A GENERAL METHODOLOGY FOR RECONCILING PERSPECTIVITY AND UNIVERSALITY: APPLIED TO THE DISCREPANCY BETWEEN THEORETICAL ECONOMICS AND ECO-SOCIAL REALITY

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Abstract
Eco-social activity is indispensable for human life. Hence the respective theoretical corpus, economics, needs a totally secure foundation — which traditional methodology lacks because of its widely unnoticed categorial self-limitation that must thus be overcome. A thorough analysis of this situation allows the systematic development of an uncompromising integrative approach that offers the necessary features. In particular, one of its theoretical results concerning value is outlined: a law of nature in economics that is thus constitutive for absolutely any form of economy and relevant for any economic valuation.

Keywords: categories, certainty, complete self-reference, integrative methodology, strict holism, transdisciplinary systematization, uncompromising approach

I. The scope of the problem, and our objective

Humans depend on material means for existing. How is this fact situated in total reality? Like all facts, this one too is tinted by the mind frame one uses (the categories through which one thinks). Any view interprets this fact and leads to the corresponding type of eco-social process, whose socio-economic aspect is approached in economics. Many economic theories offer advice, while none can claim to grasp the totality of the process. The debate on how to structure it is increasingly becoming heated due to differences between theoretical grasp and produced reality. On the one hand, the leeways of 'good old times' are being filled in, while cumulative effects of local rationality frequently lead to global irrationality — of which some are discussed under the heading of 'globalization'. On the other hand, the deeper one looks, the more the problems are interrelated; leading to the infamous 'everything is linked to everything else'. The traditional path produces ever more theories of ever more details — but cannot offer a secure understanding of totality, and lacks a secure foundation for unifying all theories in an exact way (see for example Fleck [1981], Popper [2002], Rorty [1979]). As a result of actions based on an incomplete epistemic foundation, an increasing portion of human efforts must be spent on man-made conflicts — think for instance of alienation from oneself and others, diseases caused by civilization, environmental effects, resource squandering, social costs, or terrorism — confronting society with practical consequences that reduce the system's overall efficiency; only short-term ideas make them look salutary by increasing the domestic product. The issue cannot reasonably be reduced to theory choice (methodological discourse) versus
problem choice (social discourse of applying theories in considering ethical, eudemonistic or prudential aspects), because complete reality covers both areas and is objectively merciless.

It would thus be wise to find ways of *systematically thinking from totality as such to its aspects*. In traditional views this looks like an impossible endeavor, as they offer no grasp of totality. But knowledge within limits is reduced also in its utility for judging its own limits. Hence the intention still makes sense; the question is how to go about it. In this essay we discuss the nature of the encountered theoretical limits, first in general and then in economics. This analysis paves the way for developing a synthesis, outlined also first in general and then with respect to social science. The proposed heuristics operates in a law of nature of the mind that is constitutive for any form of science and hence relevant also for considering economics.

II. Problematic foundations in theorizing

Orientating oneself in the universe requires thinking and organizing one's ideas correctly. This activity emerges as science ('thinking about things') and — where it seeks to ascertain itself about itself — as philosophy ('thinking about thinking'). It must be performed in a totally reliable way; otherwise its efforts fall short of its aspiration. At first glance modern methods and systems look very exact and systematic, covering many fields by means of many types of approach, thus constituting a highly pluralistic network. Only a sober investigation at the foundational level can reveal the common features in the mainstream's mental habits, which aggregate the diversity by shared limiting effects.

Limitations in understanding can not enter awareness via some perceptual mechanism like empirically noticeable objects. Being nothing observable, they can become accessible only through interpretations of facts. What is at stake is thus the world-view (theory in its broadest sense) that determines the interpretations. This level of reality can become intelligible only by means of metaphysical considerations (since physical determinations alone cannot suffice) and in transcendental terms (formulating the conceptual conditions for interconnections to become intelligible). It is now fashionable to despise metaphysics and transcendence. But rejecting an issue does not prove one's mastery over it — far from that! — while admitting the outlined type of problem does not mean having to get stuck in past forms of metaphysical and transcendental thinking that are inadequate for today's type of debate. Metaphysics and transcendence aim at regularities in terms of necessity, while types of debate — results of a specific development — are contingent. There is thus at every moment a necessity of aiming at necessities under the auspices of contingent needs in attempting to understand them. In Section V we will come back to the relation between forms of order and perspectives in approaching them.

Some are astonished that science and philosophy manifest historicity indeed: the views evolve through time. Historicity stems from the fact that experiencing something can not yet warrant systematic thinking about it, which is possible only after having experienced it (else there is nothing to think about). Differences in lines of reasoning follow from different emphases in the structure of dependencies: for instance rationalist methods bring out the conceptual dependence, empiricist methods highlight the material dependence, phenomenological methods accentuate the directness in relating to the subject matter, formal-logical methods favor an abstract management of content, etc. This shows that each line of reasoning has its strengths and weaknesses; the point is in combining them reasonably, which requires a consistent overview.

Philosophy developed historically in considering first the nature of being as what things are in themselves. This perspective cannot clarify completely the thinking agent itself; as a
consequence, the focus of contemplation shifted to consciousness as the locus of thinking. Since this view cannot offer the desired grasp either, language was emphasized as what seems to be a general mediator. This is today's state of the art, but since language does not act on its own, the process must continue. At the present time there is more of a focus on the difference between language as a structural principle, uses of language in addressing the structure of reality, and the ('preverbal') mental processes behind these uses. Fashionable emphases are now imagery and collectiveness. The turn towards consciousness was inaugurated by Descartes in fundamentally distinguishing mind from matter, thereby hoping to achieve objectivity. This disposition implies viewing things 'from outside' and the gesture of predicating, wanting to express true propositions about the 'things' in the world. Even the functions of the mind were subjected to the seeming objectivity of this disposition, expecting for example perception or reason to be functional mechanisms. But wanting to see primarily things — not what produces things, or ways of understanding — is a powerful intervention into the possibility of insight. One is then chained to results, which are categorically the opposite of the order (intrinsic law plus agency) that produced them — and can never be accessible by observing results, which arise and vanish as a consequence of their overall order.

In philosophy, considering results of mental action and trying to distill its laws out of expressions led to the 'linguistic turn' (idea: 'thinking must be organized discursively for being coherent'), carried on in 'analytic' philosophy, where one seeks the intrinsic order by analyzing the 'logical form' of expressions. This path is viable for specified problems; yet, being based on results and often a formalistic method it cannot offer strict universality, but merely elaborate approximations of its subject matter.

Whether the seemingly objective gesture is one of analyzing, describing, distinguishing, measuring, observing, predicating, influencing, or intervening, is finally irrelevant, because it is always one of splitting up the subject matter according to the content introduced by comparing reality with something alien to it. This occurs also in analytic philosophy, where many protagonists claim its basis in language bridges the subject-object split. They forget that subject versus object is not the only fundamental split-up by far; others are for instance analytic vs. synthetic (judging), a priori vs. a posteriori (basis for propositions to be known), epistemic vs. ontic perspective, facts vs. values (= descriptive vs. normative view), theoretical vs. practical reason, etc. Any separative gesture inevitably produces a corresponding 'blind spot' that embodies the 'inverse' of the implied content vector; for example observation can observe everything except its act of observing. Logicians discovered that the blind spot can not be discovered within the chosen conceptual system: through the system one cannot 'see' what it cannot make distinguishable. One is unable to discern that it cannot make distinguishable what it cannot make distinguishable, namely the paradoxical pattern that the conceptual system, by explicitly splitting up the universe between itself and everything else, must on the one hand be distinct from this distinction, but on the other hand must exist implicitly within the distinction as part of totality and hence as an object of investigation. In this paradoxical situation, observing other observers in their activity of observing can look like a helpful move, but the blind spot can on principle never be overcome, it can only be shifted around. Luhmann addresses it eloquently in his version of systems theory (for example in Luhmann [1984], [1997]). But by axiomatically postulating something signified that is preconstituted (namely the structure of being a system) while promoting the blind spot as just the type of form that allows differences and causalities to be formulated, he justifies the primal tangle and can therefore develop no solution on principle. Of course the world can be depicted in an endless way on this path. The question is what one really wants: sophisticated management techniques or a systematically consistent theory. Primal distinctions beyond the usual ones are decisive; for example, whether one considers material or mental
elements is irrelevant because both are appearances (in the physical and mental realm) governed by the overall order, not this order itself. Understanding 'things' in terms of 'things' — as attempted in today's mainstream — is inevitably limited, since nothing in the realm of representables can offer the required strict generality. This is the 'mental sound barrier' that for instance physics is now up against, by relying on mathematics instead of a total clarification of categoriality. But even much of theology fell for the view 'from outside'. Think for instance of how the *dominium terrae* (Gen 1.26–1.28) in the Bible is usually being interpreted: as an encouragement to subjugate the planet, not to clarify one's relation on all levels of being (solid, fluid, gaseous, live warmth) as consolidated in the human organism, i.e. to develop a sound categoriality, the first forms of which any baby aspires to in its explorations.

Any strictly all-encompassing endeavor such as certainty, completeness, or universality is therefore still a huge problem. On the other hand, clarity is not limited *a priori* — except by believing in a priori limits. Intelligibility requires knowing how to use concepts and systems of concepts. In any system, the relation of its basic concepts to all other concepts must be clear (an issue discussed in Section V); unsolved problems of principle may seem unproblematic in details, but become inescapable on the level of strict totality. Any content is amenable to consciousness — when one is attentive and persevering in fathoming it. Nobody is compelled by nature to partial truth or a limit to self-understanding, but the cultural environment is influential by shaping the conditions of development. Since Freud some believe we are all subject to 'the unconscious'. But all woes are fathomable under appropriate conditions, and only pathological cases move without knowing why. The fact that many people think and act in formal ways — obeying rules like robots instead of seeking to understand — is a personal choice.

An even more profoundly effective shared bias is the act of *setting out from fundamental assumptions* of whatever sort. Assumptions are fine in Meinong's [1910] sense of something supposed or hypothesized, but not yet believed (belief is the basis for expressing a judgment). But assuming often constitutes the basis of a method or system. Then supposing is inevitably assertive, it is a way of 'talking' into the overall interconnection of content yet to be explored — as a result of applying assumptions to reality before it has been given a chance to unravel as a whole to awareness. As a result, such systems all wind up in problems on principle — for example undecidability (formulated variously by Finsler [1926], [1944], Gödel [1931], Church [1936], Turing [1936], Post [1946], Cohen [1966], Chaitin [2005], etc.), or incompleteness of describability (expressed in skepticism, critical rationalism, or in the 'Gettier problem', debated since Gettier [1963]), or indeterminacy (as for instance in quantum theory), or paradoxes (as for instance in analytic predication theory, or the 'blind spot' of systems theory), etc. Philosophy ended up in ideas such as the 'Münchhausen trilemma' (formulated by many from Agrippa to Hans Albert: any justification or account winds up in a circularity, an infinite regress, or a dogma), 'écart' (Merlau-Ponty), 'différance' (Derrida), etc. Such notions formulate an aspect of the general limit, depending on the foundational perspective of the respective approach.

The basic gesture of *positing* an idea, however 'plausible', has more sources and more consequences than we are commonly told about. Whether an assumption is conscious and rational ('atomic fact', axiom, definition, hypothesis, postulate, premise, etc.), or emotional or unconscious (anger, anxiety, belief, desire, hope, illusion, paradigm, etc.), does not modify its actual effectiveness. The difference between rational and irrational prejudices is only that rational ones allow logically consistent systems to be set up. But strict logical consistency cannot warrant any actual completeness of grasp and certainty. The completeness in formal systems warrants certainty of inferences in formal respect, but in terms of content it cannot cover all of
reality. Assumptions concerning ourselves as cognizing organisms are effective in an absolutely precise way (not only as a probability); believing for example ‘X is unknowable’, or ‘the mind is a computer’, effectively makes X unknowable for believers, or their mind into a programmed device. The crux is in the foundational content of an approach or system, i.e. in what structures its very nature. Unawareness of how the basis is introduced restricts its utility: then one cannot know where a given problem ultimately is.

