs that play a role in determining the best action in the current decision situation are non-contradictory).
  Tools: Standard Decision theory: {methods}, game's theory von Neumann-Morgenstern: value functions here are identified with utility functions.
- Rationality of well-founded beliefs;
  Tools: means-end diagrams, influence diagrams
- Rationality of action achieved through the application of standard decision theory;
- Rationality of well-founded values which is suitable for policy analysis. This type of rationality is achieved through MCDM: we construct goal hierarchies to organize our values, and have available a host of methods to weight them or by other means create a well-founded structure of importance.

Indeed, rationality requires that both beliefs and values be well-founded, and values cannot be well-founded without emotion. Emotions play a role in the decision

making: their function is to rearrange priorities and set a new hierarchy of goals. Beliefs about facts are obtained through reasoning, while values must be felt (Wenstøp and Seip, 2001).

We habitually trust reason as the only process that will lead to a decision, while we try to suppress feeling as irrational and misleading. Regardless of the exact process, policy-making based on consequential ethics requires the active use of the values of the policy-makers. Multi-Criteria Decision Analysis (MCDA) is a step in that direction. MCDM takes into consideration not only rational aspects but emotional aspects of decisions too.

In order to extend single decision making procedures (choice) to dealing with multiple qualities of decision makings, including both rational and emotional aspects, different methods by different authors have been proposed:

➢ AHP (Saaty, 1980);
➢ Multi-attribute utility theory (Vetschera, 1991);
➢ Finding better compromises (Salminen et al., 1996);
➢ ELECTRE; PROMETHEE (Vincke, 1992);
➢ Examix method (Voogd, 1983);
➢ NAIADAE (Munda, 1995).

Such methods were successfully applied, both to land usage planning (Hokkanen et. al., 1998) and decision making related to environmental policy. (Wenstøp and Seip, 2001) We may thus confirm the contribution of MSDA in providing a flexible way of dealing with qualitative multidimensional environmental effects of decisions (Fabbri, 1998); in increasing the transparency of the decision process; in increasing publicity; in learning how to identify meanings and to search for consensus in multi-person decision making with different preference structures (Herrera-Viedma et.al., 2002).

These applications (many of them created on the basis of empirical studies) confirm the advantages of decision-making, using MCDA, as follows:

1. MCDA provides a flexible way of dealing with the qualitative multidimensional environmental effects of decisions, even in the absence of monetary information. (Fabbri, 1998).
2. Transparency: it clearly improves the decision process, as each participant understands not only the personal benefits and losses, but also those of other participants.
3. The analysis receives much publicity, and different interest groups consider it a success: they learn to identify the criteria important from the perspective of decision making; they learn to think about the meanings of these criteria and for goals and objectives of different stakeholders.
4. Most conflicts between the objectives are resolved with the help of the multi-criteria process.
5. As an alternative to optimising rationality MCDA methods provide a "conscience in search of meaning".

We argue that this is also relevant to the business and industry environment, where there is a need to manage a diversity of objectives between different stakeholders, and to reconcile them in a pro-active and systemic way. These objectives and perceptions/ visions involved in the decision-making process may be very different from

operational, commercial or strategic perspectives. MCDM has a formal procedure for coping with such a diversity and for facilitating the learning process through visualisation, and then through evaluation of individual, group and common priorities in pursuit of successful change.

It indeed holds true that MCDM cannot involve all elements of the reasoning process and intuition. This however is the same for any other method.

Generally, models of decision-making or decision support systems serve to clarify the decisions of a managerial nature and to guide the decision process in organized systems, but this is above all a constructive approach and not simply a descriptive one (Roy, 1999). Thus decision support systems are created not for the discovery of latent realities but rather as a contribution to the transparency of collective decisions, and the search for compromise between different kinds of rationalities or multiples values, which are often contradictory.

CONCLUSION

We need a meta-rationality which supports the process and not simply the end result. Analysing the development of a decisional approach, we can distinguish several stages corresponding to:

1. a transition from optimising rationality to bounded rationality;
2. a transition within bounded rationality from substantive to procedural rationality, which is illustrated in Table 3;
3. A transition from bounded rationality to meta-rationality.

