

# *PrimaVera* Working Paper Series



UNIVERSITEIT VAN AMSTERDAM

*PrimaVera* Working Paper 98-14

## *Notes on improvisation and time in organizations*

C.U. Ciborra

October 1998

Category: Scientific

To be published in: *Accounting, Management and Information Technology*

Universiteit van Amsterdam  
Department of Information Management  
Roetersstraat 11  
1018 WB Amsterdam  
<http://primavera.fee.uva.nl>

Copyright © 1998 by the Universiteit van Amsterdam

All rights reserved. No part of this article may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the authors.

# Notes on improvisation and time in organizations

**Claudio U. Ciborra**

Universita' di Bologna, London School of Economics  
(Also Visiting the Universities of Goeteborg and Oslo)

**ABSTRACT:** Business Process Re-engineering has not been able to eradicate improvisation from business organizations. On the ashes of this failed program of modernization, it is high time to take a serious look at the phenomenon of improvisation: its structure, dynamics and forms of occurrence in both emergency and routine situations.

The study of such a ubiquitous human practice reveals that even in highly structured business organizations improvisation is a well grounded process that can be leveraged to face those situations where rules and methods fail. Improvisation seen as an ex-temporaneous process also opens up alternative approaches to cope with time in business. "Lifting out" the constraints posed by clock time, one can envisage the importance of those "moments of vision" that represent the elusive heart of truly entrepreneurial behaviour. The inner core of impromptu action, as well as of a more authentic notion of time, is what stays out of the managerial models in good currency: human existence.

---

*Acknowledgements:*

The Author wishes to thank colleagues and friends who have helped him during this difficult journey. First of all, Bo Dahlbom and Anna Maria Morazzoni. Also, Mary Jo Hatch, Lars Mathiassen, Wanda Orlikowski, Mario Nesi and Friedrich Ljungberg have provided generous comments along the way. Time will tell whether the Author could benefit of their feedback.

## Index

1. Introduction .....	4
2. The phenomenology of improvisation in economic .....	5
2.1 Improvisation in emergencies.....	6
2.2 Improvisation on markets.....	6
2.3 Improvisation in work organizations .....	7
2.4 Emerging characteristics .....	8
3. Improvisation, planning and .....	10
4. Time and improvisation .....	12
4.1 The authentic time of improvisation.....	13
4.2 How we remember in order to improvise.....	14
5. Concluding remarks.....	17
References .....	19

## **1. Introduction**

---

One of the claims boasted by Business Process Reengineering (BPR) has been that improvisation should be eradicated from business organizations through the systematic redesign of processes and activities (Hammer, 1992). The BPR wave, or fashion, has come and gone. It is thus an appropriate time to repopulate the intellectual wasteland BPR has left behind, by picking up the study of improvisation again, since in the mean time such form of organizational behaviour has not been eliminated from everyday management. Is improvisation still with us just because of yet another false promise to be attributed to BPR, or something more fundamental is here at stake, that BPR grossly misunderstood ?

Improvisation is an intriguing process. It is situated performance where thinking and action emerge simultaneously and on the spur of the moment. It is purposeful human behavior which seems to be ruled at the same time by intuition, competence, design and chance. While improvising the agent is able to frame and recombine features of her situation, so that they become resources for intervention. In a burst of action the contours of the problematic situation, plans for problem solving and the deployment of resources coalesce. Improvisation is intentional but extemporaneous, that is, happening almost unexpectedly ("ex tempore" - outside the flow of time), and with little known causes or relationships.

In a "slow motion", after the fact analysis, one could trace in its unfolding ingredients germane to rational decision making: goal definition, information gathering, planning, choice and so on. This might have constituted the ground on which BPR could envision the possibility of turning improvisation into planned process. Still, whether there are physical symbols in the improviser's brain representing the situation and the plans for action and whether these can be used as raw materials to develop formalized routines, (Newell, Simon, 1972; Vera, Simon, 1993) seem to be minor issues: it would be hard to identify those representations which are relevant when the action is "suddenly" performed. Improvisation is simultaneously rational and unpredictable; planned and emergent; purposeful and blurred; effective and irreflexive; perfectly discernible after the fact, but spontaneous in its manifestation. These characteristics make improvisation a difficult target for systems modeling and support.

We submit that improvisation not only plays a ubiquitous and foundational role in economic organizations, (Schon, 1983) but also its study can challenge some selected aspects of the received theories of organization, and make us reflect in a new light upon key concepts, such as the structure of individual and organizational decision making; the nature of business processes in markets and hierarchies; and last but not least, the notion of time along which organizational processes unfold. (Kavanagh, Araujo, 1995)

Indeed, the temporality of improvisation lies "outside" the temporality of routine economic activity. If BPR has been the latest effort since the Industrial Revolution to save and cut down time in production processes and market transactions, still we do not seem to have enough time, operating within economic processes that are performed more and more frantically. Ironically, instead, and to the dismay of the BPR advocates, the effective improviser never seems to be worried by (a lack of) time: she just acts at the appropriate time. Improvisation is about an existential moment of vision, seizing the occasion, while process re-engineering methods concern counting the beans of clock time, trying to spill the least possible amount.

The paper commences by spelling out the importance of improvisation in organizations. The everyday life in economic institutions such as markets and hierarchies is reviewed, for both emergency and routine circumstances, in order to show how improvisation is ubiquitous and economically relevant. (Section 2) Next, the "structure" of improvisation is explored and contrasted with rational, planning-driven decision making: on the one hand, improvisation does contain elements of planning and design, oriented to the future; on the other, even what may look as planned, structured decision making appears to be intrinsically improvised, since it is grounded on an opaque stock of past experience. (Section 3) The following Section deals with the ex-temporaneous character of improvisation: its study unveils some hidden aspects of time and organization, in particular the possibility for multiple management temporalities. Concluding remarks follow.

