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In the Mood for Knowledge

A new study of improvisation

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Abstract. Improvisation is being appreciated by the management literature because of its key role in a variety of contingencies: emergencies, markets and work organizations. Improvisation is described as a form of extemporaneous, situated action. In the literature, the study of these two phenomena has been mainly cognitive. This exposes it to the critique according to which the situated action paradigm would not add value to the symbolic knowledge and representation paradigm developed by Artificial Intelligence. Also, on the issue of time the cognitive study of improvisation seems to have little to say: extemporaneous means simply quick and unplanned. This paper suggests a different point of departure by stating that improvisation should be regarded as a mood, and not a mindset. We can learn about improvisation by contrasting it with other moods such as panic and boredom. Why study moods? The new perspective indicates that the cognitive approaches are limited since they disregard the "situation of the actor". Moods capture the situatedness of the actor as opposed to the situation of the action only. Finally, a phenomenological analysis unveils the fundamental relationships between moods, existence and time, which can lead to a new explanation of the "extemporaneous" character of improvisation.

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1 Introduction

Turbulent economic times seem to put improvisation at the centre stage of business management and organisation studies. Globalisation, with its related risks and widespread side effects stemming from large-scale activities and systems, (Beck,1992; Giddens, 1991) makes the highly situated process of improvisation a valued intervention. This kind of activity is needed to fill the gaps of planning, cope with unexpected consequences and, in general, face emergencies. Weick (1993) has shown in his vivid account of the Mann Gulch fire disaster how improvisation can be an antidote to panic and, more generally, to those forces, whether natural or psychological, that can bring about the collapse of sense making and organization. Also, more common activities like making choices on a market show many of the characteristics of improvisation. Thus, Hayek (1945) is unsurpassed in interpreting the price system as a way of coordinating local, highly situated decisions made on the spur of the moment by market agents. Even within hierarchical work organizations, several studies have shown the highly ad hoc character of many actions in coping with events and situations that do not fit immediately the planned, hierarchical procedures (see for example: Scribner, 1984; Suchman, 1987; Brown and Duguid, 1991).

Improvisation can be looked at as a special case of situated action, highly contingent upon emerging circumstances; unifying design and action; quick, sudden and extemporaneous. (Weick, 1998; Hatch, 1997).

But the literature seems to have reached some limits.

Although one would imagine that improvisation is different in some respects from situated action, possibly along the time dimension, not much has been written about these differences (Liebenau and Lee, 1999). In particular, little is added on extemporaneity: in the literature it is just taken as a synonym of quick (Ciborra,1999). Moreover, improvisation, like situated action, is seen from a privileged standpoint - the one of cognition: a problem needs to be solved in the context of emerging circumstances, on the spur of the moment(Weick, 1998; Barrett, 1998;Suchman, 1987). Also, collective improvisation is discussed within the framework of distributed cognition (Hutchins, 1996). Again in cognitive terms, improvisations are usually linked to the exploitation of tacit knowledge (Moorman and Miner,1998; Brown and Duguid,1991).

Moorman and Miner (1998) conclude that, "any entity that can reasonably be thought of as planning or executing action can also be thought of as improvising". We regard such prevailing cognitive perspectives on improvisation, especially when they do not deliver anything new or substantial to key (time related) aspects of the phenomenon, as suspect. Indeed, if improvisation is just quick problem solving that takes into account emerging circumstances by some sort of ongoing feedback on the very design of the action being undertaken, then the critique of Vera and Simon

(1993) to the whole situated action paradigm applies to it too. The latter authors ask, "what's new, or so special?" In principle, when reconstructing improvised decision making symbolic representations of the ongoing problem space can be drawn, algorithms can be identified, problem solving programmes can be written, which include the stuff of which Artificial Intelligence (AI) is made: plans; if-then-elses; means-ends chains etc. But, once improvisation gets analysed as quick design and simultaneous implementation of plans of action, factoring early feedback from execution, where has its magic gone? Can such an analysis offer anything new or alternative to the prevailing managerial and systems models that put at the centre of their discourse information, knowledge modelling and planning?

To overcome such an impasse we need to step back and revisit the intellectual roots of situated action, of which we consider improvisation as special case, in phenomenology (for example, as we shall see later, Heidegger (1962) uses at least four different words for the term "situation"). This will allow us to check whether a different tack on the issue can be followed. Indeed, both Husserl(1962) and Heidegger(1962) have put forward a way of understanding how we encounter, know and act upon the world of which only some elements have been saved and used in the existing situated action approaches. Others have gone lost, and learning from their misdirection may help us in overcoming the present intellectual deadlock.

Before reinvigorating them, we need to spell out the achievements and limitations of the overwhelmingly cognitive approach to situated action (Section 2). Next, we can enlarge the notion of situated action using some of the original ideas of phenomenology: in particular, that a situation is defined both by emerging circumstances of the world, and by the emerging situation of the actor, the latter captured by his or her affections, feelings or moods. This leads the way for a new approach to improvisation that is not purely cognitive but is existential Specifically, improvisation is regarded as mood (Section 3). We can then study the characteristics of improvisation, and especially its problematic relationship with time, by contrasting the improvising mood with other which are opposite to it, such as panic and boredom (Section 4). The conclusions summarize the range of topics that this new study of improvisation illuminates, such as the key role of moods in situations, and situated knowledge as always moody knowledge. Moods as attunements with situations, as being amidst the world and the others. Improvisation as a mood characterized by a moment of vision, absent and precluded from us in panic or boredom, but which can deliver radically new ways of being and acting amidst the world.