As noted above, meta-rationality means the overcoming of the separation of the rational aspects of decisions (reasoning) from the emotive aspects (values, interpretations). The methods of MCDA present one possible way of overcoming mono-rationality. Besides, the development of adaptive logic has been proposed in which proper meta-theory integrates the use of induction and deduction, where the reasoning process can more adequately be explained in terms of this logic (Meheus, 2002).

Table 3. From substantive rationality to procedural rationality (adapted from Isla, 2000)

	Substantive rationality	**Procedural rationality**
Objective of scientific practice	Objective observation, calculus and quantification What is it made of?	Subjective understanding, interpretation, construction What does it do, and why?
Behaviour	The rationality judgement is about choice among pre-	The rationality judgement is about the construction of

	determined options	the set of possible options
	Given preferences	Structures of variable preferences
	Research of maximum utility	Realization on an aspiration level
Coordination	Competition	Organizations (experience, apprenticeship)
Uncertainty	Probabilistic	Radical
Observed system	Complete	Incomplete
Conception of scientific knowledge	Positivism	Constructivism

In addition, models for non-deterministic, multi-agent planning have been proposed. They compare outcomes by means of partial order instead of assigning quantitative utilities to outcomes. Such models could represent an alternative version of decision theory - qualitative decision theory (Doyale and Thomason, 1999).

As shown in Table 4, the methods of MCDA already allow the representation of information at a meta-rational level with a strong degree of correlation between rationality and co-ordination. These methods are underestimated in the real practice of decision-making, although the overlapping of rationality and co-ordination by this means can give an ethical dimension to decision-making.

Future developments in decisional approaches to meta-rationality might be presented as a movement towards interpretive reasoning, which would mean an absence of separation between rational and emotive aspects in decision-making in search of a consensus model.

Table 4. Approaching Meta-Rationality

Place of information in regulatory process	Correlation between rationality and coordination	Human actors	Managerial approach	Decision concept	Decision tools
Absolute/ unbounded rationality	Individualism; Separation of rationality from co-ordination	Uniform	Normative	Standard decision theory	Optimisa-tion; 'hard' OR_
Substantive/ bounded rationality	Atomised society: pseudo-compromise	Uniform	Descriptive incremental	Extended decision theory	Games; cognitive mapping 'soft' OR
Procedural/ bounded rationality	Compromise in search of meaning	Hetero-geneous	Cognitive	Non standard decision theory	AI_; MCDA_
Meta-rationality/ Complex Rationality	Strong correlation; Search of consensus	Hetero-geneous	Interpretive	Qualitative decision theory	To be resolved

OR_ - Operational Research; AI_ - Artificial Intelligence; MCDA_ - Multi-Criteria Decision Analysis

The required co-ordination would call upon the establishment of an appropriate level of trust; yet the very characteristics of power, which are so efficient in producing conformity, are in contradiction to the mechanisms which produce trust. While the regulatory ideal of power and control is obedience, the regulatory ideal of knowledge and innovation is disobedience which envisages reality as not the only possibility and triggers change through "constructive non-conformism". On these foundations "a theory of meaning" (Favereau, 2001) should be built.

In examining the nature of traditional decision theory and analysis Doyle and Thomason (Doyle and Thomason, 1999) explain the necessity for qualitative decision theory to be extended from utility-based approaches. They note that traditional decision theory provides little help in effectively representing the reasoning in decisions involving a broad knowledge of the world, and in communicating the reasons for decisions in ways that humans will find intelligible. Also the usual approaches to planning and learning should be re-considered. What we need are "models of deliberative reasoning". Philosophical insight into the ways of development of free will, self-consciousness, identity (individual and collective) is interrelated with sensitivity, which produces intuition accompanied by emotion. We could better manage diversity as soon as we learn how to influence the development of consciousness and identity.

Above all, the articulation of the emotive and cognitive must above all not be understood as an exaltation of subjectivity. On the contrary, "it makes the critical spirit possible" (Popper, 1972), which is essential for wise decision making.

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