

Giuseppe A. Micheli

# Gestalt Switches in the Idea of Context. A Macro Dimension of the World for Every Theory of Action

(doi: 10.2383/72695)

Sociologica (ISSN 1971-8853)

Fascicolo 3, settembre-dicembre 2012

**Ente di afferenza:**

()

Copyright © by Società editrice il Mulino, Bologna. Tutti i diritti sono riservati.

Per altre informazioni si veda <https://www.rivisteweb.it>

## **Licenza d'uso**

Questo articolo è reso disponibile con licenza CC BY NC ND. Per altre informazioni si veda <https://www.rivisteweb.it/>

# Gestalt Switches in the Idea of Context

## A Macro Dimension of the World for Every Theory of Action

by Giuseppe A. Micheli

10.2383/72695

“Nobody’s perfect”  
Billy Wilder, *Some like it hot*, 1959

### 1. Explaining by Context Requires a Crab Strategy

Marcel Duchamp’s Fountain – the 1917 work of art achieved by simply overturning a porcelain urinal, and regarded by some historians as a major landmark in Twentieth century art [Saltz 2006] – might be regarded as a good metaphor of the way scientific explanation runs, systemically working by counter-instances and gestalt switches.

Gestalt is a German word, meaning the essence or the shape of an entity’s form, taken as a whole. According to the Gestalt theory, any non-atomic object of perception shows a recognizable structure, which cannot be reduced to the sum of its parts.<sup>1</sup> We speak of a Gestalt effect when the same set of informational elements yields two or more recognizable patterns, which are incompatible and indifferent each other, in the sense that they cannot be perceived together by the same agent, and we have no reasons to select one of them as a dominant object of perception. This is why sciences can experience a “Gestalt-switch” (or Gestalt-shift), a perceptual transformation typical of the Gestalt experience, in their road to discovery. If theories work as tools to recognize Gestalt, since different theories stem from different Gestalt perceptions incompatible each other, they are in turn incommensurable each other.

<sup>1</sup> As Kurt Koffka [1935] said: “The whole is other than the sum of the parts.” Whence the theoretical “principle of totality:” the conscious experience must be considered globally (by taking into account all the physical and mental aspects simultaneously) because the nature of the mind demands that each component be considered as part of a system of dynamic relationships.

“Theories put phenomena into systems. They are built up "in reverse" – retroductively. A theory is a cluster of conclusions in search of a premise. From the observed properties of phenomena the physicist reasons his way towards a keystone idea from which the properties are explicable as a matter of course” [Hanson 1958].

Let’s remember a celebrated abduction in the history of science (*ibidem*). In his enquiry on the law of Martian orbits, Kepler entertained two hypotheses (libration and ellipsis) which formed, from his viewpoint, a Gestalt effect. For a longtime he thought that they are incompatible, until he suddenly acknowledged<sup>2</sup> that the two hypothesis not only are compatible but that they are equivalent.

Both exact and human sciences share this road to discovery, however with a basic difference. As for the first ones, philosophers have repeatedly demonstrated that more than one theoretical construction can always be placed upon a given collection of data. Paraphrasing Kuhn [1962,] we can say: a reorientation from former to alternate Gestalt<sup>3</sup> can be described as "handling the same bundle of data as before, but placing them in a new system of relations with one another by giving them a different framework" or "picking up the other end of the stick".

The success of Kepler, whose counter-factual conjecture (Mars orbits are “as it were” an ellipse) reveals itself to be exactly what does it happens in the physical world, induces the exact sciences to conceive counter-instances and Gestalt-switches as a one-way and obligatory road towards the emergence of truth. Kepler’s abduction lets him to grasp the truth underlying hypotheses. This is not the case, on the contrary, when exploring causes and contexts underlying the human logic of action. In the human sciences a Gestalt-switch is a common way not to get the truth, but to grasp together the most possible facets of a reality that is not “comprehensible” in an overall view. To shift to an absolute truth is an unreachable experience in the social sciences.

Let’s take, for instance, the aim of social sciences at understanding the role of the context in the formation of the human behaviour. The idea of context adopted in a social inquiry of theory is ever an intrinsically relative idea of context. Incrementing our comprehension needs therefore the observed human behaviour to be approached from two or more points of view, in a pincers manoeuvre<sup>4</sup> as a crab does. Any illusion

<sup>2</sup> Having “the same kind of surprise of the detective who discovers that dr. Jekyll and mr. Hyde are the same person” [Pizzi 2006, 266]: “I was almost driven to madness in considering calculating this matter. I could not find out why they would rather go in an elliptical matter rather than a circle. Oh ridiculous me!”

<sup>3</sup> We substitute the world Gestalt to “paradigm,” provided with too many implications in Kuhn’s approach. Let’s assume, however, that it is not the only physical, humane perception to be subjected to shift, but more generally every human *Weltanschauung*.

<sup>4</sup> “In scientific research you start from two beginnings, each of which has its own kind of authority:

of discovery the truth is admitted: we can just hope to have a better grasp of the meaning of the observed behaviour.

Which implications has, this peculiar property of the social sciences, on the way they construct theories about the effect of the context on the formation of the social behaviour? In order to give some answers to this question, this paper consists of three parts. First, some epistemological frailties of the concept of context in the effort of understanding social dynamics are discussed. Then, some trajectories of the idea of context are briefly sketched by reconstructing three crucial oscillations of the concept around a sort of barycentre with respect to two typologies: the one distinguishing between situation and frame, the other between global, analytical and structural properties. Lastly, some rules of thumb are suggested in order to correctly associate logics of action, contextual properties and research designs.

## **2. Explaining by Context Produces Aporias and Fallacies**

Consider the following logical loop. Understanding individual or collective behaviour requires indexicality. Explaining a behaviour means to ‘indexicalize’ it, namely to insert it in a context-dependent framework: “I,” “now,” “here,” where “I” refers to whoever is speaking, “now” to the time, “here” to the place of utterance. Nevertheless, social scientists aspire to explore the world without adopting any privileged point of view and their search for general rules (or at least middle-range rules) leads them to bracket the context,<sup>5</sup> thus producing a loss in interpretive power. This aporia makes “context” an epistemologically frail concept.

Let us look at a limited number of other aporias and fallacies that hamper a thorough understanding of a social action or behaviour in spite of acquaintance with a range of statistical tools, from simple regressions to lagged effects econometric models.