2 Improvisation as situated action: achievements and limits

Improvisation is currently treated in the management and organization literatures as a form of situated action where the emphasis is placed on its temporal dimension and its description is largely based on a cognitive perspective. Thus, improvisation is an activity where composition and execution, thinking and doing converge in time (Moorman and Miner, 1998), or occur simultaneously (Weick, 1993).

Key aspects of such a form of thinking in the midst of the action are:

- The focus of attention is on emerging circumstances and current conditions (Eisenhardt and Tabrizi, 1995)

- Intuition guides action where no script seems to be in control (Hatch, 1997): improvisation has little to do with scripted plans
    - On the spot surfacing, restructuring and testing of intuitive understanding (Schoen,1983)
    - Solving a problem with no preoccupation on how to do it beforehand (Spolin, 1963)
    - Situational decision making

This short list shows how definitions may vary in their attempts to grasp selected aspects of the phenomenon. But they share a common approach, the cognitive perspective, and a common understanding of the temporal dimension: quick, simultaneous and on the spur of the moment.

There is a situation, and it is emergent: the trick of improvisation, as opposed to scripting and planning, is to capture in the emergent problem solving all the latest circumstances. Thus, improvisation is about compiling scripts on the fly and problem solving on the spur of the moment, and so on. But, no matter what the specific description, it is, after all, about problem solving, scripting and thinking.

Regarding the temporal dimension, do not be mislead by "improvised" inquiries into the root of the word, such as the opposite of the Latin word *proviso*, i.e. not stipulated beforehand (Weick, 1998), or *improvisus* meaning not seen ahead of time (Barrett, 1998). The fact is that there was no noun in Latin that means improvisation having its roots in "improv…". The word used the Romans was instead: *extempore actio*. This term is still used today and one of the attributes most frequently adopted to describe improvisation both in music (jazz) and managerial literature is indeed "extemporaneous". The modern literature seems to be concerned with the simultaneity of different activities, such as thinking and doing, and the speed of knowing and acting. For example, to discover a way to do a 22-second information search in 2 seconds (Weick, 1998) But does extemporaneous mean just fast and simultaneous? It does not. Etymologically it means outside of time, or outside the normal flow of time. Interestingly, the literature mentioned above takes no notice of this, and Weick(1998) rightly points out that if speed is the main characteristic of this activity, then in many circumstances coping with a faster tempo would condemn the agent to using preplanned, repetitive procedures to keep the performance going. In other words, higher speed may encourage, not improvisation, but a sudden reversion back to old ideas and routines. We are, then, left with the conceptual inconsistency of improvisation being advocated for fast product development, prompt market decision making, and successful organizational performances, on the one hand, and on the other the very carrying out of such activities which seem to require simplification, accelerated production, less slack, forcing people back on older ideas and away from adaptive improvisation. In sum, gaining speed may undermine spontaneity and extemporaneity.

Such a cognitive view of improvisation is rooted into, and echoes very closely, the earlier study of situated action vs. planning carried out by Suchman (1987), based in turn on Mead's(19) distinction between situated and ad hoc improvisation on the one hand and representation of action (in the form of future plans and retrospective accounts) on the other. In Suchman's work the situation is defined as the full range of resources that the actor has available to convey the significance of his or her action and to interpret the actions of others. Specifically, in analysing how employees deal with photocopiers that break down, Suchman(1987) suggests that, "the situation of the user comprises preconceptions about the nature of the machine and the operations required to use it, combined with moment by moment interpretations of evidence found in and through the actual course of its use." Note the ingredients of the theory of improvisation. On the

cognitive side they are: preconceptions, interpretations, evidence; and the temporal dimension it is the moment by moment. "Action is contingent on a complex world of objects, artefacts and other actors located in space and time. And this is an essential resource that makes knowledge possible and gives action its sense". (Suchman,1987) Thus, the situated action paradigm states the importance of fleeting circumstances on which the making sense of the action relies, but which these accounts of action routinely ignore. Plans, while providing sense or meaning to an action through a formalized representation of events, resources and interactions over (clock) time, do not help cope with unexpected breakdowns and more generally emerging circumstances.

But are the two approaches really different, ask Vera and Simon (1993)? The debate held in a special issue of Cognitive Science(1993) points to the weaknesses of the situated action perspective and to the limitations of a mainly cognitive perspective on it. Vera and Simon (1993) argue that the AI perspective on action, based on physical symbol systems and symbolic processing is far from being an alternative to the situated action perspective, in fact the AI view is relevant to the latter.

