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## Response to the Comments. Two Shortcuts to Be Strongly Advised Against

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# Response to the Comments

## Two Shortcuts to Be Strongly Advised Against

*by* Giuseppe A. Micheli

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It is for me a stimulating challenge to engage in debate with the discussants of my paper not merely with the aiming of confuting them, but also to complete the arguments I put forward therein. This means indeed that I must diligently respond both to their criticisms and also their valuable suggestions. This is what I will attempt to the best of my ability, focussing on four general issues.

### **1. Abduction is a Tool “Useful for Life”**

Thomas Burch starts off by welcoming the attention I pay to the concept of abduction but, a few lines further on, he says that he does not find in my paper sufficient focus on “the centrality of the purpose(s)” in the formation of a research design:

How do I decide which logics of action, contextual effects, and research designs to use? Personal habit, disciplinary custom, ideological bias – none of these is a very good guide. The proper choice depends on the purpose of my research. This is a pragmatic view, one that sees all of our scientific concepts, models and theories as tools, not sacred truths. A tool that is good for one purpose is useless for another purpose (...) So must it be with social science knowledge. One possible basis for a gestalt switch may be a switch in the aims of an investigation.

I totally agree with Burch. However, emphasizing the role of abduction and calling for greater attention to purposes in the process of research formation overlap. Let me clarify this line of reasoning. By lucky coincidence, in the previous issue of *Sociologica*, Swedberg [2012] reminds us that the eighth Charles Peirce lecture given at the Lowell Institute in Boston, in 1903, was entitled *How to Theorize*, but Peirce himself wrote “Abduction” in bold letters on the first page of his original manuscript. This is a clear-cut identification of innovation with theorizing, and of theorizing – or reasoning-by-models – with the third Aristotelian form of syllogism. Providing a link between deduction and induction, abduction works as a tool for recognizing a Gestalt, putting phenomena into systems retroductively; when exploring the causes and contexts underlying the human logic of action, such a Gestalt-switch, as we know, is a way not to get to the truth, but to understand as best as possible the meaning of an observed behaviour.

As Burch reminds us, “logical positivism and behaviorist psychology have confined scientific work to ‘observables,’ forgetting the fact that many of the most important scientific theories deal with things that have never been seen, but are ‘known’ only through their effects.” In the Seventeenth century, for instance, corpuscular physicians like Descartes, Hobbes and Gassendi attempted to explain natural phenomena on the basis of the sizes and dynamics of invisible particles. Joseph Glanvill, Baconian scholar of the Royal Society, accused Descartes of calling ‘principles’ what were just hypotheses, unlinked to reality, yet assuming such conjectures were “tools useful for life” [Kargon 1966.] Whilst these accusations aimed at dismantling the architecture of hypothetical physics, they in effect defined its scientific programme. Descartes’ reasoning-by-models does not hinge upon taxonomies of the Table of Nature, but on conjectures and abductions, namely “tools useful for life” [Micheli 1993.]

“Rather than seeking knowledge for its own sake – Burch reasserts – he or she may switch to a more practical aim such as policy guidance.” Nevertheless, both seeking knowledge for its own sake and for more practical aims cannot be done other than by conjectures and abductions, that is “tools useful for life.”

## **2. Theorizing is not Sticking Like Cellophane to the Table of Nature**

Burch also strongly criticizes the excessive (sometimes exclusive) emphasis on data and techniques, and the equation of quantitative analysis with statistics. Once more, I enthusiastically agree. I believe that the reappraisal of an approach based on variables again requires understanding how *theorein* works.

Pierre Delattre [1981] holds that producing a theory can involve four clearly distinguished basic elements: *a)* the general principles expressed by the *Auctoritas* of an “influential metaphysics,” from the Scriptures to Plato or Newton; *b)* the theoretical consequences stemming from the general principles merely via deductive syllogism; *c)* the law-like statements induced via observation from the Nature Tables; *d)* lastly, as a sort of intermediate bearing, any conjecture that makes the empirical evidence compatible with the logical deductions from the metaphysical principles.

Understanding, that is grasping as many facets as possible of reality from a global perspective, thus requires a constant dual effort at reconciling the more or less consciously adopted influential metaphysics with observation [Delattre 1981]. A constant dual verification is needed: on one side a test of consistency with the empirical evidence – what is called the external rationality of the theory – and on the other a test of intrinsic coherence among the different elements of the theory itself – its internal rationality. The hermeneutic effectiveness of a theory depends as much on its internal as on its external consistency [Micheli 1993]. It should be clearer now that the basic goal of the minimalistic rules of thumb I suggested was that of avoiding two opposed shortcuts, both highly undesirable: the reduction of theory production to merely matching the empirical evidence or making a simple deduction from a particular *Auctoritas*: the rational choice paradigm.