The basically assertive gesture in positing 'plausible' fundamental assumptions offers a justificatory 'background' — at least as long as its drawbacks are not immediately evident. For instance now that scientists and even many philosophers believe they must 'be empirical', categorial errors must surface empirically for being detectable. It is forgotten that the criteria for handling empirical data — which are determined by attributions, inherent in the adopted categoriality — cannot reasonably be found in any empirical data, since the very act of collecting them follows the categorial criteria.

This is not to say that the limited theories of the mainstream are simply wrong. They do afford successes, at least at first, for manipulating 'things' including one's own mind. Achieving effects through manipulation still has worldwide attraction; hence many accept the belief that it is a beneficial path, and the powerful nourish the sources of manipulability. But being able to manipulate matter according to expectations is no proof of complete understanding: any animal can produce change without needing to know all of why the desired change occurs. Success can easily nourish the illusion that problems can be solved on command. It has led to the widespread style of rules and formalizations, including in the mental domain, fostering a primacy of formal logic (mechanical rules) over content logic (focusing on the content implied in the problem to be solved). Since some time there is a loud call for ethics — brought about by the gap produced between formalism and reality. But what can be expected from ethics? Even ethical problems are finally always on the cognitive level, since the moral philosopher too must understand why an idea or action is good or not, i.e. why the implied commitment is generalizable. Such an understanding makes it necessary to refer to the overall order; the question is how this can be achieved. Hence the point is in what one aims at, or with how little one is ready to acquiesce — especially in our era of 'epistemological modesty', easily sacrificing precisely the ultimate clarifications and thereby the access to the truly fundamental categories that allow thoroughly reliable inter- and trans-disciplinary work. Instead, the process of theorizing most often loses itself in a maze of highly technical details, which are handled by specialists in extremely precise ways but can never offer the salutary overall synthesis.

In this context it is useful to remember that mathematics can never offer more than a description, as it is only a language, albeit a precise and completely formalized one. Especially in its algebraic branch, mathematics can never get rid of its language status because it is formal: the symbols stand for something else. The overall order — whereby things are exactly as they are — cannot be found by any formal means, for the same reason as logic cannot be proved per se, but only as specific types of logic. Syntactic information 'hidden' in a language should not be expected to yield complete truth merely because it leads from one logical step to another (a widespread fallacy — especially in physics and economics). For instance the meaning of terms in an equation stems from conceptual attributions in the respective case, not only from the syntactic interrelations between terms. There have been many attempts at generally reducing semantics to syntactics, i.e. at an all-out formalization; think for instance of Hilbert's program. They must ultimately fail, because syntactic information ('rules') is not strictly all of what constitutes a system. Remaining in intransparent foundations must finally
suggest arbitrary moves — 'auxiliary' hypotheses, postulates, etc., — for overriding handicaps at its edge cases.

The way of thinking in today's mainstream is thus basically conflictual, which makes it part of the problem rather than its complete solution. But this situation is too rarely noticed. Fundamental problems are often not solved, especially when avoidance seems to offer a way out. Initially, evasions can appear to be very successful. Think for instance in logic of Tarski's [1956] approach to the idea of truth, avoiding formal paradox by introducing meta-languages, separated from object-languages — while in new perspectives any meta-language is again an object-language, and the meta-language of all meta-languages is dissolved in everyday language. Or recall type theory (Russell & Whitehead [1910]), segregating propositional properties, relations and sets, into 'types' — which does not clarify the ultimate basis for, and effects of, performing this type of segregation. Or think of Spencer-Brown's [1971] protologic based on the primal act of distinguishing — with its problem of 're-entry' because distinguishing presupposes distinctions, otherwise there would be nothing to choose 'primally'. The choice of which side of the primal distinction is to be considered as the marked one is a distinction. Two (dual) views evolve, while the principle of distinguishing as such leads to no completely unified one.

Making evident the crux of any ideational system is impossible as long as one remains in technical details, 'not seeing the wood for the trees'. Any true overview requires considering the respective strict totality, which includes the mind thinking what it thinks. Whether one seeks to address totality after being coerced by facts, or beforehand out of free will, is a question of choice and therefore of preferences. Limited methods of the past need to be transcended. The potency of a culture finally is in fostering the overview rather than in its techniques for manipulating parts. Whether a civilization has learned to manipulate 10, or 10000, or $10^{1000}$ objects, is irrelevant compared with whether it has seen through the idea of manipulating its own mind by believing in favored assumptions. It is not the problem of reality if some tend to lose themselves in details, industriously missing the big picture. — But can method really be free, does it not have some absolute limit somewhere? Is it possible to handle rationally the preference of systematically thinking from totality to its aspects; is the usual opposite escapable at all?

III. Exposing the locus of a solution

By focusing on things to the point of formulating even processes as moving or relating things, traditional systems cannot fully discover the overall order of things-plus-thinking-about-them. They must miss as much the overall order as the actual agency. While the thought of being grounded in ('empirical') reality is reasonable as an antidote against drifting off into fantasy, it becomes really fruitful only when including one's own mental activities, which can be experienced ('inner empiricism'), thus covering the whole, act and result. A simple and quite concrete experiment for finding a viable path is to let all old elements in one's mind 'melt away' by letting the mind go quietly into an integral 'listening' mode, sustaining fully aware openness until reaching rock bottom, totally silent openness (Husserl's issue of epoché, most comprehensively discussed in [1954]); depending on one's personality this may take some time. In addressing totality, there is no necessity to set out on a preconceived concept of it, as some thinkers 'need'. One can discover that the silent innermost basis is free of historical, cultural, or religious elements; one finds only a clear sensation of self-transparency that allows one to understand the necessity of this state of mind for grasping the root of the interrelatedness
inherent in full reality. Saying 'everything is linked to everything else' is not wrong, but does not yet reveal how and why things look differently depending on the way one approaches them. Once this point is clarified, any subject matter can integratively be dealt with: the 'listening' mode constitutes a secure foundation for any activity. One of them is theorizing: a mental — or more precisely conceptual — practice. The point of sustained 'listening' is to unclog the mind in order to find coherence. Even if, on the level of implied content, totality is grasped in different degrees at different times, the idea or 'motto' (structural principle) for closing in on it, namely openness, is always the same. It is therefore a reasonable preference, a rational choice.

This path does not imply any ideal or anything abstractly normative. It requires nothing to assume or to believe, but in wanting to pursue an integrative objective it allows the realization of its objective necessities. This is mentioned here mainly for those who believe this path is impossible, or who believe their preference constitutes the best path. Whoever is not patient enough to reach rock bottom openness should not believe he or she is really seeking truth, because the partial truths available in compromising are insufficient for a complete grasp of anything, which is in other words the seamless intelligibility of its intrinsic order. Many still content themselves with sub-optimal reasoning. The question finally always is what one really wants. This may differ from what one believes to want — and then reveals a lack of integrity.

Human agency is always rooted in ideas, in which most often the relevant totality is not explicit right away. For example, in the economic realm, people consciously started bartering and inventing monetary systems for trading well before they had any intention or need to consider the overall order. The point in theorizing it is to systematize the ideas so as to ensure complete coverage. Systematization means putting the concepts into relationship with all other concepts of reality. The borderline between naive ideas and theory is not fixed, because in theorizing too the point is with how little completeness one contents oneself. As even some prominent examples show, possessing a theory does not warrant per se a grasp of the relevant totality. One of the reasons is that not all theories serve the same purpose — for instance, wanting manipulative control in a subject matter, and wanting to understand for the sake of the subject matter itself, lead to different theories on the same subject matter. Habitual criteria for judging theories cannot be absolute. Many believe for instance that testability is a requirement of a scientific theory. But it arises only when there is no fundamental conceptual certainty; then empirical tests become a necessity for judging a theory. The problem is that the overall order then must remain unclear, since no empirical test can cover totality. Where scientific thinking has finally nothing but beliefs at its foundation, its use of theories can only have the function of making interrelations between appearances credible, as Goethe famously observed [1833 / 1976]. Others believe, when they possess a theory that models a subject matter, that they know the subject matter sufficiently (a point which for instance those economists forget who colonize other sciences, contributing to 'economics imperialism'). Of course everything can be approached within any given perspective, for instance the metabolic ideas of mainstream economics. Yet that does not yet constitute a fully integrative activity, but only a unification in a specific respect. Being able to model something is no proof of genuinely understanding it, but only of conforming to the rules of 'normal science', which is possible without being aware of its limit on principle. The perspectivity induced by basic beliefs is often forgotten. The more these are fundamental, the more they escape attention by seeming 'natural' and remain unchallenged. If theorizing wants to be complete and secure, it must become aware of this background story. Then it can begin to operate in the necessary universally applicable concepts and can structure them so as to allow complete self-reference, embodying also its own
complete verifiability. In the view of today's mainstream this must sound like Utopia. Let us examine the proposition.

All problems, including those of economic systems, can be completely solved once one acknowledges the principle that one's ways of thinking, which are a consequence of one's 'mental background', determine the material disposition. This methodological fact can become a question of choice and hence preferences once one is aware of the relation between concepts and their effect in steering the process of thinking. The point is in recognizing that action in the conceptual realm is of the same type as action in the gross material realm: what varies is merely the instrumental material (concepts versus physical matter). Concepts are the only 'things' to have the fascinating feature of being simultaneously the result of mental action — being formed through experience — and the means for steering mental action — any intention is guided by content and hence something (at least potentially) conceptual. There is a self-referential dynamism in the psychic setup that is not adequately addressed in most ways of theorizing. Hegel opened a door, had his difficulties, and was often misunderstood. The key to overcoming habitual limits is first in allowing one's mental activity to become something one experiences by becoming aware of the ideas to which one lends one's will in thinking, and later in allowing the principle of non-limit to become the lodestar towards totality. In the eco-social process, even the simplest exchange of goods requires the basic ideas that are relevant to economics. A secure socio-economic overview requires relating them systematically to reality as a whole — in a theory that can cover therefore not only the things thought of, but also the activity of thinking about them. The seemingly objective theoretical view 'from outside' on the psyche — as in rational choice theory, game theory, etc. — cannot encompass all of the relevant activity.

The foundational material is not produced in the usual empirical tests, but in the earliest period of life. This holds for all of reliable knowledge. It is fashionable to attribute the effort to 'the brain', ultimately 'the genes', etc., but a belief in material agency mixes up material conditions with actual causes, missing the point. The process requires total (preverbal) attention of infants. They are terrific learners and perform incredible cognitive work in developing a conscious interface to their body — absolutely from scratch. In methodology, traditionally burdened by an adultomorphic style (grasping the mental structures of adults), their effort is being underestimated, in spite of its relevance. When infants cannot develop at this intense stage a conscious interface to a basic sensory organ, for instance eyesight, they are in trouble for the rest of their lives, because the adult way of life does not allow them to catch up: adults cannot sustain the intense attention. A more concrete example perhaps: if children did not spit off the bridge to consider how long the free fall lasts, they would have no mental material for discussing and systematizing Galilei's experiments in high school. Philosophy and science become what they aim at by mastering the systematization of the conceptual realm — facts that are already conceived. For instance infants already know exactly when mom is out of the room, or where the cookies are — but the facts become conceptual in the traditional sense only upon re-considering them, this time systematically. It is fruitful to understand the activity of thinking as a reflection of real issues rather than as ways of manipulating 'information'. Abstraction may look as though it is basic, but requires only awareness; it is something non-integral 'pulled off' the fabric of self-awareness.