In such a view a physical symbol system interacts with the external environment by receiving sensory stimuli that it converts into symbol structures in memory, and it acts upon the environment in ways determined by symbol structures. The memory is an indexed encyclopaedia, where representations of external situations are stored. Stimuli coming from the environment invoke the appropriate index entries. " Sequences of actions can be executed with constant interchange among (a) receipt of information about the current state of the environment (perception), (b) internal processing of information (thinking), and (c) response to the environment (motor activity). These sequences may or may not be guided by long-term plans (or strategies that adapt to the feedback of perceptual information)." (Vera and Simon, 1993). The proponents of the more traditional AI approaches based on representations and symbol processing argue that one can design and build symbol systems "that continually revise their description of the problem space and the alternatives available to them"(ibid. 13) This mimics one of the key ideas of the situated action literature (as recounted by Suchman(1987), and Winograd and Flores(1986)), the importance of moment by moment capture of the full situation of action. Plans can be seen not just as symbolic representations of fixed sequences of actions, but as strategies that determine each successive action as a function of current information about the situation. Here we come full circle: the AI perspective coincides very closely with the definition given above of improvisation as "situational decision making". If Suchman's concern is the mutual intelligibility between people and machines, and the underlying shared understanding between people in interaction, then Vera and Simon (1993) submit that such an understanding, and the correlated situated actions, cannot get along without an internal symbolic representations, and learning, planning and problem solving which feed upon them. In sum, "the term situated action (and its derivative improvisation-the present author would like to add) can best serve as name for those symbolic systems that are specifically designated to operate adaptively in real time to complex environments…It in no sense implies a repudiation of the hypothesis that intelligence is fundamentally a property of appropriately programmed symbol systems."

We cannot enter here into the arguments in favour or against such a bold final statement (the reader should consult the special issue of Cognitive Science), but one cannot but be struck by the weak response given by Suchman(1993) in that very issue, or in her later writings (Suchman, 2000). Apparently, when writing her PhD thesis, she was forced by circumstances to enter into the discussion with colleagues in the cognitive sciences, but she would come at it from another angle,

the one of studying how people make sense of everyday activities, seen as interactions between the acting person and the surrounding social and material circumstances. Still, the definition she originally offered of situated action is a highly cognitive one, and as such an easy target for the symbol representationists.

We submit that the view of situated action and improvisation as cognitive enterprises is possibly the source of the impasse in the debate, and the reason why the descriptions of improvisation do not really add much to the problem solving, cognitive approaches nor are they able to address innovatively the issue of the temporal or, rather, the extra-temporal dimension of improvisation. We need to explore other dimensions to find a way out from such an impasse.

3 Rediscovering the situation of the actor in the situation

One way to overcome the block is to go back and revisit the roots of the situated action framework, roots that lie in ethnomethodology and further back in phenomenology. Indeed as noted above, Heidegger (1962) employs at least four different terms for situation: *Stelle*, meaning position and place; *Lage* as condition and disposition; *Situation* (in German) as the culminating limit situation of making a choice; and last, but not least, *Befindlichkeit*. It is precisely the latter term that can help us in opening new dimensions. As often happens in Heidegger, it is a word whose meaning and usage are being stretched even in the German language. It is derived from the common expression "*Wie befinden Sie sich*", a courteous way to ask, "How are you?" Thus, *Befindlichkeit* is the situation one finds oneself in. But what situation? The loose arrangements of resources in the environment? The emerging physical and social circumstances? Not at all: the expression refers to the existential situation of the actor. "How do you *feel* today?" Thus Heidegger coins the term *Befindlichkeit* which combines the idea of situatedness and of feeling and faring, of where and how one finds itself.(Dreyfus, 1991; Inwood, 1999)

Note how the new German word captures the common way of inquiring about the situation of the people we encounter everyday. So routine and ubiquitous an habit, yet still totally absent not only from the symbolic representations of human problem solving – that one would expect– but also, and this is fatal, from the situated action approaches. We can then appreciate the value of Vera and Simon's critique in showing that there is a basic commonality in the two approaches – after all, both consider the actor as a cognitive robot. The discussion is how the robot solves the problems, learns about circumstances and plans or reacts to emergent conditions. Later appeals to "situated and embodied knowledges"(Haraway, 1991) and the urge of feminist theorizing to reconceptualise what objective knowledge can be, (Suchman, 2000) do not help either. Suchman quotes Haraway on feminist objectivity as being about "limited location and situated knowledge, not about transcendence and splitting of subject and object." However, both authors evade a reply to the ordinary question, the how-are-you of the actor, his moods, feelings, affections and fundamental attunement with the situation.[1] What is missing from this situated action literature is precisely an inquiry into the situation of the actor, specifically his moods.

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[1] Here, the feminist literature not only trails the phenomenological philosophers such as Heidegger, but also ancient authors like Adam Smith, more usually associated with the deprived notion of economic man as the actor of economic organization, in particular the market. Smith's most acclaimed oeuvre was in reality The Theory of Moral Sentiments, a monumental effort to link social and economic behaviour to the study of sentiments and passions, such as sympathy. An earlier effort can be found in the proponent

The thesis of this paper is that only by bringing back into the picture the situation of the actor, those fleeting personal circumstances (captured by the term *mood*), and not only the emerging environmental circumstances, that we may get to a fresh understanding of improvisation. One that the mere cognitive perspective seems to be unable to deliver, except as a dead, ex post reconstruction of problem solving routines designed and acted on the spur of the moment. In organization theory few authors have mentioned the importance of the emotional dimension next to the cognitive one. But still fewer have been able to put the latter dimension to work. Thus, Nonaka (1994) mentions the relevance of emotions in the processes of knowledge creation. In particular, tacit knowledge is deeply rooted in an individual 's actions, experience, as well as in the ideals, values, or emotions he or she embraces. Still, "what shapes the way we perceive the world is the cognitive dimension of tacit knowledge" (Nonaka and Konno, 1998). A more successful attempt to give the emotional dimension at least an equal standing to the cognitive one has been carried out by Hatch (1997a) in analysing ironic humor in processes of organizational change and stability.