*a)* Inserting an action in a nested structure of hierarchical layers (as in multilevel analysis) apparently bypasses the obstacle of indexical loss through a sequence of causal descriptions. However, a large range of “action trees,” variably extended like an accordion, may correspond to the same outcome [Davidson 1980]. Thus, explaining an action by indexicalization can produce an indefinite range of causal descriptions (figure 1,) hindering the choice of one (sufficiently reliable) explanatory model.

the observations cannot be denied, and the fundamentals must be fitted. You must achieve a sort of pincers maneuver” [Bateson 1972].

<sup>5</sup> This is not in contradiction with the self-perception of sociology as the “discipline studying contexts.” The many ways of defining context discussed in § 2 will clarify it.

The history of science includes many conflicts between theories based on a different length of the action trees, such as Galton’s theory of an indefinite reversion to ancestral inheritance vs. Mendel’s ‘markovian’ approach or Hardy’s theorem of stability.

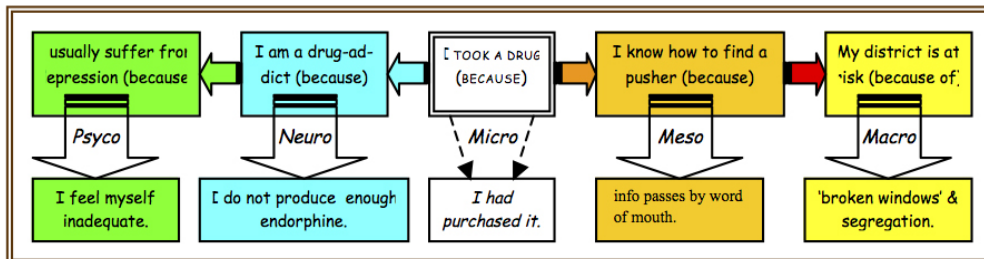


FIG. 1. Explaining an action by extending an action-tree and jumping levels.

b) Analytical philosophy suggests that actions are actual entities (events) endowed with a core, surrounded by one or more layers [Ginet 1990]. In analysing an individual action, an action tree extending it on the same (micro) level as the action itself may be perceived as trivial since our compelling need for explanation can only be satisfied by jumping from one level to another. However, explaining an action by means of an action tree implies that causes and effects are commensurable with one another (figure 1). Conversely, an action tree encounters one or more points of discontinuity: the layers of a micro behaviour – that is the contours towards which the action tree extends – can be sought for in a macro data-set; and, vice versa, from a certain point on a sequence of macro events enters the region of micro events, which shift in turn into the area of psychological ‘events’ and even into that of neuronal dynamics. So how do we deal with those discontinuities and the incommensurability between levels?

c) Another basic impasse undermines quantitative social research: the aim of explaining an action or behaviour is pursued, as a rule, by reifying in the form of variables both the states of being and the actions of the individuals. This strategy can be dated back to the 1930s, when quantitative social research began to handle large data-sets. Within what Abbott [1997, 1152] calls the ‘variables’ paradigm,

“to be theoretical is to make assertions about the relation of abstractions like ‘gender’, ‘capitalism’, ‘education’, and ‘bureaucracy’.”

In this scheme the *explanandum* is ‘explained’ to the extent to which it is possible to explain the variance of a dependent variable. Hence, variables are not proxies of reality but rather reality itself, and also individuals are not actors in social relations but rather units of analysis. The independence of variables is enshrined in the phrase

'net of other variables'. Social actions have the same causal meaning whatever their context.

"Variable analysis" is a scheme that became rapidly widespread and the norm in proper sociological analysis thanks to the rise in the 1930s of opinion polling and market research, favoured in turn by the advances in sampling methods, the theory behind which is based on the decontextualization of the social actor:

"By removing social facts from their immediate contexts one could make them accessible to the power of the new inferential statistics. Correlational methods, regression, factor analysis, all the panoply of hypothesis-testing methods became applicable once one made the conceptual leap that 'values of variables' were comparable across a wide variety of contexts" [ibidem, 1163].

Quantitative social research with large data-sets is today normally conducted as 'Variable Sociology' [Esser 1996,] and the pillar of this widespread practice can be found in an oldest old but recurring concept, that of 'mechanism': a sort of "theoretical complement" [Goldthorpe 1996] to variable sociology:

"Analytical sociology is concerned first and foremost with explaining important social facts [...] not merely by relating them to other social facts – an exercise that does not provide an explanation – but by detailing in clear and precise ways the mechanism through which the social facts under consideration are brought about [...] and these mechanisms invariably refer to individual's actions and the relations that link actors to one another [...] Structural individualism differs from traditional methodological individualism in attributing substantial explanatory importance to the social structures in which individuals are embedded" [Hedström and Bearman 2009, 3-4].

As a matter of fact there is currently a large and growing body of literature on mechanisms and the role of mechanism-based approaches to theory building in the social sciences. But, as Astbury and Leeuw [2010] outline by quoting Merton [1968,] if we are not careful, there is a risk that the word mechanism may begin to "obscure rather than create understanding."

d) In addition to the hermeneutic loss due to the 'variables' paradigm, and strictly connected with it, a last fallacy weakens any search for explanations. Too often, we still construct models based on cross-sectional data, paving the way for the short-cut to a flip-flopping theorizing<sup>6</sup> [Bales 1951]. More than half a century

<sup>6</sup> Let's take a recent example of flip-flop effect in a debate based on ecological data. In a 2007 exchange of views in [www.neodemos.it](http://www.neodemos.it) on the reliability of the cross-section correlation between female occupation and total fertility rate, the current reversal (from negative to positive) of the ecological correlation in Italy, in conformity with the rest of Europe, was set against the fact that the individual correlation remains negative.

has passed since W.S. Robinson [1950] empirically unmasked what he defined as an ecological fallacy, namely inferring a relationship between individual characters and behaviour by means of the corresponding ecological correlation.

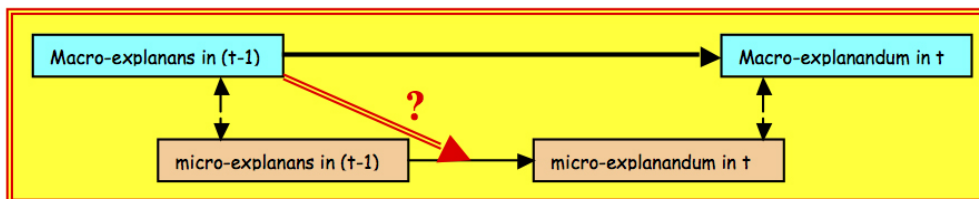


FIG. 2. Explanatory relationships between micro and macro level.