The relation between thinking and language is not as clear as today's mainstream would have it. The 'linguistic turn' looked triumphal some decades ago, but is rapidly losing its gloss by having neglected the mentioned difference. Saussure proposed a useful distinction between language as a system ('langue') and the use of language as an alive process ('parole'). Spoken
'parole' is always beyond structural 'langue'. But for fully clarifying the issue, language as a principle must be considered in a more extensive way than what is possible in approaches that focus on a medium, being centered too much on signs and thus neglecting the core: the signified content as such. When dwelling on results of thinking (signs, symbols, propositions, etc.) the adequacy of an expression (often this is referred to as 'truth') can be compared against reality only within the medium, in a procedure that thus requires additional elements since reality does not respond directly. But then investigations have no anchor in overall reality, they can only float on the web of man-made, intersubjectively agreed opinions (beliefs). This path can offer no warranty against collective error, while it neglects the structural difference between language and thinking (which is gradually surfacing in contemporary research). Consider the following basic regularity. Within language any contradiction can be formulated, from 'straight is curved' and '3+5=9' to antinomies like 'I am lying', up to voluntary deception — while it is impossible to think such structures in one single coherent thought. Whoever adopts fundamental beliefs that entail some paradox is compelled — to accommodate it coherently — to remain within the corresponding set of elements (signs) that are intrinsically interrelated according to the causal prejudice. But 'interrelation between a set of signs' is the intrinsic law of being a language system (Saussure: 'langue'), not mere noise. Clinging to beliefs produces thus a dependency on 'langue' for keeping together the assumption's effect. Without 'langue' everything would fall to pieces for this psyche — but it cannot remain only within it, as 'langue' contains only the past. Life is pointless when restricted to unalterability; this is why live 'parole' is always beyond structural 'langue'. Languages — mediating bodies — are corpuses of disunity, but which allow on the other hand the gain of some time for solving problems caused by basic ideas. Language offers a surrogate for perception, allowing to deal with what is not physically present — at the peril of falling for endless 'justifications'. Beyond Saussure, Peirce [1992-94] later added in his triadic system the 'interpretant', but here we consider what is generally imposed by structural laws, not the pragmatic dynamics, which finally depend on additional choices by the agents.

This link between problematic suppositions and a subsequent addiction to language is of course not limited to individuals, but can also overtake philosophical or scientific positions, schools of thought, styles of writers or politicians, etc. It explains why many prefer to talk about problems rather than solve them. This is rarely a result of bad intentions, but reveals the implied mind frame. Precisely because such minds cannot reconcile all aspects, their mode of being is language rather than a fully unified state, a silence of fundamentally having understood (the silence of despair is at the other extreme). Awareness of the link between language and thinking allows new light to be shed on many ideas — for example, the maxim of 'publish or perish', or the role of mainstream thinking increasingly getting lost in details and '-isms'. Horkheimer & Adorno [2002] offer a good example of what can result culturally from following dubious basic ideas.

The relevance of these considerations can be perceived in the activities of institutions such as the LSE (London School of Economics) or the WEF (World Economic Forum), which shape much of the debate on the eco-social complex. These two institutions are very different, but manifest the same symptom: a need to develop an ever more complex notional structure as a consequence of inherently conflict-laden basic assumptions. Both institutions are full of good intentions; in recent years its participants have increasingly manifested an authentic desire to solve practical problems caused by implementing the traditional ideational mind frame. This can be perceived in the topics they address. Nevertheless, as a result of the categorial framework in which they operate, they essentially develop new buzzwords rather than sound fundamental principles for a radically new start, and are therefore mainly useful for demonstrating
where problems are, not so much for developing any ultimately fruitful ideational means. Much of the critique they put forth — especially since the originally supported call for deregulation called for new forms of regulation — is itself not much better, for the same reason: problematic basic assumptions (somewhat different, but not decisively cathartic).

Wherever totally reliable knowledge is necessary — for instance in responsible economics and policy-making — seeking the 'optimal basic assumption' can therefore never become helpful, because presupposing undermines on principle any approach. Well-meaning thinkers have always sought to avoid prejudices, but only systematic theorizing on an unbiased path can find the ultimately causal element in the problem structure, opening a door to decisive insights and viable solutions.

We emphasize this because the outlined ubiquity of limits made fashionable the opinion that human decision-making has no other choice but to acquiesce with uncertainty resulting from limits. Arguments in favor of this belief have gone beyond practical domains (from action theory and politics to policy-making and international relations) and include now the practice of theorizing. By implementing this belief, whole problem areas are sacrificed and populations are victimized, while glorifying efforts of decision-making on uncertainty is the 'justification' for privileges that every ruling class organizes for itself. The configuration embodies a vicious circle: the less transparent the created conditions become, the more the neglected part of reality or a population can express itself only in negations (up to unconscious ones, such as diseases), seemingly calling for more authority, control and domination — once again the gesture (of setting up 'plausible' assumptions) that had led to a self-limited understanding of the existential singularities in the first place. This gesture now shapes most views — for instance a view of life as being dictated by genes, as evolution being dictated by a struggle for survival, as thought being dictated by neurons, up to citizens needing to be governed by means of authority, control and domination. The call for political 'reforms' along economistic lines is of this sort too. Even though some aspects may correctly be grasped in such views, none of them can embody the complete truth. Discovering the root of uncompromising solutions requires categorial work.

In discussing such problems, sometimes the term 'conspiracy theory' turns up (never mind who is meant), when in fact a community merely follows coherently a common belief, a deep conviction, a fundamentalist streak, etc. This can be interpreted as 'conspiracy', while it is only a collective error expressing itself as a seemingly coordinated action, or in other words collective teleguidance by a shared idea. People do not need to conspire for common action to result. There are such collectively effective errors galore, from believing in intersubjectivity as a criterion for truth in science up to the 'ayatollahs of the free market'. The problem is belief instead of real knowledge, or in other words: not being truly individual, not choosing to fully think through the crucial issues. Fortunately thinking is not really limited to what others say. The question is to what degree one seeks an understanding.

IV. The specific problem of economics as a theoretical system

Economics deals with the process of producing and consuming, and what makes it work. This subject matter is crucial, since the way we think about it regulates the material means for human life. Especially in our times, in which reality is being covered globally by our practices, a theoretical system for understanding this subject matter should have — due to the involved responsibility — the soundest possible methodological foundation and systematic structure. But instead of considering on principle the nature of concepts and conceptual structures, the
foundation of economics is being sought in observation-based ideas such as competition, comparative advantage, demand and supply, externalities, free riding, information, marginal utility, marginal benefit, opportunity cost, profitable opportunity, relative price, scarcity, substitutability, sunk costs, transaction costs, prisoner’s dilemma, etc. — whose nature cannot avoid rigidifying the approach to the economic phenomena.

Applying this theoretical narrowness produced practical conflicts that gave rise to corrective ideas like thinking in terms of social wealth as opposed to GNP wealth (Amartya Sen, Patrick Viveret), measuring development by cultural indicators instead of economic indicators (for instance UNDP), flexi-security (combining the concern for employment flexibility with job security, practiced to some extent in Holland), considering also immaterial values and resources ('balanced scorecard', Robert Kaplan / David Norton), postulating dignified work (International Labor Organization), considering global network growth rather than national or sectorial growth (for example Frank Jürgen Richter), micro-financing (Grameen Bank {Bangladesh}, Banco Sol {Bolivia}, FINCA {Africa}, etc.), social enterprise (Schwab Foundation for Social Entrepreneurship, Endeavor Global, etc.), structuring environmental responsibility (Global Compact, part of the U.N.), intergenerational solidarity and equality in the access to basic rights (for instance Foundation for the Rights of Future Generations), the right to an unconditional basic income (advocated for instance by Philippe Van Parijs; pilot projects are arising, for example Namibia 2008), tackling corruption, mafiocracy and poverty (for instance Transparency International), thinking about a global central bank or alternatives to the IMF and World Bank (for example South America's 'Banco del Sur'), etc.

The majority of ideas, including most corrective ones, is still governed by the basic belief that material means constitute the sufficient condition for sustaining the social organization. This belief made contract theories of the state — from Hobbes to Rawls — so successful. In this view one forgets crucial elements that have been known about since Hegel's Philosophy of Right: the undeniable fact that humans need to rely on each other for material subsistence can become structurally fruitful only upon mastering conceptually all of what is implied, up to one's own world view. Taking care of material needs cannot warrant full satisfaction, whether in creating a State or in establishing a good marriage. The traditional idea of welfare, whereby well-being increases with the choice of goods at one's disposal, is empirically confirmed only where the bare minimum is at stake, basic need (for example Sen [1987], Binswanger [2006]). Experiences made with democracy, or an unconditional basic income, show precisely this: such ideas cannot satisfactorily be implemented without shoring them up with the corresponding ideational education. Their meaning in the context, the whole purpose, must be understood. Any rational activity is ultimately governed by self-transparency in choosing ideas — mere urges or drives (where the idea is not completely accepted by oneself) can finally not suffice. This is why abundant material means can, on their own, not warrant sufficient efforts towards ideational clarification. It is no coincidence that profuse affluence often correlates with psychic waywardness (for instance Offer [2006]). Whoever seeks a secure path cannot avoid integral ways of thinking: self-transparency on the personal level as much as on the level of the pursued theoretical structure. In practice the eco-social process is a product of ways of thinking and ceases to be detrimental to its conditions only when all agents are given the chance to develop fully their potential — as is gradually being realized and emphasized (for example Amartya Sen, Martha Nussbaumer). But this can not be achieved by spoon-feeding government propaganda, as is being attempted in some programs combining social welfare and mental welfare. For sustainable success the ideational autonomy of the individual needs to be respected.
Uncompromising thinking in economics follows the intrinsic logic of its subject matter, namely eco-social organization, in all of its span between materiality and ideality. As will be shown in Section V, proceeding in this way allows the discovery of overarching types of laws which elude mainstream theorizing, where only sectorial laws can found as an effect of the 'bottom up' strategy. The mediating activity of putting such laws into effect can of course produce only the types of institutions which the respective epoch allows. Compromises in the fundamental ideational elements have consequences — for instance in not noticing the 'blind spot' of a system or in confusing means and ends. For thorough clarity, the conceptual setup must completely be conceived as part of the theory — also in theoretical economics.

Since Aristotle the economic process is being approached in terms of 'things in exchange'. Can this category be adequate for handling the overall dynamism? For grasping the flow, the category of 'value' of each thing was introduced. The flow then appeared as an aggregation of valued things. But value is enigmatic: depending on perspective it can look different. So this approach was replaced by aggregating the agent's decisions in valuating. Yet adding up pieces never reaches the law of strict totality — the crux of quantum theory or molecular biology, trying to predict large aggregates from laws of 'elements'. This is a zealous but categorially unintelligent procedure. It evokes artificial ideas such as 'emergent' phenomena, ends up in the 'measurement problem' and fuzzy paradoxes, but never in unambiguous clarity. Via the 'law of big numbers' some probabilistic formulations of the overall law are possible, but they are in danger of sacrificing real life to mathematical acrobacy — abstract ideas that are remote from reality as a whole. Moreover, no addition of partial theories can ever warrant a secure overall theory — which is precisely what economics should achieve in times of globalization.

But economics did not overcome the crucial point. Its methodological approach — as expressed in standard works such as Blaug [1980], Lawson [1997], or Backhouse [1994] — consists of applications of given ideas to a specific field, economics. "The methodology of economics is to be understood simply as philosophy of science applied to economics" (Blaug [1980: xi]). The foundational flaws in the standard methodological perspective are not a widespread topic; for example Bunge [1998], discussing social science in general, envisages only a "checking of propositions" [1998: 11], which is standard procedure; Hausman [2003] lists some methodological problems, but affirms the mainstream. Even the leading thinkers realize that it finally allows only approximations, but conform to the limit and do not seek a strict clarification between categoriality and reality. Yet these are no single cases, they represent the state of the art.

What is the result? Lacking the possibility of finding the intrinsic law in the overall order of its subject matter, economic theory developed a habit of elevating context-dependent connections (for instance Kondratieff cycles) to the status of laws — which is speculation in the pejorative sense, as it cannot allow knowledge of the limit of validity. Another example: many economists worry a lot about costs incumbent upon agents — of production, opportunity, transaction, etc. — but not whether overall costs might outrun overall benefits; here too they consider parts, leaving out origin and end (Daly [2001]). Their theory cannot grasp totality in an exact way while they still equate GNP growth with the health of an economy, unthinking aggravating problems. Even the physicalistic extension offered by Nicholas Georgescu-Roegen [1971] — showing that the second law of thermodynamics governs economic processes, i.e., that useable 'free energy' inevitably disperses or becomes lost in the form of 'bound energy' — still awaits its adequate acknowledgement by the 'official' line of thought. Having given up considerations in terms of universal laws, the focus remains on how to formulate models and to
verify them by empirical evidence. The ontological commitment of this habit — burdened by the fact that no overall order can ever be ascertained empirically (in the case of economics: by testing a model econometrically) — remains unrecognized to an amazing degree. Such examples show the inadequacy of today's habitual categorizations. Of course models such as of supply and demand, or of marginal benefit, or of production function and marginal productivity, are adequate in many situations. But (a) not every idea that is useful in mainstream science constitutes a reliable basis for integrative research, while strictly explaining phenomena requires tracing them back to a universal law of nature; models (mathematical representations) cannot really offer that: despite widespread beliefs they are mere descriptions. And (b) merely describing 'what-is' is poor science; wanting to deduce a basic social law from 'what-is' is in fact one version of the naturalistic fallacy by believing 'what-is' is all of what is relevant for 'what-ought-to-be' — where one ultimately remains stuck in archaisms.