Any actor enters into the situation with a mood that is elusive and can hardly be controlled, designed or represented in symbols: fear, anxiety, happiness, panic or boredom. Moods are the uncontrollable changing skies of the otherwise flat world of cognition and action, whether planned or situated. Precisely because moods come and go like the weather, Heidegger(1995) suggests they are very close to who we are in the situation. They are so ephemeral, sometimes superficial and unexplained, but they precede, or better ground, any mental representation of the situation and action strategy. But moods are far from being just private states. They disclose the world; they set the stage of our encounter with the world. It is not by surprise that they enjoy within phenomenology the highest prestige, far above everything psychological or cognitive.(Blattner,1999)

When we encounter the world in a situation, certain things, people or circumstances matter. This "mattering" is grounded in one's affectedness. Hence affectedness discloses *the world as* a threat, boring or exciting. It sets the stage shaping problem definition, solving, design and action. In other words, our being open and encountering the world, our being amidst people and circumstances, and the related intentional projects of action, be they planned or situated, are constituted within a fundamental attunement, the mood: moods can change, but we are never without one. In this respect, not only is symbolic representation not primary, neither is cognition. Moods provide the ground in which our encountering the world and defining the situation take place. We can seldom choose such a ground: rather, we are thrown from it into the situation. Moods colour indelibly our being in the situation. They are like a fog, or a low cloud, coming from nowhere but giving an opaque tonality to the situation and our being in the situation itself. The most powerful moods attune us with the situation so strongly it almost seems there are no moods at all (and this is the trap in which even those who write about "embodied knowledge" seem to fall nowadays, by failing to put moods at the centre of attention). Moods are the fundamental ways in which we are disposed in such and such a way, they are not the direct consequence of our thinking, doing and acting: they are rather the presupposition, the medium within which those activities take place. On the contrary, to a moodless contemplation nothing appears as a tool for use: it flattens everything out to a uniform presence –at –hand. Unless I am in a mood I will not be affected,

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of objective method, Descartes with his influential – at the time – Les Passions de l'Ame (1649). It is ironic that moods, affections and feelings are, instead, absent from the feminist theorizing on knowledge: situated, but acted by a passionless robot, without a body (as in Suchman's (1987) study), or with one (mechanical?) in the later works of Haraway (1991) and Suchman (2000).

touched or interested by anything. Only in a certain mood can I be affected in certain ways and things will matter to me. (Heidegger, 1996; Inwood, 1999)Precisely, because a mood is not a mere consequence of our actions, its essence and origin tend to remain concealed. It is in the mood that "we first meet ourselves" as being there with one another; "*attunement belongs to the being of man*" (Heidegger, 1995).

In sum, based on phenomenology we can draw the following conclusions. The way we *care* about the world unfolds according to the passing mood that attunes us with the situation. Intentionality, the reading or re-registering of circumstances that we perform either by planned or improvised action, the in-order-tos of projects, the selection of appropriate means ends are all rooted in such a ground, our basic attunement. The study of situated action in general, and the one of improvisation in particular, has focussed so far only upon the later stages of this process, on the encounter between intentions and situations, but has systematically failed to reckon the (moody) situation of the actor.

4   The study of improvisation as mood

Looking at improvisation as a special disposition or attunement with the situation, a different way of being amidst the world and being thrown into it opens up a different point of access to the phenomenon. In what follows we will attempt a new study of improvisation through the access point of "improvisation as mood". This complicates our enquiry. Actions can be studied as the carrying out of projects, plans or intentions, or as emergent responses to circumstances, as the cognitive tack shows so well for both ends of the debate, symbolic representation and plans or situated actions. As mentioned above, instead, moods are always there; they cannot be forcibly brought about and are not necessarily linked to a plan or an action: they are the ground or the medium for them, but not the other way round. We slip into them unaware. Hence it is difficult to make an attunement itself into an object of knowledge. In this way, by
trying to make it conscious, the attunement is destroyed or irremediably altered. An attunement can only be awakened and ascertained: it is not there just as an object ready at hand to be analysed (Heidegger, 1995). Awakening means letting a mood unfold. We can grasp it only in terms of what confront us first, of what first irrupts then disappears. Such an approach avoids the analysis of consciousness and tries to maintain the immediacy of everyday being-there in a situation. Thus, for example, instead of making the mood of boredom as an object to be contemplated, as some state that arises on its own, Heidegger(1995) suggests we should consider it "in the way that we move within it, i.e., in the way that we seek to drive it away". In trying to pass the time we can encounter boredom undisguised (see below).