## **2. The phenomenology of improvisation in economic**

---

In music, improvisation is defined as extemporizing, or creating all or part of a composition at the moment of performance. To improvise effectively the musician knows the conventions and the rules of a given musical style, since they provide a sort of library of musical resources that can be recombined to generate new instances of the score. The resulting, re-invented music has at the same time a sense of unity and coherence, while allowing room for spontaneous activity. (Horsley, 1980) A parallel between musical practice and rational, albeit limitedly so, management may indeed seem improvised. On a closer inspection, however, when one considers the art and science of organizing, rather than organization (Weick, 1979), the analogy is much more warranted. In general, then, we can appreciate the importance of improvisation, if we look at organizations less as the stable outcome of a hierarchical, functional decomposition of tasks, and more as an on-going process of designing and sense making. Consider, then, three different organizational forms along a continuum from highly unstructured to more stable ones.

## **2.1 Improvisation in emergencies**

Improvisation is a key "success factor" which can keep together a faltering organization in extreme situations. An original study of the aftermath of an earthquake in the South of Italy provides a telling case of how improvisation, rather than planned organization, lead to the establishment of an effective network of local rescue initiatives.(Lanzara,1983) It all started when an ordinary citizen opened a makeshift coffee bar (actually a bench) on the main square of an isolated village in ruins. The coffee bar proved to be a primary support for the survivors and an important coordination point for the first, local operations, before the army and the official rescue forces were able to reach the disaster area. While the official recovery organization came late and proceeded slowly, if not clumsily, the improvised coffee bar functioned as a knowledge brokerage house, allowing the quick allocation of resources available locally to those who needed them most. It decreased the transaction costs of coordination and provided an essential organizational continuity to the community.

By interpreting the Mann Gulch forest fire accident, in which almost all of the members of a consummate fire fighting team died, Weick (1993a) concludes that improvisation and bricolage (Ciborra, 1994) were activities that represented an effective, albeit partial antidote to panic and ensuing collapse of the team. The surviving team members were able to devise and try out ad hoc tactics to escape the fire, including the paradoxical recombination of the few resources left at hand. For example, the chief officer burned the bushes and the grass in front of him and jumped into the self provoked fire, so that when the fire front reached his position, it did not find any new fuel to burn. Improvisation was effective in countering the main source of organizational failure: panic, a paralysis of sense making that leads to the collapse of the team structure.

But one should not conclude that improvisation is just an antidote to panic and disruption in emergency situations. If this were the case, its role would be confined to the design and implementation of ad hoc organizations in emergencies or disasters. We submit, instead, that improvisation is a part of the everyday economic behavior. At the limit, and at a sufficient level of granularity in the study of organizations, it appears to be the very stuff market processes and hierarchical routines are made of.

## **2.2 Improvisation on markets**

Hayek (1945) is possibly unsurpassed in portraying the functioning of the market institution, or price system. For the Austrian economist, the market is essentially a discovery process, where new opportunities and innovations are relentlessly found out, and the news of such findings is transmitted instantaneously through the price system. The economic problem of society being one of rapid adaptation, the market as an institution represents an effective mechanism to cope with change. In market behaviour one can find a few key components of improvisation: immediacy; situatedness; idiosyncrasy; local knowledge; access to and deployment of resources at hand. Take for example "situatedness": adaptation occurs through decisions based on knowledge of the particular circumstances of time and place. And relevant knowledge is ultimately in the hands of those actors "who are familiar

with such circumstances, who know directly of the relevant changes and the resources immediately available to them."(Hayek, 1945) No such knowledge of the here and now can be efficiently communicated to a central board, which after integrating it, issues its orders. The highly situated and fragmentary nature of knowledge which lies at the heart of improvised decision making on markets defies the efficacy of economic calculus based on statistical "data". The existence of more or less "regulated" markets does not abolish by decree the role of improvisation. Market decision making as a chaotic discovery process is often able to overcome or bypass many rules and regulations. What was going on "below the surface" in the so called planned economies, and the importance of the "black market" even in advanced, regulated economies are further pointers to the emergence of unregulated (and often improvised) economic activity.

### **2.3 Improvisation in work organizations**

At first glance, it is hard to imagine a role for improvisation in hierarchies. We exit the world of relentless exploration of new opportunities (the market), and we enter the world of exploitation of the already known and carefully planned, the world of hierarchical routines (March, 1991). Namely, thanks to the division of labour and specialization, work routines are generated to "freeze" explicit and tacit knowledge necessary to make decisions and carrying out activities (Nelson, Winter, 1982). Organizational structures are there to influence, possibly in the smallest detail, decision making at all levels of the hierarchy, through sophisticated mechanisms of communication, coordination and authority (March, Simon, 1958). At a closer look, this picture of organizational decision making, which seems to rule out improvisation completely, is due to a bundle of assumptions embedded in a particular perspective of analyzing and designing organizations, the information-processing perspective (Galbraith, 1979). The adoption of other perspectives (e.g. the one which looks at organizations as interpretative systems - see Daft and Weick, 1984), coupled with the study of the organizing processes which take place daily in any work organization, would delineate a quite different picture, where procedures and plans are abstract and distant constructs, while improvisation is real and it works.(Crossan et al., 1996)