To argue for micro-relations basing oneself on ecological correlations is the same as to explain an individual cause-effect relationship by inferring it from a similar relationship at a level of a single layer. An individual action stems from an individual actions tree, but it has to be regarded also – until we find proof to the contrary – as context-dependent. The question mark in figure 2 represents the core question of this paper: how does it work the explanation of an individual action from a recipe whose ingredients are both micro and contextual *explanantes*?

A recipe for this problem could rest on the concept of “supervenience,” proper to the philosophical analyses of the mind-body problem:

“A macro property, M, supervenes on a set of micro-level properties, P, if identity in P necessarily implies identity in M. If the macro property is supervenient upon the micro it means that, if two collectivities or societies are identical to one another in terms of their micro-level properties, then their macro-level properties also will be identical [...] But it does not imply that two collectivities with an identical macro-level property will necessarily have identical microlevel properties, because identical macro-level properties can be brought about in different ways.” [Hedström and Bearman 2009, 10].

Pay attention, however: the structure of the Hedström and Bearman formulation reveals extraordinary affinities to the scientific question posed 40 years ago by some economists. The form of the question was as follows [Green 1964:] given a set of micro relations and a set of suitable aggregation functions for both the dependent and the independent variables, under which conditions are micro and macro relations consistent each other? Already Malinvaud, in a special issue of the “Cahiers du séminaire d’économétrie” [1956] evidenced that micro-macro consistency is only valid in the unlikely case in which all the aggregation functions (vertical lines in figure 2) are linear additive. To put it simply, a micro-macro translation is possible, but under the strict condition that the *explanandum* must be context-independent.

Four decades afterwards, therefore, a much similar view of defining the context, and its way of influencing human behaviour, floats back up to the surface of the scientific debate.<sup>7</sup> Some scenarios are surely changed, in the meantime, mainly in the technology of the research.<sup>8</sup> But changing scenarios seem to be filled with periodically recurring ways of reading and re-coding context and its effect on human behavior: and such oscillations are fully consistent with the hypothesis that a procedure of scientific enquiry based on counter-instances and Gestalt-switches, in the social sciences, is just a device to catch as much possible of truth in the observed reality. It could be useful, thus, briefly and non systematically reconstruct some of these well known oscillations.

### 3. Chains of Gestalt Shifts in Defining Social Context

What do the scientific community mean when they use the term ‘context’? Has the meaning of this category remained stable over time or has it fluctuated? Two typologies allow us to trace the historical evolution of this term in the history of social thought.

The first [Lazarsfeld and Menzel 1961] classifies three types of properties which describe collectives: *a*) analytical properties, obtained by performing mathematical operations upon some property of each single member; *b*) global properties, not based on information about the individuals; and *c*) structural properties, obtained by performing operations on data about the relations of each member to some or all of the others (e.g. the sociometric degree to which students’ choices cluster around a few personalities).

The second distinguishes the context as a situation (i.e. the set of objective parameters that the observer – not the actor – judges to be relevant to situating a subject and explaining their actions) or as a frame (i.e. the process by which the actor himself, selecting the data and events according to his own philosophy of the world, interprets and re-constructs, namely ‘defines’, the situation, attributing to it his own meaning). Thus, the meaning of a situation does not pre-exist its definition, which is at variance with the logical premises of variable analysis:

<sup>7</sup> Even the examples adopted float back up. Among the examples of supervenience cited by Hedström and Bearman (the decision of whether or not to vote in a certain way or to join a social movement, influenced by the number of other individuals who already have voted in a similar way or joined the movement) we find just the same examples explored by Raymond Boudon in the late 1960s (see next paragraph).

<sup>8</sup> “Until very recently we did not have the analytical tools needed for analyzing the dynamics of complex systems that large groups of interacting individuals represent. Powerful computers and simulation software have changed the picture” [Hedström and Bearman 2009, 12].



“When current variable analysis deals with matters or areas of human group life which involve the process of interpretation, it is markedly disposed to ignore the process [...] The intervening process is ignored or, what amounts to the same thing, taken for granted as something that need not be considered [...] The indifference of variable analysis to the process of interpretation is based apparently on the tacit assumption that the independent variable predetermines its interpretation. This assumption has no foundation” [Blumer 1956, 686-687].

It is a reasonable hypothesis that an idea of context both conceived as a structural property and equidistant between situation and frame should enable us to optimize the pregnancy of the rule of Ego’s strategic autonomy (in figure 3, such a Gestalt can be located at the origin of the two axes). Whenever the objective situational component of the human realm is bracketed, the (idiographic) uniqueness of the frame makes a universal (nomothetic) law impossible, and whenever the subjective side of human experience is bracketed, the pure situation does not permit us to detect any intensional (i.e. intrinsic) relationship between events and actions. Now, a rough historical sketch of the ideas of context in the social sciences evidences some sort of a brownian motion, a continuous oscillation between the two pairs of polarities, getting to configurate a circular trend around a virtual centroid with respect to both the cited typologies, i.e. the origin of the axes. If we look, concisely and unsystematically, through a century of social sciences, we can observe at least the two following chains of Gestalt shifts.

a) The first oscillation, starting from the environmental science or ‘mesology’ proposed by Bertillon<sup>9</sup> and Comte and developed by the Italian school of anthropological criminology, *shifted* to Durkheim’s ‘minority effect’ and up to the Chicago School. Whilst in the deterministic laws formulated by Lombroso the context is basically identified as its physical, geological and climatic dimension, i.e. its global properties,<sup>10</sup> Durkheim [1897] interprets the context as a feedback from the individual behaviour when organized in an aggregated form. In his celebrated analysis of the rule of minority status effect *inducing suicidal behavior*, if a number of human groups share the same context, the heterogeneity of group behaviour depends not only on the group specificities but also on the numerical ratio among the groups.

<sup>9</sup> The term ‘mesology’ was created by Louis-Adolphe Bertillon in 1865. Jacques Bertillon, son of Louis-Adolphe, wrote [1872, 711-713]: “Il y a lieu de séparer la recherche des influences de milieux de la physiologie proprement dit [...]. Le physiologiste procède surtout par analyse [...]. le mésologiste laisse l’organisme dans sa complexité [...]. Si, au lieu de la biologie, je considère la sociologie, les influences des milieux sur les groupes sociaux (influences qui ont frappé tous les penseurs) prennent une telle prépondérance, que, [...] non seulement modifient les institutions elles-mêmes, mais les atrophient ou les font naître.”