Let us then awake and ascertain improvisation as mood by recounting the vivid episode described and interpreted by Weick (1993) in his study on the Mann Gulch fire disaster. Improvisation, according to Weick, is what allowed Dodge, the smokejumpers' captain, to rescue himself when most of the rest of the team died in a suddenly exploding forest fire in Montana. Dodge was able to invent and implement on the spot a rescue procedure, consisting of burning the high grass in front of him with a match and throwing himself into it. When the wall of the main fire, blown by the wind, arrived, it passed over him because he had created a clearing in which the fire could not find dry grass for fuel to continue burning. It is a typical example of highly situated improvisation, since such procedure was not known or learnt (it became part of the

standard smokejumper training *after* this tragic episode). It is highly situated; it comes out of a reading of the situation at that very moment– high grass, matches, incoming firewall; it is quick– Dodge's fast reasoning lead to the solution to the problem–the fire needs fuel, hence let's eliminate the fuel source, "how do I do it?", paradoxically by creating a new fire, and so on. As usual the ex post analysis of Dodge's skilful improvisation leaves the observer with a bitter aftertaste. Namely, ex post analysis leads to the unveiling of an ingenuous problem solving strategy, artfully and promptly implemented. This strategy can be easily represented and reproduced so as to becoming a training routine. So, where is the difference with a planned action?

The time dimension seems not to be problematic either: Dodge was quick in framing the problem, discovering a solution and implementing it just in time. Apparently he was calm since after the first match he considered using another one. Once again the special characteristics of improvisation and situated action seem to elude us, and we are left, in Weick's account, with a cognitive interpretation that leads to a way of analyzing improvisation that is very close to symbol systems planning and representation.

But what gets lost in a cognitive perspective of situated action or symbolic representation, which makes Dodge's actions a true case of improvisation, is what happened to his team members. They were very close to Dodge; they were exposed to the very same situation; thanks to the wind lifting the clouds of smoke a couple of times, they could even see what Dodge was doing. Dodge yelled at them to do the same or join him by jumping in his man made fire, but apparently they couldn't hear him because of the noise of the burning fire. However, they failed to understand; they came to the conclusion that Dodge was out of his mind and committing suicide, so they carefully avoided the area lighted up by him, staying in the high grass just next to it. Consequently they lacked time to do anything else than run, and they died within few meters of Dodge's burnt out area. This tragic outcome seems to defy any cognitive interpretation: distributed cognition worked against the team members; the rescue routine was misread; the same situation (recall that the whole team was contained in a very small area) did not lead to the same interpretation, design and action.

We submit instead that we should interpret the ways people encounter the situation, and design and implement action as moody ways. What decided the different outcomes, the opposite understandings, the alternative situated knowledges was not the situation, but the contrasting moods the actors were in. If the smokejumpers were just cognitive robots, with more or less similar experience, once exposed to the same situation they would have come up with similar answers, or be able to quickly imitate a rescue procedure invoked by one member of the team. On the contrary they were confronting a culminating, supreme situation; they were spatially close but existentially far apart in respect to this supreme situation. Their fundamental attunements with the situation varied greatly and their different moods affected distinctively their understanding and ways of acting. Both Weick (1993) and Maclean (1992), author of the original novel on the accident, provide us with some evidence in this respect. The team members were victims of panic, and in this fundamental mood they interpreted what Dodge was doing as "going nuts" and an explicit authorization by their captain for everyone to go mad. Panic determined their experiencing lack of time and being overwhelmed by the world, the forest on fire. Maclean (1992) colourfully describes Dodge's mood in the following way: "Inside Dodge there was the only cool spot in the total fire scene." This coolness is the secret engine of his capacity to improvising, to finding all the time that was needed to come up with a solution, though paradoxical, and implementing it.

The case re-examined so far indicates a new way of studying improvisation as mood, by contrasting it with other moods, and let its salient characteristics emerge by comparison. But there

are many moods out there, which ones to choose for this comparative exercise? As we have already remarked many times, improvisation strikes us because of its sudden, extemporaneous and full effect. That is why we should contrast it with affections characterized by their negligible or null effect and by their being sticky with clock time. Good candidates are of course panic, as shown above, and boredom. Both have problematic relationships with leading to any form of effective action and with the passing of clock time, though in different ways and for different reasons. We examine them in order.

4.1 The mood of panic

Our existence unfolds by our relentless taking care of the world, usually encountered as an intricate web of interdependent tools, of ready at hand artefacts, resources and people. This is how we are most the time amidst the world. In this environment we develop and implement specific projects, made of sequences of in-order-tos, framed into plans, strategies or immediate, almost unconscious reactions to emerging circumstances. When the fundamental attunement of panic sets in, this ordinary way of understanding and acting in the world stops. The world overwhelms us. It stops appearing as a set of tools ready for use; we lack the time to implement our in-order-tos. Resources are not at hand; time is not available. We are lead to inaction or to engage frantically in whatever action comes to hand, after having quickly considered all possible alternatives and come to the conclusion that none will be successful. Angst for the lack of time in pursuing further exploration of alternatives leads to paralysis of decision-making, which on its turn may lead to inaction or to the haphazard compulsive pursue of an activity picked by those available in the situation, but with no really adaptable strategy. The fact that our being-in-the-world is, from the moment of birth, permanently set towards death, suddenly emerges as the only default alternative that has always been there, but which gets forgotten through being amidst the daily chores and care. Death sets in as the implicitly preferred choice, the only one that can calm down the highest levels of anxiety determined by panic.