In this respect, consider the empirical studies on the role of "practical thinking" in the execution of mundane, highly routinized tasks in diaries (Scribner, 1984); offices (Wynn, 1979); and when using new technologies (Suchman, 1987) and repairing them (Orr, 1990). These studies indicate that "contrary to much conventional wisdom, people continually learn and improvise while working." (Brown, Duguid, 1991). In her studies of work routines in a modern milk-processing plant, Scribner (1984) finds out that in a variety of jobs, ranging from the manual assembly of products, to accounting, picking delivery tickets and taking inventory, intricate forms of improvisation are successfully performed to meet production goals. In most instances, even preset problems are subjectively reformulated on the basis of experience or hunch. Actual problem definition is made to fit "good solutions", where good solutions are what circumstances have to offer. For example, product assemblers may convert a loading problem, formally expressed in an addition of units to be sent out to the loading dock, into a subtraction problem:

how many units should be subtracted from available cases in order to reach the desired amount of units. Or, inventory people are able to manipulate in a sophisticated way the physical areas where cases are piled up, in order to translate a counting problem in inventory taking into a multiplication of physical space problem. Here, improvisation is systematic in the sense that formal accounting procedure are reframed, and new calculus procedures are set in place by a quick registering of the situation, according to a principle of "least mental effort" and maximum exploitation of the "affordances" provided by the physical lay out. A second empirical feature of improvisation is the flexibility in which the same problem is solved " now one way, now another, each way finely fitted to the occasion"(Scribner, 1984). Such flexibility comes in handy, since improvisation is deployed to fill the unavoidable gaps between standard operating procedures (SOPs) and events as they occur in the flow of daily work (Zimmerman, 1973; Wynn, 1979; Suchman, 1983).

## **2.4 Emerging characteristics**

Idiosyncratic language, anticipatory feedback, a different ecology, and shifting boundaries characterize improvisation in organizations.

Improvisation takes us by semantic surprise: the language in which the problematic situation is framed and the solution expressed is highly idiosyncratic and differs from the standard organization language. This introduces further degrees of unpredictability and surprise within the organization about how problems are actually framed and solved. Indeed, local, specialized language of work groups, often unintelligible to outsiders, is an important sign of the deeply social nature of improvised work. Such an idiosyncratic language, which consists of jargon, slang and war stories developed and used in situ, appears as an external medium to support the development of ad hoc, novel ways of formulating problems and finding out solutions. (Orr, 1990) It allows members to immediately access relevant knowledge of local circumstances, close to the events to be faced, rather than relying on the "distant" and abstract representations of events one finds in the organization manuals. (Lave and Wenger, 1991) Thus, secretaries learning how to use a new copying machine do not follow written instructions, but as a group construct ad hoc "methods" to overcoming many situations the instructions fail to anticipate. (Suchman, 1987)

While improvising, implementation is a form of instantaneous exploration. Implementation becomes a source of discovery, so that problem setting and solving feed continuously upon each other through anticipatory feedback. Feedback from the situation arrives and is applied, before the decision is firmed up: this pre-empts the deployment of any pre-planned procedure or solution. Often, such anticipatory feedback affects the boundary between the decision maker and the task environment disrupting the orderly sequence (according to clock time) of the typical phases of rational decision making.(see below)

Indeed, the ecology of improvisation reveals the intricate relationships between problem formulation and implementation, and the environment (situation) where it takes place. For example, tools and artefacts which populate the task environment, such as workstations, pencils, desks etc. are always annotated, if not "re-invented" (De Certeau, 1984) with personalized adaptations, such as "hacks", "macros" and a plethora of "add-ons". The annotations indicate the richness of the "inventive calibration, calculation and workarounds" (Brown, Duguid, 1991). More subtly, Scribner (1984) suggests that practical thinking and improvisation take place through sophisticated processes by which the task environment and its affordances (people, artefacts, information) (Gibson, 1977; Norman, 1988) are internalized into problem setting and solving. To the point that even written, formal instructions are interpreted by experienced workers not as the (pre-planned) way to solve a problem or execute an action, but as an "input to an, as yet, unspecified problem" to be addressed. (Gerson, Star, 1986) More in general, an intense commerce takes place between what are analytically known as body, mind and (task) environment. What is reputed to lie outside the body or the mind (functions, activities, artefacts) gets internalized; and what is reputed to belong to mind or body is externalized in the surrounding environment (the group, the artefacts, the layout). Thus, the good jazz improviser has the music in his/her fingers (Sudnow, 1978); while the dairy men use the layout as an external memory.

Here, we come full circle in our study of improvisation in economic institutions and organizations. Seen as a last resort in emergencies, improvisation constitutes the essence of competent behavior in a highly decentralized (authority-free) institution such as the market. Last but not least, the study of work in highly routinized, hierarchical settings, as conveyed by the ethnographic studies reported above, shows that the daily work life is punctuated by a myriad of instances of improvisation. In all the contexts examined a reason why improvisation tends to appear "without known causes or relationships" may lie in the intense, but disconcerting, trade between internal and external cognitive and behavioural functions. The expected boundaries, drawn from the prevailing organizational, technological and cultural representations, between mind, body and environment are criss-crossed. Functions get recombined in a way that does not square with customary images of their permanent and univocal assignment to the mind, body and environment during problem setting and solving. In this perspective, improvisation is not just a fluctuation in regular organizational routines, but is a practice which contains a different vision of work in organizations. Such practice and vision challenge the prevailing, objectivist paradigm which governs organization and information systems (IS) design.

Note, however, that the characteristics of improvisation as an "open", "unstable" and "undecided" process, contrast empirical evidence on one important account: the quick or sudden "closure" of the act of improvisation. How to reconcile the two phenomena? In other words, what does put an (almost instantaneous) end to the floating and indeterminate exploration of the world during improvisation? We submit that what precipitates improvisation is the fact that the decision looks appropriate to the actor. Such a belief underlies the actor's determination to act on the spur of the moment. If in the current

models of decision making meaning and legitimacy are conferred by the rationality of the procedure attended to, where does meaning stem from during a process that denies procedure ?