<sup>10</sup> “In a given social environment, with given physical conditions, an exact number of crimes will be perpetrated” [Lombroso 1893, 192].

In Durkheim, the role played by the context shifts from global to structural (or compositional) properties. The last step, converging on an equilibrium point in the plan of contextual properties, requires that the double nature of the context, intended both as a situation and as a frame, be acknowledged. This was achieved by the Chicago School in the 1930s at the pinnacle of its long life when it theorized that no social fact makes any sense abstracted from its context in social space and social time.

“The Chicago view was that the concept of net effects was social scientific nonsense. Nothing that ever occurs in the social world occurs ‘net of other variables’” [Abbott 1997, 1152].

Moral order and local disorganization, neighbourhood and natural areas are some of the categories of context underpinning Chicagoan urban studies.

The syncretistic quality of the social research in this school ended up squeezed between two polar tendencies: on one side the full acceptance of the inferential and survey-based revolution, on the other the growing emphasis on the inter-subjective aspect posited by Herbert Blumer: a Chicagoan himself, who by the 1930s was laying the foundations of symbolic interactionism, he attacked his own school for being unscientific because its categories were not generated directly enough from the data.<sup>11</sup>

b) The second chain of Gestalt shifts started during the 1950s. Like a pendulum moving away from its own barycentre, it consists in a centrifugal, bifurcated counter-movement along three lines: a loss of awareness of the structural properties of context with consequent reduction of social disorganization to the “proliferation of individual disorganization” [Blumer 1937]; a full adherence to the ‘variable paradigm’ through factorial ecology; a reduction of the context to the individual frame, sliding from the interactionist equilibrium point down to the radical approach of labelling theory.

By the middle of the twentieth century, a rich store of rules and evidence had been forgotten. An ecological datum was once again nothing but a proxy of an individual datum. To the extent that attention is focussed on the macro level, the micro level is only shaped like a macro disaggregation. The idea itself of context recedes, as micro and macro overlap and the environment no longer influences individual attitudes and choices. Thanks to this hypothesis, a statistical algorithm like the general linear model can rise to the status of a theory.

Economics, too, is well in tune with this point of view and takes for granted a total overlap between micro and macro. The future Nobel Prize winner John Hicks

<sup>11</sup> Blumer thus “helped further a split within the foundations of sociology, by conflating on the one hand objectivism, quantitative study, and variable-based approach and on the other subjectivism, qualitative study and case-based approaches” [Abbott 1997, 1161].

used to affirm in the 1930s that the behaviour of a group follows the same rules as the behaviour of the individual. The equivocal adoption of the ‘representative agent’ as a centroid of a firms’ population and the measurement of that ambiguous concept as a statistical average are a good example. Already in 1928, professor Lionel Robbins noted that Marshall’s notion of “representative firm ” is neither a corporeal nor a statistical construct; it is “solely as an abstract notion designed to avoid problems arising from the diversity of firm size” [Hartley 1996, 171]. Nevertheless, the representative agent remained for a longtime a pervasive assumption in economics.

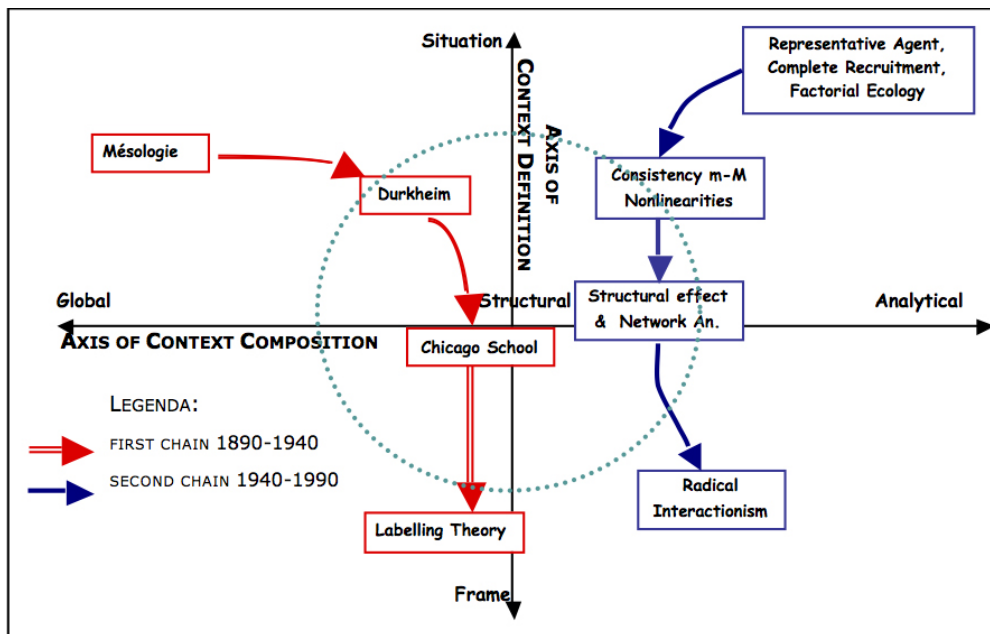


FIG. 3. Trajectories of two chains of gestalt shifts in the idea of context

In the 1950s, the issue of data disaggregation was thus again under discussion, finding an exact though simplistic solution in the work of econometric as Malinvaud [1957] and Green [1964,] based on additive linearity of the micro, macro and cross-level relations. As we said previously, a micro-macro translation is possible, but under the strict condition that the *explanandum* must be context-independent.

An alternative way round this is suggested by Leo Goodman [1959]. His “complete recruitment model” uses a linear model to decompose a collective behaviour among the components of a limited number of subgroups that exhaust the whole population (as in the estimate of the flow-of-votes). In this approach individuals play a finite number of roles totally determined by the status they possess or by the class they belong to. No variation is permitted within the part one plays, nor any variation of parts when moving from one theatre to another: once again, the explanatory model is fully context-independent.

In the 1960s, social theory focussed once again on the existence of contextual effects.<sup>12</sup> The debate was triggered off by the scientific conundrum of the inconsistency between individual and ecological data. Used to inferring micro relations from macro data, sociologists began to debate the hypothesis that a non-linearity evidenced in a macro relation can subtend and reveal a contextual effect (more exactly, a structural effect) at the micro level. This was a crucial turning point, indeed. In fact, a statistically significant non-linearity in a model plays the same role as fever<sup>13</sup> in identifying an underlying process: following the rule of abductive inference, a non-linearity turns our thoughts to a limited range of consistent theories of action.