This is the structure of panic as mood. Care is aimless. The world is unusable. Intentionality has nowhere to go except to consider the supreme alternative of death. Time is lacking. As the Mann Gulch accident shows vividly, entering the situation with the mood of panic closes off all the alternatives, and especially the invention and implementation of new ones. Imitation, as a strategy of action, is impeded and falls victim of that mood.

4.2 The mood of boredom

If panic implies that things, including time, matter too much (the world overwhelms us), in boredom nothing really matters: the world is indifferent and time never seems to pass. If in panic we fall victim to the world and time, in boredom we try to kill time while being immersed in a fog of indifference. Depending upon the acuteness of the mood, Heidegger (1995) distinguishes three main states of intensifying boredom: becoming bored by something specific (a train does not arrive and we are waiting at the station watching the clock and trying out all sorts of pastimes); being bored with something (a nice evening spent with friends–time flew–still, when we get back home, we feel bored); finally, profound boredom–it is boring for one.

Starting from the superficial ways in which we deal with boredom in the everyday life, we can encounter the inextricable relation of this mood with time. At first, it is under the form of whatever pastime we engage in to overcome boredom, we pass the time in order to master it, because time becomes long in waiting for a train that is late. Even our superficial, ordinary way of coping with the first level of boredom, being bored by, leads us to time, to an understanding of how time resonates in the background of being in the situation of waiting. When we are bored, our attunement, our way of being-amidst, is characterized by being in a time that passes too slowly, amidst a world that does not offer many resources to fight the length of the time.

The second type of boredom has a less specific object. We recognize retrospectively that we were bored by the evening spent out. Still, when we were passing it we had fun: we never watched the clock. It seems at first a more superficial, fleeting type of boredom, but it is more profound, Precisely because no specific pastime was deployed during the evening, it is apparent that the whole evening was the pastime used to fight boredom before it even arises. By deciding to allow ourselves an evening to go out and have fun with friends, we have given ourselves time intentionally dedicated to find ways to pass the time. "We have found an occupation that diverts our attention away from time as it drags and from its oppressing us." (Heidegger, 1995) This mood is not triggered by a specific, apparent cause, nor it is tied to a specific event or situation, rather it seems to stem from our existence. The second form of boredom is less situation-bound than the first. Note how by not experiencing the flow of time through spending out the evening, we make the whole evening a "single stretched now", "Entirely present to the situation, we bring our time to a stand"(ibid.).

Finally, the more profound form of boredom, "it is boring for one". We are empty, we want nothing from the particular beings in the situation, we are elevated beyond the particular circumstances. The whole situation becomes indifferent. "We no longer stand as subjects and suchlike opposite these beings and excluded from them, but find ourselves in the midst of beings as a whole, i.e., in the whole of this indifference."(ibid. p. 138) What is peculiar of the last form of boredom is that at first there is no pastime in sight. Time does not drag us, neither we make it stand still. Rather, one feels "removed from the flow of time", indifferent to time, timeless. Yet, indifference means all beings withdraw in retrospect (the past), in every prospect (future) and in the very respect (present). Thus, this profound indifference is linked to the whole time horizon that encapsulates the refusal of beings as a whole. What is striking of this form of boredom is that all dimensions of time (clock time; past, future, the now etc.) do not matter. There is no determinate time-point when boredom arises; we do not worry at all about the clock, as we do not worry about beings and the world; we are not annoyed by any "stretched now", i.e. the time span during which this boredom holds us. Actually, the profound boredom "can take hold of us in an instant like a flash of lightning" (ibid. p. 148). Time is there but in an unarticulated unity that "entrances" us. It is not beings that refuse themselves, but time itself, which according to Heidegger (1995) makes possible the manifestness of these beings as an horizon.

4.3 The temporality of improvisation

Panic and lack of time; boredom in its various forms and passing the time are intertwined. Passing the time creeps into our being bored, as lack of time fuels panic. These moods appear to be far from superficial or contingent upon special events. They are profoundly concentrated on us, our situation and time, which is not clock time, rather *our* time. In particular, we have seen that the

more profound boredom becomes, the more it appears rooted "-in the time that we ourselves are" (Heidegger, 1995)