### **3. Improvisation, planning and experience**

---

Improvisation surprises us because it makes little sense within the context of events and action we expect to occur. To be sure, analyzing it after the fact can help us in finding out its meaning and contribution to organizational effectiveness. However, such a post mortem analysis may “kill” improvisation: one can get to its rationale, but may miss the heat of the action. Planned decision making, on the other hand, is fully endowed with meaning, and each step of the choice process can be made explicit and explained according to some means-ends chain. (Jones, 1988) This is why we feel legitimated and confident in improving rational decision making processes and possibly automating them. Indeed, many modern management and IS methodologies, such as BPR, are geared to support and enhance decision making of an explicit, planned nature against improvisation. In contrast, where does the semantic locus of improvisation lie ?

To address this issue, consider two different worlds: the one of improvisation and the one of planned decision making. (Winograd, Flores, 1986; Vera, Simon, 1993). According to Weber(1964) and Simon(1976) rational decision making and action can be analyzed objectively, as the planned selection and deployment of means to achieve a goal, without further inquiring into their consistency and unity.

It is precisely such explicit objectives, plans, criteria which make a decision a meaningful activity to the mind of the decision maker. As a conscious, future-oriented activity, decision making seems to be emergent or improvisational only in those circumstances where planning is impossible: that is, contingencies of high uncertainty and unpredictability (the realm of non programmable decisions (Simon, 1965)).

On the other hand, the phenomenological study of the choice and memory processes due to Husserl (1962) and Schutz (1967)(see also Giddens (1976)), indicates that choice is intrinsically subjective and transient (in Hayek's words: " linked to the here and now "). Moreover, any choice process is constituted from preceding projects of actions, and derives its unity (sense) from the range and scope of such projects. These are highly dependent upon the here and now of their formulation and evocation, so that the meaning of an action may be relative to a particular moment in time, and the recollections the actor is able to perform in those particular circumstances. (Schutz, 1967)

But, how can the orientation to the future, which seems to characterize both improvisation and planned decisions, be reconciled with a view where subjective, highly circumstantial interpretation of the past gives the ultimate meaning to action ?

According to Schutz (1967), every action is carried out according to a project, which contains a vision of the act as if already accomplished in the future. The unity of the action (its meaning) is constituted by the

image of that project: the actor is lead by the vision of the accomplished project. The meaning embedded in the project and its constituent elements (plans, goals, means etc.), represent what Schutz calls the "in-order-to" motives of action. It is precisely the in-order-to motives which are the special object of the analysis and design of rational decision making processes in the fields of information systems, Artificial Intelligence, Decision Support Systems, etc.(Simon, 1976) However, the in-order-to component is just the tip of the decision making "iceberg".(Garfinkel, 1974) Below, there are the actor's past experiences - selectively evoked according to the existential circumstances at the moment of making the decision. Such deeper and wide ranging motives are called the "because of" components of the action. These motives convey the ultimate meaning and thrust to the devising and performance of the action. The in-order-to project deals with the actor's explicit and conscious meaning in solving a problematic situation,(Newell, Simon, 1972) while the because-of motives can explain why and how a situation has been perceived as problematic in the first place.(Giddens, 1976)

The because-of motives are tacit and lie in the background of the explicit project at hand. They fall outside the glance of rational, awake attention during the performance of the action. They could be inferred by an outsider, or made explicit by the actor, but only as a result of reflection after the fact.

Note, however, that the very act of interpretation of the because-of motives may well be "improvised", for it is based on yet different bundles of motives, some of which fall outside the actor's attention. That is, the "light beam" that can be thrown on the meanings of a (past) decision is also highly situated, and constantly shifting. The same action performed in the past may reveal new meanings depending upon the circumstances in which the actor or the observer reconsider it.

We can now explain the empirical accounts presented above which show how ordinary decisions on markets and in hierarchies are de facto improvised, no matter how rules and norms are supposed to guide and constrain behavior. For sure, plans, and procedures matter, but they just constitute the tip of the iceberg. Even more relevant is the drifting mass at the bottom, which provides the raw materials, the leftovers out of which plans are put together, particular problem definitions are selected and means - ends chains are assembled. The improvised component embedded in structured decision making comes from the highly circumstantial fashion in which the bottom of the iceberg is brought to bear to the situation at hand, the relevant problem formulation, the solution chosen and the way it gets implemented. Since we are not fully aware of its tacit influence on our plans and projects at the moment of action and implementation, even a carefully planned and explicit decision may look extemporaneous and pasted up, being at least in part based on motives which are opaque and remote even to whom made the decision.

The present discussion avoids the conventional distinctions between routines and SOPs vs. exceptions and "non programmable" decisions. We look at procedures, methods and routines as in-order-to artifacts that populate the world of organizations. Improvisation belongs to a different family of phenomena, the one of being and behaving in such a world. For example, what in the field of information systems is

considered "for real", i.e. structured activities, methods, data and processes, is here looked at as the fragile result of a long chain of abstraction and cleansing activities, where if something goes wrong, like in the cold chain that delivers us frozen foods, such entities get rotten, stand in the way and must be discarded lest performance degrades. (Latour, 1993) We also steer clear of those who admit a "dialectic" in organizations between formal procedures and exception handling. We would suggest, if anything, a "small" Copernican revolution: improvisation is fundamental, while structured methods and procedures possess a derived and de-rooted character. A formalized procedure embeds a set of explicit in-order-to's, but the way these are actually interpreted and put to work strictly depends upon the actor's in-order-to's and because-of motives, his/her way of being in the world "next" to the procedure, the rule or the plan. In more radical terms, what is at stake here is not "objects" or "artifacts" but human existence and experience. Procedure and method are just "dead objects": they get situated in the flow of organizational life only thanks to a melange of human motives and actions. One cannot cleanse human existence and experience from the ways of operating and use of artifacts. (Husserl, 1970)