Boudon [1963] discusses two alternative hypotheses. As per the first, the occurrence of a behavior is influenced by its statistical frequency in a given context;<sup>14</sup> as per the second one, it is influenced by the “structure of the environment.”<sup>15</sup> However, whilst the first hypothesis fits in well with the family of diffusion models, the second one hinges still on a concept (structure) with a too large range of meanings. A few years later Przeworski and Soares [1971] are more explicit: exploring the curvilinear relationship between choice of vote and social composition of the electorate, they interpreted the quadratic term of the mathematical function as a proxy of the number of “interpersonal encounters” under the assumption of random mixing. Likewise, Harder and Pappi [1969] redrew the complete recruitment model, inserting into it a multiplicative factor that can express the interaction (in a statistical sense) between the degree of individual belonging to a group and the group capacity to support the individual.

The interweaving between non-linearity and interaction is probably a cornerstone of the whole range of human sciences throughout the Twentieth century.<sup>16</sup> With-

<sup>12</sup> Among the reasons for this renewed interest, Van den Eeden and Huttner [1982] highlight the role played by a number of Central European social theorists who had emigrated to the US in the 1940s. They grafted their receptiveness to the idea of context in defining social action onto the pragmatic and atomistic approach of statistical surveys.

<sup>13</sup> Borrowing a parallel from Claude Bernard’s *Introduction to the Study of Experimental Medicine* [Bernard 1865,] a doctor treats scabies on the basis of a scientific law (since he recognizes the parasite agent,) whilst he treats fever in an empirical or statistical way, that is he infers a stochastic rule on the basis of a large number of observations.

<sup>14</sup> For the empirical evidence, Boudon refers to Isambert’s research on civil burials per social classes [Isambert 1960].

<sup>15</sup> Boudon refers to Klatzmann’s researches on voting behavior [Klatzmann 1957].

<sup>16</sup> The Lotka-Volterra controversy over the paternity of the prey-predator model, half a century before, is a clear-cut example of it, as well as a further clue of the cyclicity of the key-concepts, when exploring the effect of context. Whereas Alfred Lotka, who in 1925 first formulated the model on the basis of the fundamental equations of the kinetics of evolving systems, hinges it on the statistical mechanics of systems of energy transformers, Vito Volterra, in 1927, develops the same periodical dynamics but pivoting on a very different domain, namely that of the ‘encounters’, nothing

in this upsurge of a new idea of interactive context, a strong impulse comes from Blau's organizational studies concerning what he calls "structural effects":

"If Ego's X affects not only Ego's Y but also Alters' Y, a structural effect will be observed, which means that the distribution of X in a group is related to Y even though the individual's X is held constant. Such a finding indicates that the network of relations in the group with respect to X influences Y. It isolates the effects of X on Y that are entirely due to or transmitted by the processes of social interaction" [Blau 1957, 64].

A structural effect is the social product of a web of contacts that a number of individuals mutually weave in a given context. However, Blau's concept of structural effect and the more simplistic concept of compositional effect (i.e. the mere frequency distribution of a population among its subgroups) still ambiguously overlap. In contrast, a few years later Pappi and Laumann [1976] made systematic use of network analysis techniques in designing a research on political elites formation in a German community. Starting from this text, the meaning of the term 'structural effect' became less fuzzy and unstable.

A new era of social research has begun, from now on, and is witnessing both fresh enthusiasms and new aporias generated by the fuzziness of the idea of network. In fact, a connected graph represents an indefinite number of interpersonal interactions and is consistent with a number of explanatory theories, competing with one another. Analogously, another emergent corpus of 'contextual' models, concerning diffusion processes, do not produce a 'theory' of contagion but simply a "meta-theory,"<sup>17</sup> declinable in many possible 'middle range' theories. Whichever the partial hypothesis we want to focus on, the network approach and the diffusion approach both construct a sort of multi-layer garment well suited to the collective process under examination.

A new oscillation of the pendulum – in the Nineties – is on the brink of moving, standing on the folk psychology statement that the environment exerts no direct influence over human choices and the interaction between the status properties of

other than the rules of interaction among individuals. Replying to a letter of 1926, in which Lotka belittled the value of Volterra's rule of encounters criticising it as superficial, Volterra claimed that his principle was on the contrary extremely concrete, emphasizing the different Gestalt, or "metaphysic" [Garding 1977,] underlying the two prey-predator models: "c'est l'analogie du cas biologique avec la question chimique qui vous a guidé. Pour ma part, j'ignorai la question chimique et [...]. j'ai donné une justification (des équations) par le concept de rencontres des individus." [Archivio Volterra, Accademia Nazionale dei Lincei, Roma, quoted in Manfredi, Micheli 1998, 717]. We cannot help noting that the term "encounter" is the same used by Przeworski and Soares half a century later.

<sup>17</sup> Diffusion exists whenever the adoption of innovative ideas or behaviour by some individuals influences the likelihood of such adoption by others [Montgomery and Casterline 1998].

an individual and the 'structure' of the context acts as go-between in explaining an individual's behaviour or attitude<sup>18</sup>. Blumer's [1969] radical version of the interactionist theory once again moves the interpretation of the context away from a point of equilibrium.

Since the meaning of a situation derives exclusively from the interaction among subjects, we encounter another paradox: whereas the macro-level is reduced to a merely global property, all the degrees of freedom in the decision-making are once more set to zero, and the actor is completely entrapped in a web of interactions. And, if the "local contexts of trust relations" loose their crucial role in social reproduction and extend the process of disembedding to a "stretched planetary scale" [Giddens 1990,] we are faced with a new aporia: a planetary disembedding produces hyper-contextualization, namely a sensitive dependence on any planetary influence, leaving an actor at the mercy of any tornado generated by the flap of a butterfly's wings, wherever the butterfly is.

Whenever past Gestalt float back up to the surface, past definitions of context reappear, and these in turn raise past aporias: whence, an oscillatory movement around a "still point of the turning world" [Eliot 1943]. Nevertheless, all the aporias are not definitive impeachments in a road to the explanation of a context effect. They are problematic but not refutable fellow travellers in a knowing-by-models process, which works by contaminating distinct domains of the human realm: in a pincers manoeuvre as a crab does.

#### **4. A Few (and Minimalist) Rules of Thumb**

We need only a few rules of thumb to do it. Some (minimalist) rules to connect in one only and consistent research design both the logic of action we aim at exploring and the kind of context we believe relevant for that theory of social action.