Since theory did not discover the overarching law of nature that governs all forms of economy, it could not optimize and harmonize the economic process out of a secure overview. For its conceptual basis it chose archaic pseudo-optimizing features such as personal interests ('homo oeconomicus'), the need to know ('complete information'), or the necessity of surviving ('competition'). Some were disproved (for instance 'bounded rationality' unseated 'complete information'), while some believe such archaisms can be proved to be relevant — for instance by game theory proving an equilibrium of cooperation even among selfish agents if they share a view of the future; this equilibrium is perturbed by 'Jesus'-type ideas, because humane agents foil the need to cooperate on the level of systemic coercion. The one-eyed conceptualizations survive by forgetting aspects and side effects — in this case, for example, a long-range conditioning effect that produces secret mistrust and interhuman disintegration, which is indeed increasingly becoming observable to the discerning view.

Another fateful choice is to take the idea of exchanging goods as the theoretical basis — not the eco-social process as a whole. Accordingly, eco-social totality can be grasped only in its trade and commerce aspect. Applying this view, the income of the whole population must then be squeezed out of trading activity (in its widest sense: covering all goods), imposing a market frenzy and corresponding resource squandering while theory is compelled to exclude the sources and sinks of the process, locking them up in 'ceteris paribus' clauses. This leads to a contradiction that has been noticed already by David Ricardo [1821], but has still not been overcome: when wages appear as a production cost to the entrepreneur, which he is forced to eliminate in order to remain competitive, the wage earner becomes a burden to the system, even though the wage is his medium of survival. In a world full of machines doing the work, people would starve. Paradoxically, a popular political justification for cementing the flawed ideas is the promise of 'creating jobs' — as if there were not enough to do for everybody for living decently, and enough people willing to do it. The question is how the compensation of efforts can adequately be organized; this is difficult only since the conditions for using money dictate a high return on investment. A problem in developing a coercion-free approach stems from neglecting the difference — formulated by Aristotle, disregarded by Adam Smith, but important to Marx — between use value (real value) and exchange value (imaginary value).

For sustaining the population's survival, the currently predominant idea in economic theory is the welfare state, based on perpetuating economic growth. But overall reality jeopardizes precisely this growth due to its side-effects. Conceptualizing labor force like a material resource is an assumption that has far-reaching consequences. It has its root in a more general habit — widespread among economists — of not distinguishing adequately between biotic (alive) resources and abiotic (mineral) resources, talking only about 'natural resources'. The
idea of sustainability is now being used for both types of resources, even though the mineral ones are clearly nonrenewable and subject to irreversible degradation (Georgescu-Roegen [1971] presents a clear conceptualization for this problem). The Western hemisphere owes its rapid rise to an extensive use of mineral resources. By allowing exponential growth, which abiotic resources cannot permit due to their renewability cycles, they nourished the thermoindustrial revolution that remains the engine of today’s economic system. The unclear concept of resources allows the illusion to be maintained that exponential growth can generally be sustained — even though the technically induced entropic degradation, and the imposed transfer of lithosphere material into the biosphere, are of course limited. Playing down these effects, the vague conceptualization was pushed into wide acceptance by influential agents who were pleased by a rosy picture of eternal economic growth. Now some of them imagine that the produced social and ecological tensions are a source of new business — as if problems could really be solved by the systems that caused them.

The self-deception is no coincidence, but the result of a technological path-dependency based on the belief that institutionalized property rights (ownership as power of disposal, in German ‘Eigentum’) can constitute a generally sustainable order. Many forget that this aspect of ownership depends on a more fundamental one, namely possession rights (ownership as entitlement to use, ‘Besitz’) based on competences in dealing with things. As an institutional pillar, property has two economic potentials which entail a hierarchically ordered logic of decisions: as an entitlement to possession, property defines rights of use by competence; as an entitlement to dominion, property offers security (under mortgage) in credit contracts, thereby allowing in property societies the endogenous creation of money as an institution, in a specific way. Monetary value can then be set into circulation corresponding to the value of the assets, which for their part are tied down by dint of a promissory note. This contract structure is of strategic value through the pressure of contractual indebtedness that allows conditions to be imposed according to the standard of the creditor — irrespective of his expertise concerning the implied asset as such. This ossifying structure explains why vested monetary interests foster an ‘ownership society’, but not the appreciation of implicitly engendered real burdens, instead trying to make other agents carry them. By splitting off competence (objective understanding) from ownership (formal dominion), needless conflicts are brought into being. Richard Sennett exposes in detail (for instance in [1998], [2006]) how this dispartment has developed, and its result: power in entrepreneurial decision-making can now be used without being responsible for consequences. Unfortunately, by being committed to sociological description only, Sennett can see a solution merely in reverting to ‘good’ authoritarian ideas rather than in systematic conceptual clarifications towards a sound systemic development. But even the best morality cannot conquer decisive flaws of the theoretical system, which licenses ideas such as privatization (raising money by the sale of publicly owned assets) or securitization (using the value of loans as assets for low risk funding) that are the inevitable fruit of a specific monetary logic. The connection between value and representation of value needs therefore to be explored some more.

In dealing socially with objects, the way of handling the difference between possession and ownership determines on principle any economy. Agrarian societies usually operated on the basis of possession in the cycle of biotic resources (which are renewable) for agriculture and energy; this made the process sustainable. The situation changed with the emergence of industrial society and the introduction of property rights allowing for disconnected ownership and corresponding ideas of bossing around. Industrial society made extensively use of mineral resources (which are not renewable) — and then became addicted to their characteristics. The corresponding institutional framework cannot avoid favoring two specific types of technology
and social engineering: those enabling a direct translation of its structural pressure into material production (essentially the thermo-industrial methods, which allow exponential growth but impose entropic degradation and pollution), and in the domain of non-exponential growth the methods that permit possession structures, accumulated in the past, to be converted into structures of future dominion (biotechnology, privatizing public goods such as water and air, transferring collective knowledge into 'intellectual property', etc.); for instance an interest in species diversity can then arise only insofar as nature can become instrumentally exploitable. For a thorough analysis see Steppacher et al. [1977] and especially Steppacher in Bieri et al. [1999], contextualized in a discussion of modern agriculture.

Institutional frameworks based on property rights should be rooted in understanding, as in societies based on a possession structure; otherwise everything is gradually made into a commodity. This is where the disparity between value per se and its representations becomes very important. This difference spans the spectrum from the pure idea of something being valuable by being useful to the socially institutionalized symbols, i.e. the types of money for corresponding functions (unit of account, medium of exchange and payment, value storage, etc.). An insidious problem arises when money itself is institutionalized as a commodity with a price for being used, because then it ceases to be a means for strictly free exchange. Since money cannot decay, while goods do, commodity money pushes agents into following the rule of return on investment, imposing the standard of monetary decision-making and thus forcing ever new markets into existence. This engenders in the short run an exponential type of growth, since money can then be made out of money — a idea that still seduces many — until outcomes in the long run take command. Hoping for the best, money is now being put in circulation via a primal debt, by central banks crediting commercial banks that then credit individual borrowers. Creating 'new' money by burdening assets is then practically unlimited (in countless forms of securitization), while having to replace ruined assets — whose nature is to decay anyway — always nourishes such a monetary system. Those who finally carry the risk are the agents, not the architects of the system. For the sake of transparency it should thus be under public control — but obeying the logic of ownership (not objective understanding), central banks have all been privatized.

At each step of the trading process the primal debt is inevitably intensified, because on all levels it burdens the facilitated infrastructure for production through the interest rate that forces borrowers to pay back more than they originally received. Moreover, under the ruling regime of adversarial competition the firm is under constant pressure to expand. As a result, the prices of goods contain an increasing portion of cost for paying back the implicit series of debts that allowed the goods to be produced. It weighs down additionally on the prices that are already encumbered, in an economic system based on trading, by the necessity to generate income by means of trade. The Founding Fathers of the U.S. Constitution warned (in Principle 27): "The burden of debt is as destructive to freedom as subjugation by conquest." The reality of today's global economic system is not freedom, as many believe, but coercion organized by monetary means in an imperceptible way. Everybody is subjected to this regime; even those who operate close to the monetary origin enjoy no freedom, since it requires endorsing beliefs that are inevitably corrupt because they cannot allow overcoming on principle the flaw. As a result of a century-long adaptation that has numbed public sensitivity, the idea of coercion-free monetary systems has become inconceivable for most people. Yet precisely this is objectively needed for society to find its peace of mind, as it were.

The logic of property (instead of possession) generates a type of monetary capital that is based on debt, favoring interest-based and thereby rent-based income (Robinson 1956:247).
Making this sort of capital into an absolute engenders finally a process of capital accumulation by dispossessing (for detailed accounts see for instance Harvey [2003], or Zeller [2004]). The principle of debt does not only become manifest in the now favored official form of creating money, but also for example in the balance-of-payments deficit of a state. This phenomenon is as such innocuous, but acquires source-of-capital characteristics when it is combined with some other conditions. A presently relevant example is the U.S. in relation to all other nations. Its overseas military spending (especially in Korea and Vietnam), plus requests (especially by France) for U.S. payments to be conducted in gold, had gradually caused enormous payment imbalances. Moreover, the vigorous post-Marshall-Plan economies of Germany and Japan had converted the US from a net exporter into a net importer. The combination of both — a debt and a trade-deficit — burdened the U.S. administration (then under President Nixon). Taking the bull by the horns, the U.S. administration took the neoclassical view to its extreme whereby there are ultimately no other values than the exchange values that are manifest monetarily in the socio-economic process — disregarding what Aristotle and Marx classically called use value, which had gradually been abandoned in 19th century theorizing. In the neoclassical view, money needs no asset backing, which was commonly agreed to be precious metals such as gold. In 1971 the U.S. government abandoned completely, after some preliminary moves in previous decades, the globally agreed gold standard, breaking unilaterally the Bretton Woods agreement. Until then, the U.S. had been a net creditor nation, but under the newly created conditions it became a net debtor nation. In the classical view this is a dangerous situation as it lacks a foundation. But the U.S. administration reckoned that that the dollar hegemony as a global system was 'too big to fail' for the rest of the world, and the rest of the world backed down indeed. But it was now imprisoned in its own economic beliefs. Barely any nation could refuse accepting payment imbalances to be paid by U.S. government bonds — even though these do not constitute anything secure in terms of value, only some confidence in the 'leading nation'. The U.S. government created necessary new dollars simply by governmental decree ('fiat money') via its central bank, the Federal Reserve (issuing public money, while being privately owned). Facing this debt, central banks outside the U.S. had no choice but to use their excess dollars for buying U.S. Treasury bonds — whose volume quickly exceeded the U.S. ability to pay. At first without noticing, and later quite knowingly, the U.S. government compelled thus foreign central banks to finance the U.S. balance-of-payments deficit. The result is a huge financial bubble, in which the Industrial sector is absorbed by the financial sector — a rent-based economy, i.e. one that allows collecting revenue off 'property' instead of producing or of creating new means of production. It was increasingly 'explained' and thereby sanctified in theory (especially by the Chicago monetarist school) instead of duly being criticized, and constitutes today's globally dominant system. Everybody is compelled to ride the wave of asset-price inflation — the real estate and stock market bubble — in which some people were indeed able to get pretty rich. Ethnic minorities, immigrants, jobless, renters and other poor are the losers. The bubble has euphemistically been re-defined as 'wealth creation', as if that were the point of the economy, and the free lunch for the financial sector has been explained away. Nevertheless, consumers can maintain their living standards essentially by going into debt. The system can work only as long as there is economic growth — it is a Ponzi scheme', betting naively on the future and inevitably producing bubbles that must thus sooner or later burst. Hudson [2007] shows for instance how the global real estate bubble stems from the U.S. payments deficit. For a detailed account of the systemic development, illustrating how the principle of debt can quite generally be taken as a monetary base, see Hudson [2003]. Some are realizing the connections and that a backlash is becoming inevitable; see for example www.leap2020.eu and its bulletin GEAB.
Mainstream theory has not developed the analytical instrumentation for dissolving the crucial knots, but rather has adapted to them. It chose to valuate all goods (and hence measures them) in monetary terms, while equating the value of money to the total amount of goods (the 'domestic product'). It accepts thus \( A \) is a function of \( B \), while \( B \) is a function of \( A' \) — which would not get mathematics very far. Applying this questionable basis (the domestic product), combining it with subjective value theory ('things are worth what agents are ready to trade in for them'), inevitably makes money into a biased medium of exchange instead of being able to serve everybody in equity. This bias may seem acceptable in many cases, but in the eco-social process as a whole, using money then has rebound and offset effects. The 'small' capitalists are then always at the mercy of 'big' ones (extortion, buyout, takeover, etc.). Now those sectors of the eco-social process that can offer no quick returns on investment because their effort is appreciable only in future — for instance agriculture, education, health care, the collective process called 'the state', etc. —, suffer from a shortage of investment (money). Probably nobody wants money to be scarce in these sectors, but this is the systemic result that shapes countless human destinies.