The opposite of improvisation is not planned action, it is boredom, (and sometimes panic). If in the latter unarticulated time, refusal of beings lead to inaction, we can look at the former as the "moment of vision" , as the look of resolute decision in which the full situation of action opens itself and keeps itself open to our initiative of re-registering, recombination and intervention. The cognitive perspective focuses on how smart improvisers are able to quickly re-register the world and recombine resources. But this is possible only because suddenly the world, its resources and people matter differently, so that they can be single out and recombined differently. And quickness is far from implying rigidity and reverse to the already known. Improvisation is that particular mood where the reconfiguration of the ground takes place in which we encounter the world (and devise and carry out those projects and actions objects of the cognitive perspective). Before action and before design there is a being thrown in a range of possibilities. The mood situates you in respect to these possibilities, discloses some and conceal others. The ones revealed, will matter and will be object of the simultaneous planning and actions of the improviser. Moods like fear, laughter or boredom involve above all a self-revelation, a disclosure of oneself as caring (or being indifferent to) things in some definite way. (Blattner, 1999) Improvisation is that moment of vision and self-revelation where all the possibilities linked to the being-in-the-situation emerge out of the fog of boredom. Improvisation is the antidote to panic and boredom because it is "extemporaneous", i.e. it ruptures the way time entrances us in both situations, either by being completely missing, or totally undifferentiated. Improvisation is then rupture, or as the conductor Pierre Boulez describes it in music "Einbruch". Only if such a temporal entrancement is ruptured do beings no longer refuse themselves, possibilities for action emerge, graspable in the situation and give to the actor the possibility of intervening in the midst of beings at the specific moment and in the specific circumstances. The ex-temporaneous moment of vision is not some now –point we simply observe or describe ex post. "The moment of vision is a look of a unique kind, which we call the look of resolute disclosedness for action in the specific situation." (ibid. p. 151) What Dodge did was to have this decisive look at the fire and then followed the decision to *be* fire thrown into fire.

We take exception, then, from the cognitive view expressed by Moorman and Miner(1998), according to which any entity capable of planning or executing can improvise. In the new perspective evoked so far, we would rephrase their statement as follows: any entity existing, being able to reflect on its existence and endowed with moods, feelings and emotions is able to improvise

5 Concluding remarks

We can now recapitulate the main points of this essay. The study of improvisation as situated action carried out within the cognitive perspectives in common currency leaves us somewhat disappointed. We can easily find in it all the ingredients of more routine, planned action: goals, selection of alternatives, implementation, design and problem solving. Temporal aspects of improvisation are left unexplained. Extemporaneity is reframed as simultaneity and quickness, which it is obviously not. Improvisation was described by the Romans as neither quick nor

unplanned: it was called *extempore actio*. This begs for attentive interpretation. Cognitive theories of situated action and knowledge are of no avail in this respect.

We have submitted that one reason for this lack of assistance may lie in the distorted way in which the cognitive approaches consider situatedeness: they omit consideration of the "situation of the actor". Implicitly, they deal with the situation as a set of emerging circumstances, but consider the actor as a passionless, problem solving robot (with body or without depending upon the latest flavour of the critical or feminist theorizing).

Considering the situation of the actor with the same attention that the situated action paradigm dedicates to the fleeting circumstances of action poses a difficult problem, especially if one seriously wants to avoid any drifting into a mentalistic, symbolic representation of the mind (via frames, scripts, mindsets etc.).

Here, we can find shelter by going back to the origins of phenomenology, the philosophical line of thought that in the last century celebrated the notion of situatedeness. Moods capture the essence of the fleeting attunement of the actor with the situation. Moods are far from being a marginal, colourful add-on to our mentalistic explanations of how the actors behave in situations. They are the ground for our encountering the world; understanding and acting in the situation. There is no situated action without a mood when we deal with human beings rather than cognitive robots. We have looked then at improvisation as mood. Moods are best accessed by evoking, awakening and comparing them. As a consequence, improvisation has not been contrasted with plans and procedure, as it is customary in the cognitive inquiries into this phenomenon, but with other moods, the ones of panic and boredom, dropping the usual counterpoising of improvisation and planning.

The contrast with the latter, and its relationship with time, has allowed us to come closer to the meaning of the original definition of improvisation as an extemporaneous activity. In order to explain extemporaneity we have to go through the moods of the actor in situation as linked to Heidegger's (1962) basic idea about the intimate coincidence of existence and time. We have not been able to demonstrate ultimately that improvisation is a mood rather than a mindset, but new research directions have been laid out for a pre-cognitive, existential way of understanding this activity. In this respect, we hope to have carried out, in a more radical way, the project of linking the study of improvisation as an activity which has palpable contact with the human condition (Weick, 1998).

To be sure, the existential perspective here outlined has a number of further implications. Three can be mentioned, if only in passing. First, improvisation as moment of vision and disclosedness toward decision is much rare than perhaps appreciated so far. Many forms of improvisation appear as pastimes against boredom. Few are actually antidotes to panic in emergencies. Second, if we accept Heidegger's(1995) statement according to which profound boredom defines the modern condition, a nocturnal light is cast on the last sixty years of management and organization science. Emphasis placed on programming, planning and rational choice possibly conceals what goes on most of the time in most organizations for most people: boredom. Emphasis on decision making has entranced us and distracted us from appreciating that important decisions occur very seldom, while what prevails are all sort of pastimes (programmes, methods, models) that punctuate colourfully and irreversibly the life of the workers and managers. Computer systems increase the speed of activities and help in accelerating product development or, as we have seen, reducing the search for information from 22 to 2 seconds, but still we seem to continue to be lacking time, and behave more frantically than ever. This seems to indicate that despite all such innovations, we have

fallen victims of (clock) time as never before. Authentic extemporaneity eludes us in a world where scientific publications dedicated to celebrate it, fake it as velocity. It is fast, it is digital, still one is bored.

References

Barrett,F.J.(1998) creativity and improvisation in jazz and organizations: Implications for organizational learning, Organization Science, 9, 5, 605-622.