Let's start, thus, from a preliminary issue. As we saw in the next paragraph, we have a great variety of approaches to the idea of context: by dichotomizing the two main axes (situation vs. frame and global vs. analytical) we can cluster them in a limited number of classes.

At every idea of context it is reasonable to attach in turn a different research design, aimed at better grasp the context-effect (table 2).

<sup>18</sup> "The actor responds to that segment of the total system which, for him, is perceptually important and salient; rarely does he (inter-)act with reference to the system as a whole" [Campbell and Alexander 1965, 284].

a) In front of a situation effect, marked by analytical properties, a multilevel analysis (i.e. a variable approach) with or without interactive variables can be an adequate procedure.

b) In front of a frame effect, preferably marked by structural properties, an agent based model<sup>19</sup> is better, as it is particularly adequate to “capture emergent phenomena,<sup>20</sup> resulting from the interactions of individual entities, that by definition cannot be reduced to the system’s parts.”<sup>21</sup>

c) When we aim at exploring the effect of a global property of a context, it would be better focussing on an adequate choice of the previous research design, i.e. choosing the right universe of preselected situations or frames which either statistical or anthropological microanalyses will be applied to.

Social action, too, may be oriented in more than one way. It may be [Weber 1913] instrumentally rational, that is “exclusively oriented by the means (subjectively) conceived as adequate to purposes the subject univocally determines”; or ‘value-rational’, that is, determined by a conscious belief in the value for its own sake of some ethical, aesthetic, religious or other form of behaviour, independently of its prospects of success. Alternatively it may be determined by the actor’s specific affects and feeling states, or, lastly, by an “ingrained habituation.”

Now, we want here to hypothesize that the choice of a kind of context, too, depends on the theory of action we adopt. One, at least, of such optimal matching has been acknowledged by the scientific community. Some years ago, Blossfeld [1996] asked why the influence of the rational choice theory on quantitative macro-sociology is so “surprisingly small.” As a matter of fact, the tools of rational action theory are fine tuned for a social situation explained by variables. Researchers

“theoretically focus on the constraints of individual actions rather than on individual’s intentions. They are particularly interested in *situations*, where the ac-

<sup>19</sup> Agent-based models (ABM) are a class of computational simulation models used to analyze systems with a large number of interacting agents and emergent system properties that cannot be deduced by aggregating the agents’ properties. They simulate the actions and interactions of autonomous agents in an attempt to re-creating and predicting their emerging effects on the system as a whole.

<sup>20</sup> “The emergent is unlike its components insofar as these are incommensurable, and it cannot be reduced to their sum or their difference” [Lewes 1875, 412].

<sup>21</sup> This is why ABM can be used when there is potential for emergent phenomena, i.e. when “individual behavior is *nonlinear* [...]; exhibits memory, path-dependence, and hysteresis, non-markovian behavior, or temporal correlations, including learning and adaptation [...]; agent interactions are heterogeneous and can generate network effects [...]; Averages will not work. Aggregate differential equations tend to smooth out fluctuations [...], under certain conditions, fluctuations can be amplified” [Bonabeau 2002, 7280-7281; our italics]. As per the concept of emergence, already in 1875 Lewes defined it (“The emergent is unlike its components insofar as these are incommensurable, and it cannot be reduced to their sum or their difference”) anticipating the main rule of the Gestalt school.

tions of a great number of individuals are *channelled by external constraints*, leaving little room for the importance of individual choice” [Blossfeld 1996, 186; our italics].

This is, of course, not true for every frame of action; nevertheless, it is precisely this logic of full subordination to the contextual constraints that makes rational choice theory so fine tuned for the variable approach. An individual acting according to a ‘rational’ logic is traditionally an atomized actor, totally determined by the set of rules of decision-making, rigidly derived from beliefs, preferences and exogenous opportunities. In short, rational choice theory makes action fully determined, decontextualized, and measurable in the form of variables. This is why Goldthorpe (1996) advocated an alliance between a quantitative analysis approach with large-scale datasets and the deployment of rational action theory.<sup>22</sup>

Indeed, the influence of rational choice theory on quantitative macro-sociology is not negligible. We can suspect, rather, that the current spread of the rational choice paradigm is propelled by quantitative research, to the extent that a rational action is submittable to economic calculus in the form of variables. But we can highlight, too, a significant homogeneity between Weber’s *Zweckrationalität* and a situational definition of context:<sup>23</sup>

“The rationality-based approach to sociological theorizing resembles what Karl R. Popper [1994] had in mind with his notion of ‘situational analysis’ [...] A situational analysis, according to Popper, proceeds by first making an analytical model of the social situation to be analyzed (consisting) of elements representing the actors’ decision-making environments as well as their interests (aims) and beliefs” [Hedström and Swedberg 1996, 132].

<sup>22</sup> Goldthorpe’s suggestion of an alliance between a variable approach and a theory of action opens the door to a large range of procedural approaches aimed at explaining the contextual influence on the individual action, which hold together both micro and macro levels. But how do we integrate the two levels? Not, of course, at the same level that the variable analysis works at, treating “the act of interpretation as an ‘intervening variable,’ [...] a neutral medium through which the independent variable exercises its influence.” This is what Blumer [1956, 687] suggests, showing incidentally the pitfalls of this solution (“this would be no answer: interpretation is a formative or creative process in its own right.”) In fact, interpretation cannot be inserted in a procedural design of variables conceptualization, but rather in a larger research design.

<sup>23</sup> Also in the DBO (desires, beliefs, opportunities) theory, proper of folk psychology, opportunities are the parametric way of measuring the ‘objective’ situation.



TAB. 1. *Links among logics of action contextual effects & proper research designs*

| Logics of action<br>(and factors of change)                           | Contextual effects<br>(and properties)            | Research designs  |
|---|---|---|
| Determined by affect & moods (change in moods & dispositional states) | Situation effects (global situation properties)   | Quantitative & Qualitative microanalysis based on pre-selected situations |
| Instrumentally rational (change in beliefs)                           | Status effects (analytical situation properties)  | Quantitative Multilevel analysis without/with interactive variables       |
| Determined by ingrained habits (change in norms and preferences)      | Interaction effects (structural frame properties) | Quantitative Agent Based Models with network of interactions among actors |
| Value-rational (change in values and symbols)                         | Erlebnis Effects (global frame properties)        | Quantitative & Qualitative microanalysis based on pre-selected frames     |

Let us then generalize the link of affinity between rational action theory, situation analysis and ‘variable sociology’ to the whole range of logics of action, context definitions and research design. The result are the three following, rough and minimal, rules of thumb.

a) The first rule is as follows: accept the circular return of the modes, as a natural consequence of the impossibility to catch social realm as a whole. Let’s translate the limit of social science in a profitable rule of behaviour, aimed to catch not the realm as a whole but the most part of its meaning.

b) The second one suggests that every logic of action claims its own contextual approach, just as every contextual scenario requires its own hypothesis about the logic of action (table 1,) and a syncretistic elaboration of theories and methods is the razor’s edge on which we have to walk.

c) How to pre-select, however, the right couple “theory of action – context effect”? What matters, here, is the personal experience and sensitivity of the researcher. A third rule of thumb, any way, could advise to take account of the level of effervescence/stabilization of the social processes analyzed. The more effervescent the social process, the more sensitive is the single actor to the network of interpersonal ties, whilst a consolidated system of norm and social practices makes a rational action logic and a status effect more effective.