Yet mainstream theory cannot 'see' its own basic flaw. What is currently being called 'globalization' is essentially a process of globally imposing ownership conditions that entail corresponding techniques and technologies. This process is obviously not sustainable in a strict sense, but the conceptual basis of mainstream economics does not allow the insight that the process stands on an ice floe that is melting away under our feet. Solving the problem requires a solid knowledge of the conceptual structure that produces it. All its aspects are a result of mere assumptions and thus purely conceptual distinctions; no amount of empirical investigation on this basis can thus ever produce a really uncompromising solution.

Science becomes real by understanding 'what-is' within the web of the overall interconnections, which must include its own means for understanding. Self-referentiality is not just an abstract theoretical game, but a practical requirement for any serious approach to totality. The fashionable emphasis on the empirical side inevitably leads to a fragmentation, as the seeming objectivity merely shifts a basic lack of explanation into ever smaller 'pieces', onto ever new levels of mystery, producing new split-ups — from pieces to atoms to particles (matter); from being alive to the brain to neurons (mind); from statements to words to phonemes (language); from value as an idea to value of goods to valuating decisions of agents (economics), etc. — until the flaw is dissolved, undetectable in the respective conceptual or experimental system. Many call this progress, as new (manipulable) elements seem to become accessible. Economics missed this point. Economics has increasingly become split up into ever more branches and sub-disciplines (ecological, evolutionary, and institutional economics, bioeconomics, etc.). A complete unification will be possible only upon knowing in an exact way how to approach totality. Theoretically hoping to be the theory of efficiency, but neglecting its conceptual basis (concerning the idea of efficiency itself, see for example Wolff [2002]), economics actually promotes large-scale inefficiency — for instance, resource squandering and other losses induced by agents having to fight each other for income, compelled thus to generate ever new markets, achieved among others by arousing false needs and by imposing unnecessary 'services' (needless car repairs, dispensable medical analyses and operations, 'planned obsolescence' in product design, etc.). Not noticing methodologically the consequences of presupposing has its price — which is still not being paid by the architects of the system.

Irrespective of whether the core of the problems will be solved on the level of theory, policy, polity, or politics, the question finally is in the means for understanding. So, on what
V. Concretely developing a solution

Since prejudicial elements are the problem, leaving them all aside would be reasonable. Introducing absolutely no prejudice avoids any misconception or misinterpretation indeed. Most systems and methods postulate freedom of prejudice in the details, while on the whole they are based on prejudicial subdivisions as part of the method, which inevitably have a pre-structuring effect on possible insight (some of these split-ups, such as subject vs. object, have been mentioned in Section II).

Many will say it is impossible to eliminate all prejudice, and even if it were, doing so would offer no leverage for achieving knowledge — at least not in observing things in order to find true propositions, justified true beliefs. Yet the problem remains: it is not nature that imposes basic distinctions, but the thinker. The point is not in leaving aside all prejudicial elements at once, but in their being under control. One way is to hunt them up and doubt them one by one; but then one never knows whether they are all taken care of. A more efficient path is to open up fully to the subject matter in order to allow it to take over, thereby gradually eroding unnecessary aspects.

On the path of primal assumptions, completeness of grasp and certainty in knowing is indeed inaccessible, as believers on that path admit. In fact, assuming does not even allow one to find a truly universal law of nature. For instance in physics the laws of conservation (of matter / energy), or of entropy, or of gravitation, are not self-referential and thereby strictly universal. As laws they are not subject to the material features which they regulate, while for instance the principle of cognition is self-referential and even amplifies itself in being applied, but is not recognized for this remarkable quality because the traditional categories do not foster approaches that are useful for reaching seamless intelligibility. On the systematic level of self-reflection, namely in philosophy, a full-fledged unification can be reached only once the nature of the conceptual realm as a medium — not only the appearances in this medium, the intersubjectively agreed concepts — is clarified in its relation to the principle of intelligibility. In this respect any strand of philosophy that does not allow strictly complete self-reference is self-limited on principle, and if it has a 'blind spot' it can not even recognize its flaw.

There must be some kind of order in the universe, otherwise beings would not be able to distinguish anything from anything else. The crucial point is how order is being approached with the aim of understanding it. In nearly all of contemporary philosophy and science, reality is addressed in terms of what is deemed to exist, i.e. 'things' and hence appearances — not forms of order, and especially not the overall order according to which 'things' appear, exist for their time, and vanish while others of the same type reappear (the 'four seasons of being'). This overall order includes the means for understanding — ideas, notions, concepts, representations — in their way of arising and being dissolved. They are results of mental action and the means for steering it (remember Section III), and require therefore a very special approach. Addressing mere appearances produces theories in ever more minute detail — of which none can offer a seamless understanding, and they cannot be unified without compromise. Of the basic ideas often chosen in attempting a unification — for example language, logical form, mathematics, measurement, predication, or probability — none can offer strict universality, because at their root they posit something instead of being unconditionally open.
Wanting to understand anything is finally a way of referring to its specific form of order — albeit without knowing it yet. Phenomena arise and vanish in nature, but they do not reveal the form of order according to which they do so, precisely because they follow it. A form of order is accessible only by thinking on the level of pure intelligibility, where contingencies are all filtered out. The decisive elements for intelligibility — for example in a process view: laws and forces — are of this type: they determine the existence of 'things', but can not be said to exist themselves like appearances. Tentative abstract construals for approaching the overall order, traditional hypotheses, offer no leverage for grasping the nature of conceptual structures as a whole, and above all they can not reach a view that encompasses the overall order of being as long as they are abstracted from 'things', not developed strictly holistically.

Pure forms of order elude mainstream methodology and are often denounced as Platonist fantasies. Yet talking away a problem is not helpful for solving it, because forms of order, by dint of constituting the means for complete intelligibility, are finally the only secure basis for unification. Everyone is constantly referring to forms of pure order. This does not mean that one is necessarily aware of it, but that it is always the case. Indeed, this is part of everyone's experience. How can you be sure that something is a triangle, except by referring to the order of triangularity? Or think of having forgotten the name tag, but not the relevant pure order: remembering a specific person, but not her name; or a statement, but not its author; or knowing exactly what you want to say, but not yet how to express it. Only the correct correspondence can close the gap, and sufficiently gentle mental groping will lead you there.

For seeing what is meant here by forms of order, which can prima facie also be called structures, principles, or laws, let us take the circle in plane geometry. It is approachable in many ways, of which each manifests a specific type of interest: 'distance from a given point', or 'curvature', or 'rectangular triangles over a line' etc. (Fig. 1). Each approach leads to a definition; these do not exclude, but complement each other. Instead of geometrical circles you can take anything — up to trying to remember that darned name, or the author of that particular statement, or groping for the appropriate words to say what you want — which is always a way of referring to the respective form of order. The situation as such is the form of order; your experience of it and your intention in groping define the type of approach.

Fig. 1 Lawfulness and its material appearances Ñ in mind as definitions, in material matter as specimens

Also philosophers constantly refer to the level of pure order, for instance in analyzing a proposition — especially when operating in higher order propositional logic — while not many admit that they do so: for them this aspect of their doing is not a topic; they are not
interested in thinking about what they themselves refer to, they only want to deal with resulting representations. Thinking is a process of relating to forms of order, producing linguistic structures.

The issue cannot be resolved totally by invoking 'nonconceptual content' (for instance, Bermúdez [1998] or Gunther [2003]) understood as some sort of representation, then having to rule out a priori the level of self-representation by not being able to situate it adequately. Wherever a wholeness is at stake, the decisive issue is ultimately self-referentiality. In discussing self-awareness and self-knowledge, expecting mechanisms is particularly hopeless since self-understanding is intertwined with producing the implied categoriality. Here any observational terms such as 'privileged access' or 'special authority', and even more authoritarian terms such as 'infallibility' or 'omniscience', can only lead to dead ends. Analyzing self-attribution will not yield the gist of self-understanding either. Whether accounts of self-referentiality and self-knowledge are different from other accounts depends on the implied categorial structure; as will be shown in Section VI, categorial structures are possible that cover homogenously all realms.

As the example of the circle shows, the means for complete intelligibility concerning the chosen subject matter become propositional only upon being approached from a perspective, i.e. upon being interested in it, which always occurs in a specific way. As such, a form of order — up to the overall structure of the universe — is nothing but itself. More precisely, it is a unity of content balanced in itself on the level of the arché (Greek: 'origins') with their 'double face': for example, in the processual perspective (where complete intelligibility needs laws and forces as terms), an epistemic query, investigating appearances as dynamic 'entities' (whether at the physical or at the mental level) finally discloses the respective structure of law-plus-force (ratio cognoscendi) — while an ontic query, investigating the structural interrelations between concepts, in this case thinking in terms of law-plus-force, eventually leads to the respective existential complex, the structure of the world (ratio essendi).

Traditional approaches, being biased towards 'things' in the hope of being able to formulate true predicates, can't be helpful for addressing something as intrinsic as the pure order of something. They inevitably lead to problems such as Kant's with his 'thing-in-itself', or those of essentialism when wanting to reach the essence of things by means of predications, because the chosen perspectives overrule the subject matter as such. In Section VI a more adequate approach will be proposed; on the way there, an uncompromising basic distinction is useful for addressing the crucial point. As mentioned above, the decisive elements for intelligibility — for instance laws and forces — determine things totally, but do not exist in any tangible way. They are at the level of pure order, but being inextricably part of complete reality they are not just some abstract objects that could be invented otherwise. This level needs to be addressed in its own right. For doing so it is reasonable to distinguish between the language of intelligibility and the language of manipulability. The first consists of forms of order (pure structure) that must be addressed as such, in mental activity using concepts, ideas, and representations; once their content is understood, it can be communicated by using names, predicates, and logical terms. Understanding always is a way of penetrating the finally relevant order. The language of manipulability consists of names, predicates, and logical terms ('handles' for catching 'things' in representative propositions). At first glance it seems to allow complete intelligibility; only in thinking through the network of all names and predicates one can perceive that it does not cover strict totality, that something is missing somehow, cannot be understood completely, or produces surprises. Remaining in the language of manipulability —
the mainstream mindset today — leads to ever more words on details while it impedes knowing just what goes wrong. The language of intelligibility constitutes a systematically clear framework for what scientists and philosophers often (but somewhat vaguely) call 'analytical concepts'.

Fundamental interventions are crucial because of their categorial effects. The problem of categoriality is summed up concisely by Kim and Sosa (in *Companion to Metaphysics* [1995]). A functional categorial system, or a valid theory of categoriality, must satisfy two conditions: categories must be (a) strictly exhaustive, and (b) mutually exclusive. Of the known systems and methods, none fulfills these conditions. As a result, and due to the object-oriented habits of modern philosophy, the notion of category has widely been abandoned. Yet the problem of categoriality persists as such, because the used systems are flawed due to fundamental interventions with which one has not come to terms. Hence the big question still is how to proceed on the foundational level without incurring drawbacks.