#### **4. Time and improvisation**

---

So far our study has shown that the roots of improvisation are concealed into the because-of motives which guide action. Thus, improvisation appears to be a highly grounded process, as is "appreciation" (Vickers, 1968), i.e. qualitative decision making based on experience, judgment and wisdom. But, improvisation does not equate fully with "decision according to judgment". Note that improvisation in Latin is referred to as "extempore actio". (Quintillian, 1993). In contrast to the idea of a slow, judicious decision, improvisation retains the qualities of suddenness and extemporaneousness. Improvisation does not belong to a regular chronology where each "now" lies on a continuum between the "already been" and the "not yet now", in a linear sequence of events. Indeed, according to the modern composer Pierre Boulez, improvisation is "Einbruch", i.e. irruption. The idea of "Einbruch" includes the images of surprise and breaking of plans. Let us consider these characteristics more closely.

First, ex-temporaneousness means literally: outside the flow of time. Improvisation occurs in a moment, which is not just the normal "now", but is a "now" that is "sudden", not expected or planned for. It is the Greek concept of "kairos", the appropriate time, a moment without repetition or appeal. (Aristotle (1936); see also St. Paul: "You know it very well. The day of the Lord will arrive suddenly, like a thief in the night")(Heidegger, 1982).

Are there, then, two sorts of "now" ? Or, more in general, are there two temporalities, i.e. two different ways for time to unfold ? Is the ex-temporaneousness of improvisation opening up other organizational realities ?

Concern for time in any business organization is not new, nor rare. Think of concepts such as "just in time" or "time based competition" (Stalk, 1988). In modern management, time is looked at as a fundamental business performance variable, even more important than money. Concepts such as "lead time" or "time to market" portray time as the "cutting edge of competitive advantage". Much of BPR and IT deployment is about streamlining activities, so as to reduce "overall cycle time" in delivering products and services to the final customer.(Failla, Bagnara, 1992) But, pause for a moment, and reflect upon the underlying assumptions of such (neo-Tayloristic ) concerns for time in the modern management discourse. (Gherardi, Strati, 1988) They take for granted that time is a quantity which can be measured, allocated and cut in a controlled, structured and planned fashion. (Kavanagh, Araujo, 1995) A detailed planning of activities is the prerequisite to measure the duration of each activity and the overall process, and to come up with quantitative ways to cut them down. Time tends to be looked at as a homogeneous entity that can be manipulated, very much like space or money. On the other hand, improvisation, with its character of irrupting surprise, has very little to do with such a quantitative idea of time and the relevant methods to manage it: improvisation defies measurement and method. It surfaces and vanishes "on the spur of the moment".

Second, improvisation disrupts procedures. It takes a lot of time and resources to develop a procedure: the past has to be scrutinized, experience has to be made explicit, future situations have to be anticipated and described as already occurred, and so on. This lengthy process (e.g. carried out through a scientific study of work tasks and flows) leads to the outline of plans, procedures, structured sequences of activities, which need to be followed in a sequence for optimal performance. In this kind of tidy and objectified world improvising is the last thing analysts want to see happening. But then, why does planning tend to be obtrusive, stand in the way, be exposed to breakdowns, while improvisation is called upon to come to the rescue in those very situations where plans and procedures typically fail? (Weick, 1993)

#### **4.1 The authentic time of improvisation**

In the previous Section we put forward a Copernican revolution according to which improvisation is a grounded process, while modern planning, decision models and methods are surreptitious and de-rooted. We submit that the same revolution should apply to the temporality of improvisation as opposed to the temporality of organizational routines and procedures. Specifically, the former is an "authentic" temporality which goes hand in hand with effective economic decision making (à la Hayek), while the latter is an "unauthentic" way of experiencing time, a way that is deceptively manipulable and controllable.

Once again, we need to consider the underlying assumptions of our conventional ways of studying and designing organizations. When dealing with a procedural setting (that is, an organization imbued by procedures, methods and plans), we naturally grant "artefacts" , "actors" ,"actions" and "events" with the

key attributes of existence & essence. They are "things" and "people" which populate the world as "simple presences" and are within the reach of our manipulation. Procedures and methods lay out the possibilities of manipulation as sequences of means-ends, accomplished acts to be performed in the future.

During improvisation, instead, the world constituted by procedures, methods and systems is suddenly "up for grabs". Conventional meanings attributed to "things", "actions" and "events" are re-defined, re-registered and bent to acquire new ones in a highly contingent way. Objects and people get "lifted out" and recombined in a new, "temporary" order, largely on the basis of past experience (the "because - of" motives).

What does allow such an "Einbruch" into the ordinary existence & essence of things and people, and the sudden emergence of a new order ? We submit something that is foundational in respect to the existence & essence of the world of simple presences: our Being-in-the-world (or Dasein - see Heidegger(1962)). During improvisation the world is re-configured, the order established by procedures re-shuffled as a consequence of the irruption of our authentic Being, that is usually retired and latent into the everyday world of procedure and routine. Thus, what appears to be extemporaneous, improvisation, turns out to be related to what is fundamental, our existence, while what is normally linked to "objective", clock time, procedures & methods, appears unauthentic, that is linked to "objects" that possess only a secondary nature in respect to who we are and how we make sense of the world.

#### **4.2 How we remember in order to improvise**

Both procedural planning and improvisation deal with time, but in radically different ways. Procedural planning anticipates moves and events to be performed in the future (along the axis of objective time) in the form of accomplished moves and events as if already occurred, and just translated on the other side of the "now".

That is, procedural planning arranges in front of the actor the past (projects thought of as accomplished and embedded into plans), so that in performing an action he/she can encounter " in the now" mileposts which prompt the actor to do the next move.