Nevertheless, understanding social action and its context-dependence is a mind exercise that cannot be correctly developed if forced in one only way, in one only Gestalt. Bateson reminds us of the advantages of a “binocular view:”

“The binocular image, which appears to be undivided, is in fact a complex synthesis of information from the left front in the right brain and a corresponding synthesis of material from the right front in the left brain. Later these two synthesized aggregates of information are themselves synthesized into a single subjective picture from which all traces of the vertical boundary have disappeared. From this elaborate arrangement, the seer is able to improve resolution at edges and contrasts; and more important, information about depth is created. [...] In principle, extra 'depth' in some metaphoric sense is to be expected whenever the information for the two descriptions is differently collected or differently coded” [Bateson 1979, 68-70].

Here is, in conclusion, a fourth (minimalist) rule of thumb: as for the binocular view, that adds depth to the two distinct and flat ocular views, explaining social behavior and its context-dependence by linking two distinct Gestalt let us a substantial step forward understanding it. Bateson [1979] reminds us that “context” is linked to an undefined notion called "meaning." Without context, words and actions have no meaning at all.” We need, therefore, an effort to a “binocular view” of the genesis of social action, crossing and and cross-fertilizing situation approaches and frame approaches.

How do it, it is all to be explored. Someone proceeds this way, though by trial and error. Hedström [2006,] for example, pragmatically suggests the use of empirically calibrated (ECA)<sup>24</sup> agent-based models. It is true, in fact, that they do not opt for a particular theory of action, but define a procedure fit for analysing the social action as the outcome of the interpersonal ties, whichever theory of action and whichever form of interaction is implied. Nonetheless, the neutrality of ABM with respect of the theories of action is only apparent, since individual agents, in ABM, are typically characterized as boundedly rational, presumed to be acting in what they perceive as their own interests.

Abell [2004] recently suggested forging a distinctive way of combining a large-scale quantitative analysis with small-scale techniques and methods centred on ‘narratives’ like sequence analysis, event structure analysis or stream analysis. Obviously, Abell says, “securing scientific evidence involves at least one comparison” [*ibidem*, 292]. Without doubt, the logic of comparison is the keystone of the quantitative large-scale analysis from John Stuart Mill on. In the Abell approach, comparing individual digraphs is fundamental to understanding a social behaviour; and how to compare narratives is still an unsolved question. Nevertheless, if we are able to take for granted this last and basic rule of scientific endeavour, then a correct alliance

<sup>24</sup> The creation of an agent-based model for policy makers requires sound empirical calibration and validation in order to improve the credibility and usability of simulation findings. The term empirical calibration means the use of empirical detail as the basis for model design and parameter initialization.

between variable and narrative approach is the only way-out from the golden cage of a world reduced to a set of variables.

There is no scientific fortress in which to withdraw while a gestalt is gradually loosing its heuristic power. As Abbott [1997, 1150] says, “we are too busy being scientific. Yet even our science has a tired feeling.”

## References

- Abbott, A.  
1997 “Of Time and Space: the Contemporary Relevance of the Chicago School.” *Social Forces* 75: 1149-1182.
- Abell, P.  
2004 “Narrative explanations: an Alternative to Variable-Centered Explanations?” *Annual Review of Sociology* 30: 287-310.
- Astbury, B., and Leeuw, F.L.  
2010 “Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation.” *American Journal of Evaluation* 31: 363-381.
- Bales, R.F.  
1951 *Interaction Process Analysis*. Reading (MA): Addison-Wesley.
- Bateson, G.  
1972 *Steps to an ecology of mind*. San Francisco: Chandler.  
1979 *Mind and Nature. A Necessary Unit*. New York: Bantam Books.
- Bertillon, J.  
1872 “De l’influence des milieux, ou mésologie.” *Bulletins de la Société d’anthropologie de Paris* 2: 711-728.
- Blau, P.M.  
1957 “Formal organization: dimensions of analysis.”, *American Journal of Sociology* 63: 58-69.  
1976 “Structural Sociology and Network Analysis: an Overview.” Pp. 273-279 in *Social Structure and Network Analysis*, edited by P. Marsden and N. Lin. London: Sage.
- Blossfeld, H.P.  
1996 “Macro-sociology, Rational Choice Theory and Time.” *European Sociological Review* 12: 181-206.
- Blumer, H.  
1937 “Social Disorganization and Individual Disorganization.” *American Journal of Sociology* 42: 871-877.  
1957 “Sociological Analysis and the ‘Variable’.” *American Sociological Review* 21: 683-690.  
1969 *Symbolic Interactionism. Perspective and Method*. Englewood Cliffs (NJ): Prentice Hall.
- Bonabeau, E.  
2002 “Agent-based modeling: Methods and techniques for simulating human systems.” *Proceedings of the National Academy of Sciences* 99: 7280-7287.