But if, following Peirce, theorizing is identified with abduction, where is the logical engine of innovation that leads to abduction? I argue, and will try to show, that it lies in the semantic gap in the major premise of the syllogism, and that such an engine is not referable to statistical procedures of estimate of mere ad-hoceries.

All three Aristotelian syllogisms, let it be remembered, consist in drawing a conclusion from the synthesis of two premises, interweaving in distinct permutations a rule, a result and a case. Abduction, in particular, draws a case or property from the interweaving of a hypothetical rule and an empirical result: (I: major premise or hypothetical rule) if the property X were true (antecedent), the fact Y would be a matter of course (consequent); (II: minor premise or result) surprisingly, we observe the fact Y; (III: conclusion) we can legitimately suspect that X is true.

The efficacy of abduction spreads to the comprehension of human actions, too. Georg Forster, setting out on a journey through France ablaze from the Revolution in 1793, provides us with a delightful ghost story about the peculiarities of mass behavior:

A friend of mine had sweetly fallen asleep on the stage-coach towards Berlin. When waked up, at dead of night, he saw a clear-cut, huge figure walking close to the carriage. He was phosphorescent, and spread a dim light around himself. From time

to time he seemed to assume other forms: now was waving some step ahead, now was threateningly approaching. My friend drew his sword and stroke a downward blow on such a bright citizen of the kingdom of darkness, and yet, the stroke did not meet any resistance. The terrifying drake was keeping on walking beside the coach. It was sheer chance that my friend noticed a sparkle tied to the sword. He caught such a sparkle and – well now! – it was a fire-fly. Revolution presents an analogy with such a fire-flies' ghost: both the ghost and the Revolution are made up by almost thoroughly homogeneous elements, indistinguishable from each other. Men we see as leading actors in this Revolution do not rise like giants on the shoulders of the citizen's mass. [Forster 1974, translation of the author].

Reasoning by abductions is, of course, highly subject to error inasmuch as it starts from a merely hypothesized rule. In the history of the sciences we remember the successful abductions, not the wide prairies of failures. Why, then, does science continue to pay so much attention to them? The point is that we know how abductions work: in fact, the effectiveness at the very heart of abduction, namely its working by counterfactuals, strictly depends on the width of the semantic gap between the domains of the two parts of the major premise: the antecedent (if the property X were true) and the consequent of the rule, that is what we want to explain (then the fact Y would be a matter of course.)

Paolucci [2012, 12] reminds us that Peirce too defines musement as “the power to establish connections between different objects, especially between objects in different Universes.” The play of musement for Peirce means connecting two different realms of experience without a rule governing such a connection.” It is incorrect to say that there is no “rule governing such a connection.” A rule exists: it consists in maximizing the distance between the two realms, that is the counterfactuality of the hypothesized rule. The greater the semantic distance between the two domains, the greater is the hermeneutical power of the theory, namely its ability to apply a machinery working in a better known reality domain to the subject domain.

It must be remembered that the rule drawn from another domain must not be taken as true in the new domain, but just as a contrary-to-fact sentence. The point is that also in such a hypothetical form, or to the point of absurdity form, the counterfactual can set an exercise of comprehension in motion as it puts a theory to a test of internal coherence, thus enhancing its hermeneutic power, its ability to detect something not evident in the processes under examination. Testing the consistency of a theory with the empirical evidence – its external rationality – is therefore an unavoidable step in a theory-making process, but it cannot switch on the ignition of a theory. A theory built to stick to the processes observed like cellophane does not lead us very far. “Essentially – George Box, pioneer of Bayesian statistics, used to say – all models are wrong, but some are useful.” And Vladimir Kostitsin [1937, 21,] a

genius of biomathematics, said: “Descartes statisticien ne découvrirait jamais la loi de la réfraction.”