Before approaching the process of theorizing as such, a widespread opinion needs to be taken into consideration, whereby it is impossible to set out in any way that is free of all assumptions, because everybody is always embedded in the cultural and existential web, of which there is always something that seeps into the produced theory. Yet this opinion is only the result of an unclear approach to the process of theorizing. It lacks an adequate distinction between necessary (material) preconditions and chosen (ideational) presuppositions that define the theory on the systematic level. There are always needs to be fulfilled — being housed and fed, healthy, socialized, educated, etc. But their value is precisely in not entering theory in a decisive way: the types of house, food, socialization and education should only equilibrate the beings, setting them free as generally as possible for choosing the appropriate ideas. Wherever the existential means influence a process of theorizing, this occurs only because the necessary material preconditions for action are not adequately being fulfilled (the fact that this is a result of ideas only confirms the need to operate essentially in the language of intelligibility).

Believing that assumptions are inevitable shapes most contemporary ways of thinking. But then one remains in belief systems, dependent on the effects of the chosen assumptions. In this way one defers to those beliefs the responsibility for the guidance in one's mental activity. Then the necessary condition for steering mental action — having at disposal the adequate ideas and concepts— cannot be discovered completely in its nature and instrumental quality. Any belief or knowledge concerning this condition is of course itself of ideational nature, constituting the conditions for further understanding. Reflecting these inevitably is a philosophical endeavor and calls for the corresponding criteria. In most of philosophy, the necessary condition for steering mental action is unfortunately not yet perceived in its overall organic dynamics, but in a secretly mechanistic vein. This is revealed by the widespread talk about linguistic elements ('operators') as if they could causally perform functions — suggesting that thinking is not something one can choose to do and steer, but a process in which something in or behind language somehow does the job. This view is a result of wanting to be 'objective', believing that a 'view from outside' (assessing linguistic results, not the ideational process) warrants objectivity. The real solution is in ceasing to operate traditionally in the fixating predicative mode, implying mechanisms (of the cognitional sort) — for instead operating in conceptual structures that are universally applicable in the respective query perspective, actualizing a complete and organic approach that allows all required elements adequately to be placed in the language of intelligibility — for instance in a process view, as much the overall laws in the forms of order as the associated agencies.
The approach proposed here does not follow any prejudicial paths, but systematizes the gesture of opening up oneself to the subject matter. As is known and has been outlined above, setting out on whatever positive formulation can never be completely successful. The truly salutary point is in not letting assumptions take over, but taking qualified doubt as the guide. This is methodological skepticism, in contrast to forms of skepticism based on assumptions. Doubt gave rise to 'philosophies of negativity' (philosophical forms of critique, for instance deconstruction), but also postmodernist beliefs, relativism etc. Instead of seeking to predicate, based on more or less anthropocentric elements, here we develop and systematize the inverse gesture of being unconditionally open, 'listening' to the subject matter, sensing its characteristics. This attitude was always promoted in the phenomenological and hermeneutic branch of philosophy — but which cannot clarify its own categoriality, because its method is based on observation (even transcendental phenomenology has this limit). Our path exposes a law of nature in the mental realm. Instead of relating predicates to objects it connects the content of a query type with the polarity of concepts that are required for seamless intelligibility of the query content. This law of nature is the non-anthropocentric basis for the new approach, offering also to phenomenology and hermeneutics a secure heuristic foundation for their intention. A universal law as a basis allows a 'top-down' approach avoiding the gaps in 'bottom-up' methods (that call for artificial ideas such as 'supervenience' or 'emerging' features). The act of pursuing any query to its exhaustion (i.e. where its content is totally intelligible) is shown to constitute a conceptual structure that is categorially effective, universally applicable within its query perspective, and hence also to itself. This approach fulfills the mentioned two conditions for a valid theory of categoriality — albeit not in a way many might expect, as it features no fixed categories, but a tetradic set of concepts for any query perspective. These tetrads are not directly suitable for object predication, as they are heuristically relevant (for guiding subsequent observation). Revealing a form of order, this approach is totally precise (it manifests a law) while allowing all cases (query perspectives): laws imply a medium, they do not subsist per se. The actually categorial element resides on the one hand in the law of conceptual polarization, which on the other hand leaves open the choice of which query perspective is to be followed.

VI. Features of the proposed solution

For developing fruitful means for understanding, one can consider a recently proposed approach (Schaerer [2002], [2003], [2004]). It takes seriously two well-known philosophical facts, according to their systematic relevance: (a) everything appears to the mind according to its fundamental distinctions (problem of categoriality), and (b) the mind cannot stop its psychic process, but directs it by accepting the focus of attention (problem of intentionality). Being attentive to one's mental orientation, thus partaking in its direction, is the most fundamental form of investment: crediting the favored motives — a fact which even the most audacious economic imperialists did not yet notice (attention economics, considering only 'information' and attention as a scarce commodity in complex environments, must remain in lifeless abstractions; systematically speaking, 'information' in information theory does not contain the information that affords deciding what is meaning and what is mere noise in the system). It is not fruitful to follow beliefs whereby there are undirected mental states, such as anxiety, elation, or depression, whose contents therefore seem unapproachable. The average mind these days may be helpless in such cases, but this contingent fact is merely due to a widespread superficiality in dealing with personal identity. The finally relevant point is not whether agents are always rational (they obviously are not; this insight gave rise to 'bounded rationality'), but on the pragmatic level whether the cultural context fosters ideational integration or disintegration, and on the theoretical level whether one operates in strictly universally applicable concepts. Instead of
first asserting something 'plausible' (as a result of whatever world view), one can set out in simple openness towards the subject matter. This unprejudiced attitude can be sustained — which opens, as will be shown, a door to an astonishingly simple systematization. One then reaches clearly a feature of the overall structure of the mind. Anybody, of whatever culture or degree of education, can understand the idea of being open to a subject matter; performing it is demanding only insofar as beliefs are held on to. Due to its universality and simplicity, this idea is relevant not only for inter-disciplinary efforts (interacting academic disciplines), but trans-disciplinary ones too (general interaction — also with firms, NGOs, administrations, the civil society, etc.). Concentrating on the very nature of a subject matter, instead of haggling about interpretations, has indeed always been the path of progress, as much in theoretical as in practical respects. According to its nature, we will call this approach 'systematic attentiveness'. Here we will briefly outline its principle.

A sound systematic basis can be found by following closely the process of querying. Any approach can operate only in a perspective, out of a specific interest. On the other hand, actively sustaining a query has a purifying effect through one's having to follow the nature of the subject matter. The deeper one reaches, the better one can grasp the complementing polar 'background' of what one had conceived at first. Studying the genesis and use of concepts shows that any conceptual aspect A can in the very end be thought only on the 'mental background' of non-A, the content that is strictly polar to A. This fact gave rise to many streams of thought under the heading of dialectics, because knowing A makes one aware of its intrinsic conceptual dependency on non-A; hence becoming aware of non-A leads to realizing what A really implies. Hegel draws unceasingly from this well. Our point is that A and non-A together cover totally the universe, under one aspect: the queried one (in this example: A). Knowing this allows a basic conclusion for systematic attentiveness: upon completely exhausting a query perspective conceptually, its perspectivity and universality become fully compatible.

The other side of the coin is that any query ultimately leads to a polarized conceptual space, as required for fully understanding the query's content. This is the law of nature which regulates ultimately all mental processes. A difficulty is that everyday life usually prevents us from considering the ultimate consequences of primal assumptions and queries. It continuously pushes us into mixing up query vectors and therefore perspectives. Nevertheless, the (often neglected) activity of querying determines the outcome by necessarily splitting up the totality of interconnections — in Hegel's words a "circle of circles" [1830 / 1989: §15] or a "diamantine net" [1830 / 1989: §246 addition] —, compelling it to appear under the conceptual conditions imposed by the query. The (intensely debated) activity of judging is by far not as relevant, as it depends contingently on the implied structure of beliefs and is invariably limited by them.

The more intellectual efforts are examined, the more examples of the said law of nature abound, showing why sustained attentiveness to the subject matter is crucial. When fathomed uncompromisingly, the query content itself defines the conceptual polarization — for example Aristotle, querying the nature of change, eventually found 'form' vs. 'matter'; Kant querying cognition finally found 'perception' vs. 'thinking' to be essential; or Saussure, scrutinizing the primal nature of the sign, reached 'the signifying' vs. 'the signified' as the relevant basis; etc.

It is not evident that such polar structures do not merely stem from logocentric mental habits, but reflect a real law of nature (in this case of the mind). Besides historical examples, the most compelling evidence for a law is available in mathematics and logic. A relevant branch is called 'synthetic projective geometry'. It is interesting — especially since Hilbert's
program of total axiomatization proved to be limited — that synthetic projective geometry is the 'mother' of all geometries, including the now famous non-Euclidian ones, and that it has heuristically been most fruitful where it was approached non-axiomatically, as by thinkers from Christian von Staudt and Felix Klein to Henderson [2004], avoiding the self-limitations of traditional formalization. In this geometry, all geometric acts and resulting structures appear in two polar forms (for instance joining and crossing, resulting for example in triangles as three straight lines crossing each other, thus defining three points, or as three joined points, defining three lines); note that act and result constitute together a polarity too. Which side is to be contemplated is a question of choice — and in fact one can even choose to consider both together. The heuristic procedure was to develop intuitively the elements (point, line, plane), with linearity as the only invariant and infinity not as a special case (as in Euclidian geometry), but being strictly thought through at every step of developing the geometric structures. Algebraic and therefore inevitably formal approaches to projective geometry are of course also possible, and in fact are widespread in many applications (for instance in parts of physics), but the cutting edge of heuristic insight is compelled — by the nature of ideas — to remain in the synthetic branch (for example Paul Dirac is known for his 'translations').

In logic, the basis of thought is negation — and leads to an absolute opposite in terms of meaning, or in other words a polarity. For becoming operative, negation needs a combinatorial element. It is no coincidence that those logical connectives that allow formulation of all other logical connectives, namely logical NAND ('not and') and its dual, logical NOR ('not or'), display the said structure and together constitute a duality. There is an arbitrary choice in which path is to be followed. It is thus no accident that in George Spencer-Brown's [1971] primary algebra the unmarked state can be read as 'True' or as 'False', calling for an arbitrary choice, and that the two resulting structures are dual. Similarly, the structure of defining is 'expressing the negation of a chosen content while the consequences must be contained within the totality of interrelations'. The traditionally distinct and conceptually polar mathematical concepts of operator and operand are the two sides of the same coin, namely of the single fundamental action of positing a distinction. The implied abeyance shows that reality per se imposes no decision; the thinking mind — when wanting to operate by formal means — must posit the decision, which is then categorically relevant. The act is obviously not absolute as an act; only the law is absolute whereby thinking must posit its own foundation. So the activity of thinking is itself not compelled to be formal, it need not posit first of all a decision for constituting a structure whose characteristics will limit all subsequent views — while for instance the decision to view logic only in formal terms leads to the impression that there is a fundamental indecidability.

A brief comment as to terminology: it is useful not to confuse the meanings of polarity, duality, and complementarity. By polarity we mean a semantically absolute opposite that can be achieved only purely conceptually (not just a semantic opposition such as 'full vs. empty'); in contrast, duality is a materialized opposite (for example enantiomers in chemistry, or converse mental representations such as 'on' vs. 'off', or 'join points' vs. 'cross lines'); and complementarity is a result of applying foundational ideas (for instance measurement) that entail the impossibility of an aspect arising in a medium, while its complement does arise (for example in the quantum approach: position vs. momentum, rest mass vs. impulse, etc.).

The gesture of basic openness has always been at the root of any progress, while on the other hand it does not preclude anything at all — not even whether the subject matter is to be approached in a more objectively method-oriented way (as for instance with Kant, or Hegel) or in a more subjectively hermeneutic way (as for example with Nietzsche, or Gadamer). But
knowing that one can always proceed only in a perspective, one can start by clarifying one's own vector of basic interest. Usually this is not the first item to be fathomed. People rarely know what they ultimately want, but rather follow this or that curiosity until encountering an item that leads them elsewhere. We all know the feeling of having done things we had believed to want, but which we regretted later on because it was not what we really wanted. Hence we believed to know, but in fact did not really know. This often happens also in philosophy and science. Setting out on a theoretical assumption may look plausible at first, but in the course of interacting with reality it invariably requires correction of the theoretical structure, working off the assumption's effects. This process shapes the respective philosophy or method — ultimately always at the expenses of the subject matter.