Improvisation is ex-temporaneous, because it does not belong to such an orderly distillation, formalization and transfer of past experience into future mileposts. Indeed, when encountering the future improvisation relies on the past (the because-of motives), but it deploys it, by retrieving (quickly according to ordinary time) domains of experience in a moment of vision, "during" which vast regions of experience are brought to bear to the situation at hand, as interpreted in that very moment. Improvisation feeds upon a recollection and rearrangement of the past that may not coincide with the one planned, and "frozen" into the procedures, since it feeds upon the vision of the situation at the instant of occurrence, thus acknowledging the latest incoming events, interpretations and actions.(anticipatory feedback)

Attending to the orderly execution of a procedure, instead, is based on an interpretation of the situation carried out "before the fact".

In sum, we seem to deal with two kinds of responses to what calls us to manage. They belong to the more general processes of coping with and taking care of the world, through tools and people. Time, and actions in relation to time, should be considered according to these two different responses. While coping with events and things the general drive to take care hides itself into concrete problems to be solved, anticipated and encountered, deploying tools, methods and plans as "in-order-to" devices, as means to an end, in an uninterrupted (and apparently infinite) temporal sequence of future ends, present means, and past accomplishments from which to learn. In this way of proceeding, time is the axis defined by the now, the non yet occurred, and the already been: this is the axis of planning and objective temporality, where time is measured as a quantity, space or physical movement, and the paramount tool is the clock. In moving along this axis we plan how to cut time, we fight idle time (or try to kill it, when the fight has been lost, and boredom emerges), we are under constant time pressure, and, alas, we never seem to have time enough. All this sounds quite commonsense, but we may ask, where does the objective time axis come from ?

In fact, what is left out of the objective time axis is what is underlying it and keeping it meaningful: our existence, our Being-there. (Dreyfus, 1991). Clock time, and our experience of it in the everyday life gets "temporalised" by our Being-in-the-world.

Namely, the well known distinction between "subjective" and "objective" time can be reframed by pointing at two distinct temporalities (Bergson, 1927; Heidegger, 1962). The one of normal clock time, which dictates the rhythm of our taking care of the daily chores, when time flies and when things happen in an apparently infinite sequence of nows, and which may speed up and become frantic, or slow down towards boredom. The other temporality is set by our Being-in-the-world, a finite trajectory that goes from being "thrown into the world" to the end of our existence (time is finite!). The latter temporality sets the stage to the former: it works as its hidden engine.

Heidegger(1982) suggests that there are experiences where the two temporalities meet. Specifically, the underlying temporality irrupts into the routine, during the "kairos", or Augenblick, the moment of vision, that is a moment in which our Being is conscious of itself and its possibilities vis a vis the world, rather than being dispersed in the ordinary chores and interests of the everyday life.

Adopting the hypothesis of the two distinct temporalities we can better understand the paradoxes caused by improvisation to organization routine. Improvisation has to do with moments of vision, where a sharper insight into the world takes place, as well as a better understanding of ourselves-in-the-world. Such moments of vision lead our Being to express itself in a "project of action" that precipitates (suddenly, according to clock time) into a "decision".

The two temporalities of routine and improvisation are characterized by the fact that in both the unfolding of the future "sucks in " the past, but they do it in distinct ways. In procedural planning, one meets the future by relying on "frozen", pre-digested bits of the past, lumps of experience that have been made explicit.

During improvisation it is our Being in the situation that comes to the fore. The past, in terms of who we are, and hence how we read the world, is recollected on the fly and in response to the situation at hand.

Thus, the "now" in procedural planning is a point in time perfectly limited by the accomplished future steps of the plan. It is visible, and located distinctively in the flow of objective, clock time. The "now" of improvisation is an event lived "outside" the normal flow of time, as an "ecstatic" experience. It is a moment of vision and decision in Being-in-the-world where vast regions of the past are enacted at that very moment.

To conclude, the "now", and in general objective time, is the outcome of tacit intentional acts of "retention" and "protention" of immediate events, so that the perception of time emerges out of the flow of what has just happened (and recalled through retention) and what is going to happen (and anticipated through protension). (Husserl, 1991)

As a result, time seems to "overwhelm" the actor, as an external, objective entity.

The intentional performance of the actor in "enacting" clock time recede in the background. The actor's attention remains focused on the in-order-to's (plans) to be accomplished according to ordinary time.

(Fig. 1)

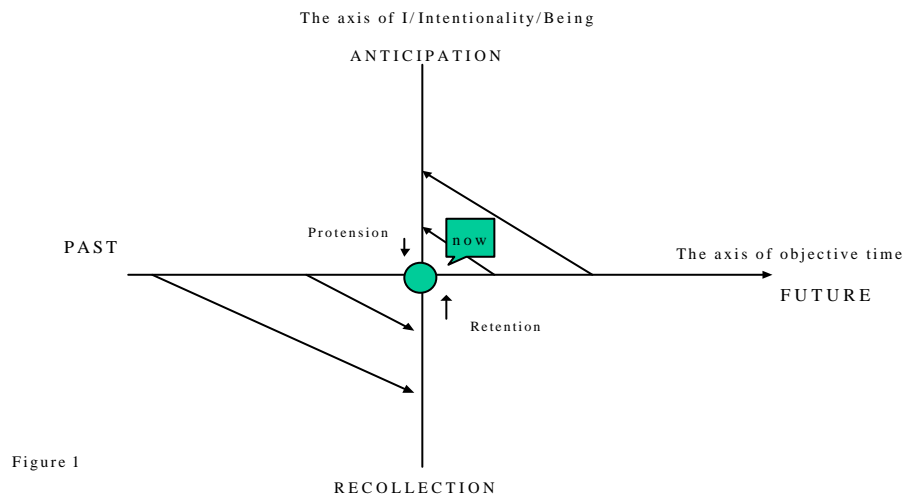


Figure 1. Ordinary clock time emerging out of intentional acts of retention and protension.