### 3. Theorizing is not Fideistically Adhering to an Influential Metaphysics

The range of influential metaphysics that a hypothetical conditional can draw from is not endless. At one time it included Newtonian mechanics, chemistry or biology; today ethology, evolutionary theories, the mirror neurons (perhaps), and the rational choice paradigm. As Burch points out, even now the theoretical foundations of the biological and hereditary roots of human action have still to be almost entirely explored. But the aim of my article was much more circumscribed: to reassess the, at present overwhelmingly predominant, role of another influential metaphysics, namely rational action theory. In this very issue Tony Lynch and Alan Scott, commenting on my article on Gestalt switches, dissent as follows:

Social theory is hard, but here it is perhaps harder than it need be. The difficulty arises, we suspect, from the anguished nature of the argument (...) In brief: we would not necessarily have started from there to arrive at the minimalist rules of thumb. Weber’s acknowledgement of the plurality of types of action and Blumer’s symbolic interactionism stand here for the whole tradition of interpretative sociology. The main orientation, however, remains towards rational actor models and analytical sociology (...) Our brief reference to William’s more consistent interpretive stance points to an alternative potential starting point.

There are three main remarks in this paragraph that I will keep distinct. As for my convoluted reasoning, how right Lynch and Scott are! It may be a question of *genius loci*? As an Italian novelist, Ennio Flaiano, said, “the shortest line between two points, in Italy, is the arabesque.” Nevertheless, the aim of my arabesque is not at all to accept the primacy of the rational action theory as a cornerstone for understanding social action (second remark). Paraphrasing what Gary Becker [1962] pragmatically said about the triumphant resurgence of the economic paradigm in the form of New Home Economics, there is no doubt that, although no single variable explains more than a small fraction of the variation in any – even ‘irrational’ – individual behaviour, “economic variables did better than others.” However, as I recalled in my paper, rational choice theory makes an individual’s action both totally decontextualized and fully determined by the set of rules of decision-making. I am not very keen on the current wide pervasiveness of the rational choice approach, which is in turn much underpinned and reinforced by the illusion that the statistical approach is a comfortable shortcut, as Goldthorpe [1996, 115] confirms:

The action narratives to which (rational action theory) gives rise do not, or at least need not, relate to specific actors or to specific courses or conditions of action at given times or places, but can rather be treated as narratives of a highly *generalized* character. Their aim is not to ‘tell the whole story’ but (...) to capture common elements or patterns of action that recur in many cases.

The last remark is more intriguing. Are we sure that the words of Professor Williams were in fact so clear-cut and promising as an “alternative potential starting point?” Let us read them carefully. Professor Williams’ statement [1984-85, 122]: “intentional action can always be explained by reference to a consciousness which the agent at least could have had and in many cases did have, and which refers to the agent,” takes us down a complex and rocky road, that of consciousness of the state of mind:

The important question is not whether an agent’s intentional states can be explained, but how well the agent’s understanding of them fits the explanation (...) It is the relation between the explanation and the agent’s consciousness that matters, and not the mere fact that there is a social explanation of his intentions. [*ibidem*, 126.]

Whence, the substantial equivalence between the dyad formal-substantial individualism and the situation-frame distinction. But are we sure that explaining an intentional state necessarily “involves a consciousness, potential or actual, that refers to the agent” [*ibidem*, 123], and that the crucial question, for substantial individualism, is how well an agent is able to understand his own intentional state, to fit the explanation of it?<sup>1</sup> Among the reasons “why the theorists should stick to this way of putting things”, Professor Williams reminds us of “the evident fact that there are relevant differences between ordinary intentional behaviour, somnambulistic or barely conscious behaviour (...). We have good reason to preserve discrimination at this level” [*ibidem*, 125]. And hereinafter:

<sup>1</sup> Professor Williams [*ibidem*, 124] seems also to opt for explaining an individual intentional state by evoking an indefinitely long chain of “action trees:” “the idea that actions are autonomous requires something like a claim that actions are explained by intentional states, and intentional states – unless they are irrational – are explained only by other intentional states...” In a similar manner, Ajzen [1988] makes the formation of a “*reasoned action*” depend entirely on a long chain of external information – a long and deterministic chain of cognitive inputs: “In the final analysis, a person’s behaviour is explained by considering her or his beliefs. Since people’s beliefs represent the information they have about themselves and about the world around them, *it follows that their behaviour is ultimately determined by this information*” [Ajzen 1988, 126, *our italics*.] Professor Williams’s argument, too, does not seem to include discontinuity, but an action tree inevitably encounters one or more points of discontinuity: are we sure that behind a chain of intentional states there is just one or more macro-layers (the context), or even a chain of “only barely” intentional states of mind?