In systematic attentiveness there is no need to assume anything. One first clarifies one's will instead — what one really seeks, the appropriate query perspective — thereby unifying on principle the point of departure. This can only be achieved by self-reflection, by deepening personal integrity. Even then two paths are possible: one can either choose a query perspective that has already been developed and which provides the corresponding fundamental polar concepts — for example 'form vs. matter', 'perception vs. thinking', 'the signifying vs. the signified', etc. Or one can develop oneself the basic polar concepts implied in the content of a query perspective — which takes a long time in reaching the bottom; in the aforementioned examples it took Aristotle, Kant, and Saussure, several decades of intense involvement.

Such strictly polar concepts are purely transcendental (i.e. they constitute conditions of intelligibility, which empirical data never do) and metaphysical (by constituting a sound categorial basis on which to proceed). They do not offer object predicates (such as 'the object is red') but are of securely heuristic character (i.e. useful for knowing what to look out for — for example in a phenomenological approach: 'watch the color'). In spite of a universal applicability within their query perspective, such polar concepts still cannot offer complete insight into all facts, as they necessarily leave something open: while 'A' formally defines 'non-A', strictly covering totality, completely knowing the content of A and non-A requires additional investigation. In our example, the nature of processuality, one still does not know what is actually active in the 'form' aspect of a thing in process, or what are the concrete qualities of its 'matter' aspect. In systematic attentiveness this inexplicit remainder is approached systematically.

The guiding idea is that strictly polar categories, being universally applicable within their query perspective, must thus also be applicable to themselves. Wishing to clarify the meaning of 'A and non-A' — in our example the 'form' and the 'matter' aspect, as general concepts — is the same type of query as seeking the intrinsic order ('meaning') of processuality itself: the point is to unfold the conceptual space out of the content of the query. The topic still is processuality, and we are interested primarily in the causal side ('form' aspect); this is why we can apply the conceptual poles ('form' / 'matter') to the 'form' aspect ('self-reference'). This step must clarify the actual qualities of agency versus the actual qualities of what allows it. Posed as a question: What is the 'form' aspect of the 'form' aspect, and what is its 'matter' aspect? Such fully self-referential moves thwart any formal logical system — but here we proceed in content logic, which is the basis that determines also the laws of formal logic. Hence this path does not face the limit of assumption-based systems, because the query content can unravel completely according to its own nature. The given topic is taken as it is, applying no arbitrary distinction, not even allegedly fundamental ones such as 'subjectivity vs. objectivity', 'epistemic vs. ontic view', 'theoretical vs. practical reason', etc. What we are then doing is to mirror content for its own sake — as in abstract mathematics. The produced
categorial structure then is on the level of the *arché*, close to what was in former times debated as 'transcendentals'. In the result, conceptual unity and differentiation can be equilibrated in a precise way. This is the condition for systems to be *adequate to the wholeness of wholenesses*.

We are trained to analyze, dissect, decompose. As a result we 'perceive' only specimens of wholenesses ('everything that exists is a particular'), flowers or seeds, hens or eggs, mind or body, etc., and then in terms of perspectives: wave or particle, agents or values, skills or capital, etc. — and are finally compelled to wonder how all our bits and pieces can possibly fit together again. But if we can approach the respective processuality as a whole, instead of perceiving only 'objects' severed from their context, we can 'see' the principle of structures in their *complete existential cycle*. Since this is a fruitful path for natural science and its objects, which are finally all *ephemeral*, we will use this (originally Aristotelian) query perspective of *change* (in modern terms: *processuality*) as a *general example* of the proposed approach.

Just like any process can *as such* be grasped within the conceptual polarity between its 'form' aspect and its 'matter' aspect, the 'form' aspect is itself understandable in the conceptual polarity between the *order* in the process and what *enforces* this order — in other words as its 'law-of-the-thing-itself' aspect (its 'way of being', 'intrinsic complex of laws of nature') and its 'force' aspect (that which makes it evolve, concretely manifesting itself). The conceptual relation to a medium or the 'matter' aspect is a different problem.

After securing this triad ('law', 'force', and 'matter'), in a second step we can query also the *nature of 'matter'* in its own intrinsically dynamic quality of *being modifiable* — which lent strong wings to natural science, promising mastery over the whole world. This query leads us to the polarity between the possibility in principle that any thing / process can be thrust into disequilibria, exposing a *disequilibriability of force structures* (the 'form' aspect of 'matter'), by dint of the *basic equilibrium of all forces in the respective force structure* (the 'matter' aspect of 'matter', permitting all possible changes by the very constancy of this equilibrium). — In a graphic illustration (Fig. 2):

Fig. 2  The structure of self-equilibrated conceptual tetrads

Note that perspectivity and strictly universal grasp are *fully compatible* in this approach, and all query tetrads *converge* on total order (this is provable via the implied classes of logical relations; Schaerer 2003: section 10). Its conceptualization encompasses, in the result of its processual query, all types of structural change in *anything that appears as a processual unit* — from particles in physics to beings, populations, ecosystems, economies, propositions, up to mathematical equations and personal identity. Since the qualities of such a tetrad stem from a coherent development in complete self-referentiality out of *one* content, it *embodies itself the essential characteristic of the content*. In the example of processuality, its
sheer dynamism permeates the four categories themselves. Even the two equilibrium conditions (disequilibriability / foundational equilibrium) are thus to be understood in a dynamic sense: every ‘thing’ is constituted by an equilibration of its intrinsic flux: energy (particle, substance), water (waterfall), material and mental metabolism (alive being, group, population, ecosystem, city, nation), value (economy), conceptual content (metaphor, proposition, mathematical equation, personal identity), etc.

The difference between being inert and alive requires additional criteria for the structure: heteronomy vs. autonomy (i.e. dependency on external equilibration vs. self-equilibriability). Heteronomy and autonomy can be combined, or in other words: autonomy can be partial and organized in hierarchies; examples are: having organs regulating sub-equilibria, which one does not control oneself; or the differences between plants, animals, and humans in the structure of sensing and acting, which constitute different types of organs of life. The existential laws of the inert are a subset of the laws of life: also materiality arises and disappears, and should finally be understood in its complete cycle. The ‘intrinsic law of nature’ of a structure, for instance of poultry, is then not being sought in hen or egg, but can be found in hen and egg and rooster etc., including all their drives and moves — in the same sense as a particle in physics is not wave or corpuscle, but wave aspect and corpuscular aspect, through all energy transformations (as any good physicist or chemist understands physical matter), and in the same sense as the economic process is not defined by agents or values, skill or capital, but by agents and values, skill and capital, etc. Situations of 'either-or' never arise from reality per se, but are produced by primal conceptual discontinuities (for example, imposing quantification). In economics the 'Hilbert-Bourbaki' branch (McCloskey [2002]) has proudly 'discovered' complementarity, not noticing that it is being taken in by self-fulfilling prophecies.

The proposed tetradic categorization reveals the 'enveloping' order (complementary to science's 'segmental' laws), which is totally reliable because it determines also the principle of what is ultimately relevant (in processuality: laws and forces). For other perspectives, the structure is analogous; after the double polarization totality is covered and converges in overall order. Hence in this case (laws plus forces) the effects are not dependent any more on which kind of forces is associated with the set of conjugated laws. Having been developed coherently out of one content, the developed categoriality offers not only full intelligibility of the phenomena, but — a surprise for many — also certainty as to the overall balance of its principles (in the case of processuality: containing also any concrete effects).

To give an example: if an economic system operates by forcing nature and humans into disequilibria, in a complete view it is needless to know empirically whether its ill effects will become manifest in conscious reactions (theoretical and practical improvements in economics and the economy), half-conscious movements (such as innovations, elusive moves of the firms or consumers, up to strikes, revolts and revolutions), or fully unconscious events (diseases, nature dying away, etc.). The inevitability of a counter-movement is accessible as certainty. The paths of the effects will be merely longer or shorter, in this case depending on the degree of awareness of the participants. But of course the triads / tetrads can be used for analyzing economic subsystems too. The scarcity of basic awareness is the reason why today most of 'strategy' is in fact merely blown-up tactics — see for instance the remarkably anthropocentric and hence self-limiting debate on sustainability. The crux is always in the foundational ideas.

Systematic attentiveness operates in a categorial system that covers in a homogenous way all existential realms and therefore allows reintegration of all aspects and fragments. By dint of its self-referential universality it fosters an appropriation of whatever subject matter in its completeness, beyond subdivisions like theory vs. practice. In this way, the fulfillment of
self-referentiality — 'listening' to the activity of 'listening' itself — can also blend in, covering the transcendental realm as cultivated in serious religious endeavor.

Systematic attentiveness fulfills the criteria formulated in Kim and Sosa [1995]: the categories resulting from each query perspective are (a) strictly exhaustive and (b) independent of those in other query perspectives. The foundation of systematic attentiveness is not based on any object predication, but on the law of conceptual polarization. In the processual approach, strictly everything is encompassed conceptually as (physical or mental) materiality between 'equilibrium' and 'disequilibriability', 'law' and 'force'; any other desired approach is additionally possible. In the economic domain, the proposed categorial system includes for example thermodynamic change, as made accessible by Georgescu-Roegen [1971], while encompassing also the relevant immaterial changes, which are not approachable physicalistically. Without going into details, the fully processual perspective can be illustrated as follows (Fig. 3).

Fig. 3 The tetradic conceptualization of the socio-economic process

<table>
<thead>
<tr>
<th>principle of 'the eco-social process'</th>
<th>operative in Nature</th>
<th>requiring the Mind for appearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>'form': social action in division of labour (embodiment the law of the economic process)</td>
<td>'intrinsic law' of the continuous economic process: equilibrate needs of human embodiment by means of social embodiment (necessity of using resources for producing goods and of a regulative social agreement)</td>
<td></td>
</tr>
<tr>
<td>'matter': nature of energy-matter (allowing embodiment of the law / plan of any good)</td>
<td>'force' moving the continuous economic process: forces of human beings and machines in thinking and materializing economic process, using Nature's forces</td>
<td></td>
</tr>
<tr>
<td></td>
<td>'possibility of modifying Nature's and Man's force structures' in the aim of producing and using goods to socially equilibrate the needs of human embodiment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>'equilibrium of all forces relevant to economic process': to be durable / sustainable, just as a good is one by being 'static', i.e. stable in its equilibrium of flows, also the overall process must be equilibrated as a whole</td>
<td></td>
</tr>
</tbody>
</table>

Today's theories cannot address totality in ways that can reach beyond perspectivities. This is the case also in economic theory. Its ('neoclassical') mainstream still contents itself with a mechanistic foundation, copying Newtonian physics. But even when taking its most sophisticated alternative as a basis — Georgescu-Roegen's use of thermodynamics, developing thus a foundation for ecological economics and bioeconomics — only subsets of the grand total can become accessible (for example Mayumi / Gowdy [1999], Mayumi [2001]).

Here the query of processuality has been developed as an example; other queries lead correspondingly to other tetrads. In theoretical economics, the process tetrad allows an explanation for instance of the notion of equilibrium in modern mainstream economics, whose position this theory can itself not ascertain in a systematically complete way.

VII. A law of nature that governs all forms of economy

Usually economists say their discipline can not be determined by any law of nature, because their object is completely man-made and thus subject to freedom. But this opinion is naive, because simultaneously the dependency of the eco-social process on nature has the character of law of nature (whence economics gets its blackmail potential) and should thus be understood as such. Freedom is unlimited at first, but reality finally always issues its invoice.
For any economy to arise, nature must be taken up by humans. Nature (resources) is one half; the human act of taking up and setting into value is the other half. None of the two is sufficient in itself; only in their conjunction can an actual economic process arise. The fact that this specific preliminary performance of setting into value carries materially the total 'body' or process of any economy has escaped adequate attention in mainstream economic theory because this performance mirrors an 'essentialist' and totally processual sort of law, which falls thus through the meshes of empiricist's queries and expectations. But having an 'intuitive' hunch of this law is sufficient for taking the initiative by brute force, as global Realpolitik demonstrates.