During the "moment of vision" of improvisation, recollection and anticipation reach far beyond the immediate interval defined by retention and protention. They go both below the "iceberg" reaching the deep-seated because of motives of action, and above, attaining an open projection of the "I" into the future. During the Augenblick the entire existence may thus be recollected as "experience" and anticipated as the main general direction of our taking care of the world. Here time coincides with existence, Being. (Heidegger, 1962) (Fig. 2).

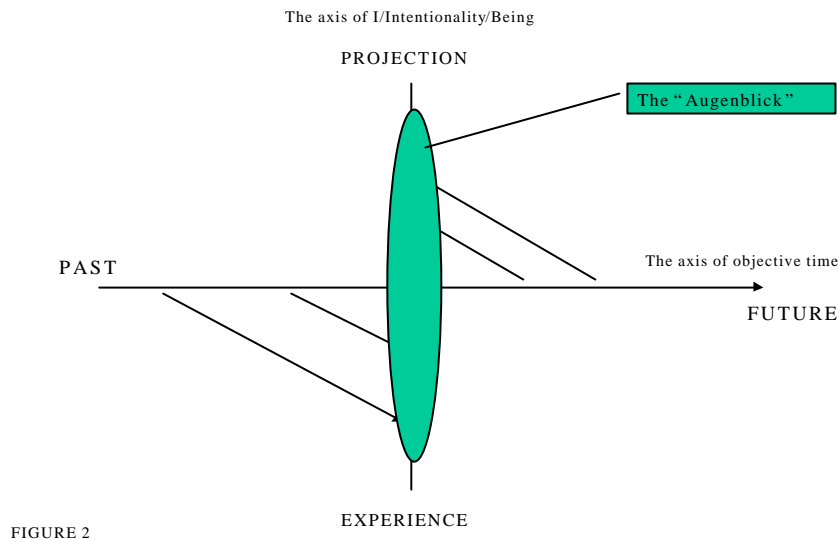


Figure 2. The moment of vision (Augenblick) of improvisation

## 5. Concluding remarks

---

The present study started from the current managerial preoccupations about what to do in the post BPR era. The increasing complexity and rate of change of business circumstances put strain on and limit planning and structure in decision making. We have pointed to a family of impromptu behaviours and /activities which does not consist of "more sophisticated techniques" or "more structured systems", but plays a key role in complex economic institutions under stress. Trying to eradicate such behaviours through BPR and automation has proven to be impossible. We should more modestly appreciate the flexibility and effectiveness of improvisation, and thus try to support it, albeit indirectly. (Preston, 1986) Enabling improvisation increases our chances to make sense of complex situations and puts us in a closer touch with human experience. If we want to improve the effectiveness of management and the use of methods and systems in organizations, and society at large, the due consideration for the role played by improvisation in human affairs advises us to stay more attached to those practices and means developed by mankind over the millenia to survive. (i.e. the age-old ruses of fishes and insects, of

fishermen and sailors (De Certau, 1984; Detienne, Vernant, 1974)). Note, however, that improvisation poses a challenge to our conceptions of decision making, management, information and systems: i.e. to abandon the neat, but artificial world of models, structures and univocal meanings, enter the world of sense making and experience in the everyday life of organizations, and call into the picture a hidden, but powerful presence: our existence, or Being-in-the-world.

Last but not least, the ex-temporaneous nature of improvisation reveals that ordinary management are trapped in an objectified conception of time. They fight endlessly to cut, kill and not let fly time away. Improvisation is at odds with such a troubled and anxious relationship with the clock. During improvisation, who we are authentically comes to the fore, is able to read the world in a novel way, makes quick and resolute choices, engaging into truly entrepreneurial action.(Kirzner, 1979) In such moments, time does not appear to be a constraint, and effective improvisation is the outcome.

## References

---

- Aristotle, *Physica*, Oxford: Clarendon, 1936.
- Bergson, H. *Essai sur les Données Immédiates de la Conscience*, Paris: Presses Universitaires de France, 1927.
- Brown, J.S. and Duguid, P. Organizational learning and communities of practice, *Organization Science*, 2, 1, 1991: pp. 40 - 57.
- Ciborra, C.U. From thinking to tinkering, in C.U. Ciborra and T. Jelassi (eds.), *Strategic Information Systems*, London, Wiley, 1994.
- Crossan M.M., Lane, H.W., Klus,L. and White, R.E. The improvising organization: where planning meets opportunity, *Organizational Dynamics*, Spring, 1996: 20-34.
- Daft, R.L. and Weick, K.E. Toward a model of organizations as interpretation systems, *Academy of Management Review*, 9, 2, 1984: pp. 284-295.
- De Certeau, M. *The Practice of Everyday Life*, Berkley, University of California Press, 1984.
- Detienne, M. and Vernant, J.P. *Les Ruses de l' Intelligence, la Metis des Grecs*, Paris, Flammarion, 1974.
- Dreyfus, H. L. *Being-in-the-World - a Commentary on Heidegger's Being and Time, Division I*, Cambridge, Mass.: The MIT Press, 1991.
- Failla, A. and Bagnara, S. Information technology, decision, time, *Social Science Information*, 31, 4, December 1992: pp.669-681.
- Galbraith, J. *Organization Design*, Reading, Mass.: Addison Wesley, 1977.
- Garfinkel, H. The rational properties of scientific and common-sense activities, in Giddens, A. *Positivism and Sociology*, London: Heinemann, 1974.
- Gerson, E.M. and Star, S.L. Analyzing due process in the workplace, *ACM Transactions on Office Information Systems*, 4,3, 1986: pp. 257-270.
- Gherardi, S. and Strati, A. The temporal dimension in organizational studies, *Organization Studies*, 9, 2: pp. 149-164, 1988.
- Gibson, J.J. The theory of affordances, in R.E. Shaw and J. Bransford (Eds.) *Perceiving, Acting and Knowing*, NJ. Erlbaum, 1977.
- Giddens, A. *New Rules of Sociological Method*, London, Hutchinson, 1976.
- Goodwin, C. and Goodwin,M. Formulating planes: Seeing as situated activity, in Y. Engestrom and D. Middleton, *Communication and Cognition at Work*, New York: Cambridge University Press, 1993.
- Hammer, M. Reengineering Work: Don't automate, obliterate, *Harvard Business Review*, July-August, pp. 104-112, 1990.
- Hayek, F. The use of knowledge in society, *American Economic Review*, 35, 1945: pp. 519-30.
- Heidegger, M. *Being and Time*, New York, Harper and Row, 1962.
- Heidegger, M. *The Basic Problems of Phenomenology*, Bloomington, Indiana, Indiana university