There are several different ways in which [the agent's understanding of his own intentional states fails to fit the explanation.] It will be helpful to start with the case of neurotic behaviour. Some neurotic behaviour may be compulsive at the manifest level, and no intentional states recoverable by the agent explain it, except superficially ('I am going to wash my hands now.') [An attitude] that the agent could not acknowledge if he knew how they were caused [*ibidem*, 126].

It is no accident that in his 1913 essay on the categories of an interpretative (*verstehende*) sociology, Max Weber gives the same example of a psychopathic individual's behaviour. But let us follow Weber's argument. The instrumentally rational action – he says – is not at all the only action understandable for us: we understand also the typical course of the affects, and their consequences on the attitudes. What can be understood is exemplified in a wide field with fuzzy borders: ecstasy and a mystical experience, as well as some psychopathological connections or some attitudes of babies. The abnormal too does not escape an intelligible explanation. However (honest declaration of narrowness in our conceptual store) many of these processes are only partially understandable and “in the sociological analysis of understandable relationships, rationally interpretable behavior very often constitutes the most appropriate ‘ideal type’” [Weber 1981, 152].

A few pages further on, however, Weber completes a remarkable shift in the analytical categories: as the meaning function is identified with instrumental rationality, some processes concerning human life shift from ‘partially intelligible’ to ‘devoid of sense.’ Social processes without a meaning reference, such as births or “the bare psychic facts,” are excluded from consideration by an ‘interpretative sociology:’ they remain of importance “just as either conditions or consequences in the orientation process of a meaning-endowed action [do.]” The identification of the meaning-giving function with instrumental rationality changes here into a rigid confinement.

Nevertheless [Micheli 2011] the formation of a social action cannot be reduced to a decision-making process triggered by a strictly ‘rational’ logic. It also depends on states of mind or moods, that is “non-intentional mental phenomena” [Frijda 1993] having four crucial properties: they work in a less intense and involving way than emotions; they tend to last longer than emotions; they are not caused by specific events localized in time; they usually signal not states of the environment but that something is going wrong or well in the current state of the self when coping with the environment itself. Moods, not the logical-cognitive mental processes, predispose one to take an action or prevent one from doing so, and produce “barely conscious behaviour” [Williams 1984-85, 125].



There is nothing that is easy and clear-cut, therefore, in a ‘substantialist’ approach to the understanding of social action. But this persists in being the prevailing view within the community of social scientists.

#### **4. Affective Logics are Also the Engine of Abduction**

A last, minimal, cue for discussion. Burch argues that much attention should be given to unconsciousness in sociological thought. In this regard, I previously mentioned its role in the decision-making of human action. But not only a human, intentional and contextualized, action is shaped by cognitive and normative processes as well as affective (and barely conscious) ones. Even into the engine itself of abduction, which we so strictly codified in a succession of logical-cognitive steps, an emotional drive has to burst. A surprising contamination. Peirce himself – as Swedberg says – noted that abduction

has two parts. One he describes as “a sort of subconscious induction” that draws on “associational potency.” Here you use free association, and draw on thoughts and ideas that are barely conscious (note that “barely conscious” is the same expression used by Williams when discussing a substantialist approach to the explanation of an individual’s intentional state.) The other part Peirce calls “upper consciousness.” (...) While the upper consciousness must be used in observation, Peirce warns that it also tends to dismiss and belittle what the mind has produced in a subconscious manner. “Do not allow yourself,” he warns the reader, ‘to be impressed upon by the egotism and conceit of the upper consciousness” [Swedberg 2012.]

Burch, too, in his detailed and stimulating comments, states that “the original guess or conjecture was a consummate act of creative imagination, not empirical research or formal logical inference.” I have tried, here, to prove that insight is a logical-cognitive recipe to discover new Gestalts that requires a conscious and goal-oriented strategy of maximizing the contrary-to-fact distance between two realms. Nonetheless, such a strategy is not pursuable until we keep on hugging the coastline, without letting ourselves go in an intellectual “play of musement.” The three princes of Serendip were continuously making accidental discoveries of things they were not seeking, but such discoveries were neither ‘accidental,’ nor totally intentional. Paradoxically, the cognitive device of producing innovative theories by abductions is a procedure that subsumes not a cognitive intentional state of mind, but an affective disposition.

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## Response to the Comments

### Two Shortcuts to Be Strongly Advised Against

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**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.

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

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