- Boudon, R.  
1963 "Propriétés individuelles et propriétés collectives: problèmes de méthode." *Revue Française de Sociologie* 4: 289-315.
- Campbell, E. Q., and Alexander, C.N.  
1965 "Structural effects and interpersonal relationships." *American Journal of Sociology* 71: 284-289.
- Coleman, J.S.  
1986 "Social Theory, Social Research, and a Theory of Action." *American Journal of Sociology* 91: 1309-1335.
- Davidson, D.  
1980 *Actions and Events*. Oxford: Oxford University Press.
- Durkheim, E.  
1897 *Le suicide*. Paris: Félix Alcan.
- Eliot, T.S.  
1943 *Burnt Norton*. In: *Four Quartets*. New York: Harcourt Brace & Co.
- Esser, H.  
1996 "What is wrong with 'Variable Sociology'?" *European Sociological Review* 12: 159-166.
- Garding, L.  
1977 *Encounter with Mathematics*. Berlin: Springer.
- Giddens, A.  
1990 *The Consequences of Modernity*. Cambridge: Polity Press.
- Ginet, C.  
1990 *On action*. Cambridge: Cambridge University Press.
- Goldthorpe, J.H.  
1996 "The Quantitative Analysis of Large-Scale Data-Sets and Rational Action Theory: For a Sociological Alliance." *European Sociological Review* 12: 109-126.
- Goodman, L.A.  
1959 "Some Alternatives to Ecological Correlations." *American Journal of Sociology* 64: 610-625.
- Green, H.A.J.  
1964 *Aggregation in Economic Analysis*. Princeton, Princeton University Press.
- Hanson, N.R.  
1958 *Patterns of Discovery*. Cambridge: Cambridge University Press.
- Harder, T., and Pappi F.U.  
1969 "Multiple-level regression analysis of survey and ecological data." *Social Science Information* 8: 43-67.
- Hartley, J.E.  
1996 "The Origins of the Representative Agent." *Journal of Economic Perspectives* 10: 169-177.
- Hedström, P.  
2005 *Dissecting the Social. On the Principles of Analytical Sociology*. Cambridge: Cambridge University Press.

Hedström, P., and Bearman, P.

2009 "What is analytical sociology all about? An introductory essay." Pp. 3-24 in *The Oxford Handbook of Analytical Sociology*, edited by P. Hedström and P. Bearman. Oxford: Oxford University Press.

Hedström, P., and Swedberg, R.

1996 "Rational Choice, Empirical Research, and the Sociological Tradition." *European Sociological Review* 12: 127-146.

Isambert, F.

1960 "Enterrements civils et classes sociales." *Révue française de sociologie* 1: 298-313.

Klatzmann, J.

1957 *Comportement électoral et classes sociales*. Paris, Presses universitaires de France.

Koffka, K.

1935 *Principles of Gestalt psychology*. Oxford-New York: Harcourt-Brace.

Kuhn, T.S.

1962 *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Laumann, E. O., and Pappi, F.U.

1976 *Networks of Collective Action: a Perspective on Community Influence Systems*. New York: Academic Press.

Lazarsfeld, P. F., and Menzel, H.

1961 "On the Relations Between Individual and Collective Properties." Pp. 422-440 in *Complex Organizations*, edited by A. Etzioni. New York: Holt Rinehart & Winston.

Lewes, G.H.

1875 *Problems of Life and Mind*, 2. London: Trübner.

Lombroso, C.

1893 *Le più recenti scoperte e applicazioni della psichiatria e antropologia criminale*. Torino: Bocca.

Malinvaud, E.

1956 "L'agrégation dans les modèles économiques." *Cahiers du Séminaire d'économétrie* 4: 69-146.

Manfredi, P., and Micheli, G.A.

1998 "La biomatemática italiana tra le due guerre." Pp. 671-734 in *Storia del pensiero matematico italiano*, edited by A. Guerraggio and P. De Sieno. Milano: Marcos y Marcos.

Micheli, G.A.

1980 "Behaviour Structure and Disaggregation: Suggestions for a Model." *Quality and Quantity* 14: 471-494.

2003 "Quale filosofia del mondo dietro i modelli multilevel." Pp. 299-318 in *La rappresentazione dei soggetti collettivi*, edited by C. Melchior. Udine: Forum.

Montgomery, M.R., and Casterline, J.B.

1998 "Social Networks and the Diffusion of Fertility Control." *Policy Research Division Working Papers 119*. New York: Population Council.

Pizzi, C.

2006 "Gestalt effects in counterfactual and abductive inference." *Logic Journal of the IGPL* 14: 257-269.

Popper, K.R.

1994 *The Myth of the Framework: in Defence of Science and Rationality*. London: Routledge.

Przeworski, A., and Soares, G.A.

1971 "Theories in Search of a Curve: a Contextual Interpretation." *American Political Science Review* 65: 57-68.

Robinson, W.S.

1950 "Ecological Correlations and the Behavior of Individuals." *American Sociological Review* 15: 351-357.

Saltz, J.

2006 "Idol Thoughts: the glory of Fountain." *The Village Voice*, February 21st.

Van den Eeden, P., and Huttner, H.J.

1982 "Multi-level Research." *Current Sociology* 30: 1-181.

Willekens, F.

1999 "Process-context approach to demographic behaviour." Presentation given at the Workshop on Social Interactions and Demographic Behaviour (Max Planck Institute, Rostock,) October 18<sup>th</sup>-19<sup>th</sup>.

## **Gestalt Switches in the Idea of Context**

### A Macro Dimension of the World for Every Theory of Action

---

Abstract: In the social sciences any illusion of discovery the truth is admitted: we can just hope to have a better grasp of the meaning of the observed behaviour. Which implications has, this peculiar property of the social sciences, on the way they construct theories about the effect of the context on the formation of the social behaviour? In order to give some answers to this question, this paper consists of three parts. First, some epistemological frailties of the concept of context in the effort of understanding social dynamics are discussed. Then, some trajectories of the idea of context are briefly sketched by reconstructing three crucial oscillations of the concept around a sort of barycentre with respect to two typologies: the one distinguishing between situation and frame, the other between global, analytical and structural properties. Lastly, some minimalist rules of thumb are suggested in order to correctly associate logics of action, contextual properties and research designs.

---

*Keywords: Gestalt-switch, Situation/Frame, Context, Structural Effect.*

---

**Giuseppe A. Micheli** is professor of Demography at the University of Milano Bicocca. He has published extensively on aging and epidemiology of mental disorders, processes of social drift and European family models, generational pacts and non standard logics of action, as well as topics of mathematical models of social dynamics. Among his last publications: “Two strong families in Southern Europe? Revisiting the geography of kinship regimes,” in *European Journal of Population*, 2011; “Come spiegare l’inazione delle nuove generazioni,” in *Rassegna Italiana di Sociologia*, forthcoming; “Does a Hidden Padlock Keep the Door of Fertility Shut in the Mediterranean Region?,” in *Population Review*, 2011. His books include *Logiche affettive* (2010), *Strong Family and Low Fertility: a Paradox?* (edited, with G. Dalla Zuanna, 2004).

University of Milano Bicocca – Dept of Sociology and Social Research. Via Bicocca degli Arcimboldi, 20122 Milano, giuseppe.micheli@unimib.it.