- Press, 1982.
- Horsley, I. *Improvisation*, The new Grove Dictionary of Music and Musicians, London, MacMillan, 1980.
- Husserl, E. *Ideas*, New York: Collier Books, 1962.
- Husserl, E. *The Crisis of European Sciences and Transcendental Phenomenology*, Evanston, Northwestern University Press, 1970.
- Husserl, E. *On the Phenomenology of the Consciousness of Internal Time*, Dordrecht: Kluwer Academic Publishers, 1991.
- Jones, M. Cultural differences in temporal perspectives in J.E. McGrath (ed.) *Instrumental and Expressive Behavior in Time*, Newbury Park, Sage, 1988.
- Kavanagh, D. and Araujo, L. Chronigami: Folding and unfolding time, *Accounting, Management and Information Technologies*, 5, 2:pp. 103 -121, 1995.
- Kirzner, I. *Perception, Opportunity, and Profit*, Chicago: University of Chicago Press, 1979.
- Lanzara, G.F. Ephemeral organizations in extreme environments: Emergence, strategy, extinction, *Journal of Management Studies*, 20: 71-95, 1983.
- Latour, B. *We Have Never Been Modern*, New York: Harvester Wheatsheaf, 1993.
- Lave, J. and Wenger, E. *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press, 1991.
- March, J.G. Exploration and exploitation in organizational learning, *Organization Science*, 2, 1, February, 1991: pp. 71-87.
- March, J. G. and Simon, H.A. *Organizations*, New York: Wiley, 1958.
- Nelson, R.R. and Winter, S.G. *An Evolutionary Theory of Economic Change*, Cambridge, MA, Harvard University Press, 1982 .
- Newell, A. and Simon, H.A. *Human Problem Solving*, Englewood Cliffs, N.J.: Prentice Hall, 1972.
- Norman, D. *The Psychology of Everyday Things*, New York: Basic Books, 1988.
- Orr, J. Sharing knowledge, celebrating identity: war stories and community memory in service culture, in D.S. Middleton and D. Edwards (Eds.), *Collective Remembering: Memory in Society*, 1990.
- Preston, A. Interactions and arrangements in the process of informing, *Accounting, Organization and Society*, 11,6: 521 - 540, 1986.
- Quintilian, *The Institutio Oratoria*, Vol. IV, (transl. H.E. Butler), Cambridge, Mass., Harvard University Press, 1993.
- Schon, D.A. *The Reflective Practitioner*, New York, Basic Books, 1983.
- Schutz, A. *The Phenomenology of the Social World*, Evanston, Ill. Northwestern University Press, 1967.
- Scribner, S. Studying working intelligence, in B. Rogoff and Lave, J. (Eds.) *Everyday Cognition*, Cambridge, Mass., Harvard University Press, 1984.
- Simon, H.A. *The Shape of Automation*, New York: Harper & Row, 1965 .
- Simon, H.A. *Administrative Behavior*, 3rd Edition, New York, The Free Press, 1976.

- Stalk, G. Time - the next source of competitive advantage, *Harvard Business Review*, 66, 4: 41-51, 1988.
- Suchman, L.A. Office procedures as practical action: Models of work and system design, *ACM Transactions on Office Information Systems*, 1,4, 1983: pp. 320-328.
- Suchman, L. *Plans and Situated Actions: The Problem of Human-Machine Communication*, New York, Cambridge University Press, 1987.
- Sudnow, D. *Ways of the Hand - The Organization of Improvised Conduct*, London: Routledge & Kegan Paul, 1978.
- Vera, A.H. and Simon, H.A. Situated action: A symbolic interpretation, *Cognitive Science*, 17, 1993: pp. 7-48.
- Vickers, G. *Value Systems and Social Process*, London: Tavistock, 1968.
- Weber, M. *The Theory of Social and Economic Organization*, New York: The Free Press, 1964.
- Weick, K.E. Organization redesign as improvisation, in G.P. Huber and W.H. Glick (Eds.) *Organizational Change and Redesign*, New York: Oxford University Press, 1993.
- Weick, K.E. The collapse of sensemaking in organizations: The Mann Gulch disaster, *Administrative Science Quarterly*, December, 1993a.
- Weick, K.E. 1979 *The Social Psychology of Organizing*, 2nd ed. Reading, MA: Addison-Wesley.
- Winograd, T. and Flores, F. *Understanding Computers and Cognition*, Norwood, N.J.: Ablex, 1986.
- Wynn, E.S. *Office conversation as an information medium*, Berkley, University of California, PhD Thesis, 1979
- Zimmerman, D. The practicalities of rule use, in Salaman, G. and Thompson, K.(Eds.) *People and Organisations*, London, Longman, 1973.