Beck, U. (1992) Risk Society-Towards a New Modernity, London, Sage.

Blattner, W. D. (1999) Heidegger's Temporal Idealism, Cambrige, Cambridge University Press.

Brown,J.S. & Duguid,P.(1991) Organizational learning and communities of practice, Organization Science, 2, 1, 40-57.

Ciborra, C.U.(1999) Notes on improvisation and time in organizations, Accounting, Management and Information Technologies, 9, .77-94.

Crossan,M. and Sorrenti,M. (1997) Making sense of improvisation, in J.P. Walsh and A.S. Huff (eds.) Advances in Strategic Management, 14,155-180, Greenwich, CT, JAI Press.

Descartes, La Passion de l'Ame

Dreyfus, H.L. (1991) Being-in-the –World, Cambridge, Mass. MIT Press.

Dreyfus,H.I. (2000) Could anything be more intelligible than everyday intelligibility? Reinterpreting division I of Being and Time in the light of division II, inJ.E. Faulconer and M.A. Wrathall, Appropriating Heidegger, Cambridge, Cambridge University Press.

Eisenhardt,K.M. and Tabrizi,B.N. (1995) Accelerating adaptive processes:Proiduct innovation in the global computer industry, Administrative Science Quarterly, 40, 84-110.

Giddens, A. (1991) The Consequences of Modernity, Oxford, Polity Press.

Goldie,P. (2000) the Emotions- A Philosophical Exploration, Oxford, Clarendon Press,.

Haraway, D. (1991) Sitautred knowledges: the science question in feminism and the privilege of partial perspective, Chapter 9 in Simians, Cyborgs and Women, 183-201 New York, Routledge.

Hatch, M.J. (1997) Jazzing up the theory of organizational improvisation in J.P. Walsh and A.S. Huff (eds.) Advances in Strategic Management, 14,155-180, Greenwich, CT, JAI Press.

Hatch, M.J. (1997a) Irony and the social construction of contradiction in the humor of a management team, Organization Science, 8, 3, 275- 288.

Hayek,F. (1945) the use of knowledge in society, American Economic Review, 35, 519-530.

Heidegger,M. (1962) Being and Time, New York: Harper and Row.

Heidegger,M. (1995) the Basic Problems of Phenomenology, Bloomington, Indiana: Indiana University Press.

Husserl,E.(1962) Ideas , New York: Collier Books.

Hutchins, E.(1996)Cognition in the Wild, Cambridge, Mass., MIT Press.

Inwood, A(1999) Heidegger Dictionary, Oxford, Blackwell,

Lave,J. & Wenger, E. (1991) Situated Learning - Legitimate Peripheral Participation, Cambridge : Cambridge University Press.

Liebenau,J. and Lee, H. (1999) temporal effects of information systems on business processes: Focusing on the dimension of temporality, Accounting, Management and Information Technologies, 10,3, 157-185.

Maclean,N, Young Men and Fire, (1992), The University of Chicago Press, Chicago.

Mead…

Moorman,C. and Miner,A.S. (1998) Organizational Improvisation and Organization Memory, Academy of Management Review, 23,4:698-723.

Newell,A. & Simon, H.A. (1972) Human Problem Solving, Englewood Cliffs, NJ: Prentice Hall.

Nonaka,I (1994) A dynamic theory of organizational knowledge, Organization Science,5,1,14-37.

Nonaka,I. and Konno, N, (1998) The concept of "Ba"-Building a foundation for knowledge creation, California Management Review, 40, 3,40-54.

Quintillian (1993) The Institutio Oratoria –Vol IV (H.E. Butler trans.), Cambridge Mass. Harvard University Press.

Schoen, D.A. (1983) The Reflective Practioner, New York: Basic Books.

Scribner,S. (1984) Studying working intelligence, in B. Rogoff & J.Lave Everyday Cognition, Cambridge Mass.: Harvard University Press.

Smith A. ,(1853) the Theory of Moral Sentiments, London, H.C. Bohn.

Spolin,V. (1963) Improvisation for the Theater: A handbook of teaching and directing techniques, Evaston,IL, Northwestern University Press.

Suchman,L. (1987) Plans and Situated Actions: The problem of human-machine communication, New York: Cambridge University Press.

Suchman,L. (1993) Response to Vera and Simon's situated action: A symbolic interpretation, Cognitive Science, 17, 71-75.

Suchman,L.(2000) Located accountabilities in technology production, Draft, Department of sociology, Lancaster University.

Vera, A.H. & Simon, H.A. (1993) Situated action: a symbolic interpretation, Cognitive Science, 17, 7-48.

Weick,K.E. (1993) Organization redesign as improvisation, in G.P. Huber & W.H. Glick, Organizational Change and Redesign, New York: Oxford University Press.

Weick, K.E. (1993a) The collapse of sense-making in organizations: the Mann Gulch disaster, Administrative Science Quarterly, Dec. 628-652.

Weick, K.E.(1998) Improvisation as a mindset for organizational analysis, Organization Science, 9, 5, 543-555.

Winograd,T. & Flores,F. (1986) Understanding Computers and Cognition, Norwood, N.J.:Ablex.