Absolutely all goods and commodities can be manufactured, and services performed, once the necessary raw material has been set into value. This is essentially an act (i.e not a 'thing') that human beings must perform — which needs to be distinguished from the physiocratic stance whereby nature offers the basic economic value. The mental correlate of this material fact is in having to think. Today the habit is to talk away primal dependencies and acts (as much mental as material ones). It has happened to this one too: theorists are proud to assert that 'the age of digging in the earth for setting up an economy is over'. But even the most enlightened and industrialized economic system is totally dependent on the material 'payments in advance' required for manufacturing all the rest: even the most sophisticated services or manufacturing techniques, the most efficient energy collectors in outer space or on earth, the most fertile greenhouses in the desert, the most sleeky debt-cum-fiat money scheme, or whatever else, can only be materialized under the necessary condition that a fundamental amount of raw material (energy-matter) has been delivered.

On the other hand, fulfilling this condition is also strictly sufficient: in the process seen as a totality, it permits the whole economy to exist and operate — from feeding, clothing and housing through production, distribution, use, communal services (including monetary systems of whatever type), to waste disposal and recycling. Whether this condition is being fulfilled 'externally' in a sustainable way, and 'internally' in tedious toil or satisfying labor, depends on how alienating or holistic the conditions are being made. Only the human organizers can be responsible for this.

The dependency is on principle inevitable. Seen quantitatively and partially, nowadays it may look more and more like 'peanuts' — but in reality, seen as a whole and qualitatively in its principle, it is inalienable. It is perilous to forget that any quantitative determination — i.e. the principle of measurement — depends totally on the necessarily man-made qualitative step of having defined the element of reference (unit or act); forgetting this engenders a blind spot.

In today's discourse there is a certain awareness of this material dependency. It appears in talking about "scarce resources". Yet this does not touch the relevant point in the intrinsic hierarchy of the problem; it rather shifts the attention to a secondary aspect. The idea of resources being 'scarce' is not as primordial as the fact that resources are available at all, in an overall structure that is rather nicely organized by nature; if today's humans were to invent a cosmos, they would by far not fare as well. The idea of 'scarcity' in economics today would be true only if we were compelled to inhabit a barren rock. That idea of 'scarcity' stems from not understanding of the position of human life in the cosmos. The false grandeur in the jargon of many economists is misleading (there is an increasing number of exceptions, for instance Daly [1996, 2001] or Rees [2002]). One merit of the approach fostered by systematic attentiveness is
in affirming the general insight that materiality — whether physical or conceptual — can never be causal as such, but is certainly a necessary condition for life's processes.

The productive act of ensuring the material basis can be called original producing, taking the verb (definitely not the noun!) for emphasizing that the point is not a product, but in the implied law, the dynamic reality of having to do something material first as a basis for enabling then the whole material rest. The result of this first threshold act is a value — moreover a very real one, because it is what very really allows for all the rest, irrespective of any other step in determining, be it qualitative or quantitative. This value is the fundamental form of capital ('that which allows future action') — but no money is required for this value to be operational, or for this law to be valid or to be materialized (whoever dislikes the term 'value' may replace it by 'that which is decisive'). Interestingly enough, this law is fully valid even in a universe made of mental matter only: the necessity to produce at first a set of mental representations, a language, as a real means for future cognitive operations is of the same order (re-cognizing signs as a means for organizing the ever-new process of cognizing). This law governs therefore also any mental economy; the corresponding concept is universally applicable.

All this is not in contradiction with the notions of, for example, capital or labor as used normally today. It merely situates such elements in a systematically more coherent conceptual structure, offering a degree of completeness which today's dominating theory cannot offer. It does not imply any labor theory of value, but merely emphasizes the conceptual relevance of the activity of setting into value.

Political economy is the science of optimal value exchange; original producing is the very first and decisive value. Whether it consists of agricultural toiling in a subsistence society or is embodied in a high-tech affair, in growth or recession, money being involved or not, whether the idea is capitalist or socialist is irrelevant: this law governs all economies. Where there is no division of labor, the whole community must participate in 'physical labor'; where there is division of labor, this merely means that the proportion of people capable of doing something else — for example performing 'mental labor' for facilitating production, increasing productivity, or tending sources, as in education or health care — is carried continuously by the others, who take over their part of the same basic effort that carries the whole community. This processual fact is the 'substance', the fundamental content, of the law of real value. All further ideas of values, as set up by humans — such as property, capital, interest on capital, labor as a commodity, etc. — are of secondary relevance only; they constitute merely an additional layer of imaginary values, superposed over factual reality, the real value. All institutions based on such contingent ideas — including corresponding measures of compensation such as wages, taxes, subsidies, sponsoring, donations, etc. — are always carried by the factual side: original producing. The fact that this activity carries the entire process throws a new light for instance on the questions about a guaranteed minimum income, or of 'free riders'. It also challenges a seeming need of structures for organizing the re-allocation and re-distribution of means (for instance the Tobin tax): first complicating everything, then compensating it in a complicated way, is merely an unnecessary detour, and moreover a very costly one — undertaken, of all things, in the name of raising overall efficiency!

Due to its 'enveloping' quality (as opposed to the sectorial laws that can be found in normal science), the law of real value constitutes a solid basis for determining the real value of money in contrast to intrinsically limited considerations via the domestic product, because the real value of the amount of money circulating in one cycle (for instance a year) is objectively
equal to the amount of resources being set into value in that cycle. Note that the currency unit then ceases to look like a universal value, as the traditional view suggests. Money then is a proportionality factor mediating between a human institution and reality, covering strictly all of the eco-social process. The real value is therefore also a reasonable conceptual basis for considering the compensation of efforts in the socio-economic process; it is independent of, for example, Marxist assumptions, and offers an objective leverage in clarifying the corresponding topics — from wages, remunerations and allowances, also on the executive level, to the 'free rider' problem. Caspar [1996] has developed an approach based on the exposed law, and a more detailed one can be found at www.gemeinsinn.net. Approaches based on this law do not put economists out of work, but offer a basis for developing a generally viable system of valuation.

The real value corresponds in some way to the use value which Adam Smith eliminated as a result of thinking in terms of trade, believing the exchange value reflects adequately all of economic reality. Since the use value varies in the individual case, it is not a helpful concept on that scale, but on the global scale of the eco-social process as a whole — the subject matter of political economy. Believing the value of goods is determined by what the agent is ready to trade in (the imaginary value of 'subjective value theory'), overlooks the real value (use value) that determines existential reality and hence finally also politics. The relevance of this value difference can be seen clearly in the structure of the political discussion — it always purports to go by imaginary value, while in fact the arguments are always secretly fed by the real value. The actual dependency on real value — for instance raw materials, or food — leads to double-faced official reactions: on the one hand proclaiming rules as stipulated by the WTO, on the other hand trying to maintain a protective agenda, or waging wars for resources while not admitting the real motive. There can be no relaxed situation without radical transparency in the value structure. Subjective value theory, offering a one-sided view, can offer no relief.

Some may believe that economics has tackled the relevant point long ago, namely since scholastic thinkers noticed the so-called water / diamond paradox: why is water cheap, while diamonds are expensive? Discussing the solution must take into account that it depends on the perspective. In the conceptual view of scarcity being a decisive factor, the solution is that the utility of a good declines when its available quantity rises; this idea can give rise to respective theories of value. In these, a relative abundance of water looks like the relevant fact. But in this perspective the other fact is not approachable — that scarcity is an imaginary attribution, an 'empirical' law, depending in a contingent way on the type of need, while the 'essentialist' law of dependency on the act of setting resources into (real!) value is forgotten, which is strictly universal, valid for any economy. Thus the solution of traditional economics only seems to be one; it is merely a result of disregarding the methodological hierarchy of validity. What looks in traditional economics like having solved the question of real value vs. imaginary value is finally only a self-deceptive belief. Strictly speaking, there is nothing to insist on.

Others might argue that economics grasped the relevant point in the mid 18th century when Cantillon inaugurated the tradition of circular flow models of the complete economic cycle, with intrinsically regulating elements such as risk-bearing entrepreneurs in competition, which appear thus in economics with a law-like quality. In his model, all variables of the input are ultimately traced back to land as the foundation of the economic cycle. Yet to believe that this encompasses the fundamental law of real value is a way of forgetting that such models grasp only a mixture of values, as they are traded, but cannot even allow the distinction, in the model, of the laws of nature as opposed to man-made laws. In such approaches, the necessary (by nature) and the contingent (by human choice) are not distinguishable. The fact that today's
economics is a science mainly of trade, but barely ever of the complete economic process, and displays little clarity as to the general nature of laws, is still not evident in the theoretical perspective of mainstream economics. Systematic attentiveness allows the realization that even positive economics, which suggests being free of normativity, embodies some powerfully normative streaks, while normative economics, believing to have a sound positive basis, can offer only short-term advice because methodologically it floats in the air.

The fundamental law of real value can of course be talked away for a while, at least as long as consequences of talking it away are bearable — but it can never permanently be done away with. Currently the socio-political situation is set to achieve anything but a grasp of the intrinsic law of real value. Nevertheless, this law will end up by gaining acceptance, by dint of its sheer fundamentality — in the worst case by us having to learn the hard way. The law of mother earth calls us back, *nolens volens*. This law is always operative, but often so strongly covered-up in the debate by details out of superposed imaginary values in the structure of an actual economy, that recognizing the intrinsic law of real value becomes a real feat.

VIII. The 'hot potato': can a fully coercion-free system be materialized?

Having no generally sound methodological foundation has had its effect on discussions of how the eco-social process can socio-economically be organized in truly viable forms of economy. From Schumpeter to Samuelson and far beyond, economists have regularly echoed that for its socio-economic development society has a choice merely between capitalism and socialism — an opinion which for instance a certain 'iron lady' elevated to her creed "There is no alternative (to private capitalism)!" Under the burden of ecological questions, the debate has partly been shifted to an opposition of doomsters versus boomsters (environmentalists versus mainstream economists). Others argue as if the issue ultimately were capitalism versus democracy (for instance Reich [2007]), or the exertion of power in unipolarity versus apolarity (for instance Ferguson [2004]), or the dominant order versus its outcasts and the latter being able to raise their voice (for instance Badiou [2005]). However, as mentioned in Section II, such seemingly fundamental subdivisions offer no firm foundation for a truly fundamental approach. Seeking some 'third way' keeps recurring as a topic, but that debate can become fruitful only where the self-limiting ways of traditional thinking are being overcome — which must look very difficult within it. Specifically in economics, explanations should be more than mathematically detailed descriptions of socio-economic activity. The point is that reasonable eco-social systems do not merely materialize lawlike generalizations of what-is, but embody something normative in deciding what-ought-to-be. Since traditional ways of thinking cannot allow the perception of any objective overall order that would allow a systematic deduction of fundamentally normative elements, they compel postulation of a basic decision concerning the aims or principles to be followed, which can therefore only be (a) of arbitrary character and (b) of anthropocentric origin. Of course arbitrarity can be rationalized towards the most reasonable choice. But all in all, the logical structure is not truly satisfying. The present essay aims at showing that it is not compulsory, because the overall order *does* subsist and is amenable to an understanding (albeit not through traditional approaches); this insight opens a bridge between reality and rational norm. Like all pure forms of order, the overall order too is understandable only by operating in the 'language of intelligibility'. Even where an understanding of totality is only partial, the fact of explicitly having aimed at totality makes subsequent action somewhat more intelligent in the sense of conforming better to totality — in other words imposing somewhat less conflict that is objectively needless. Approaching reality through the 'language of manipulability' — as is still usual in contemporary science — can reveal only specific aspects, because the overall order mirrors the way in which it was approached. It became fashionable to dismiss the objective
overall order as inexistent or inscrutable, but this gesture reveals mainly a self-centeredness and can be maintained only at the cost of a struggle — for example in having to worry about the character of needs, justice, or sustainability.

The traditional view stems from considering reality in terms of independent phenomena and objects, where only a close look can reveal their being interwoven into the whole fabric of the cosmos, and only a close look at the conceptual structures behind the interpretations can reveal how the ideational and the material realm ultimately interact. Both close looks are not popular — generally, also in economics — while conflicts resulting from the neglect indicate their necessity. The traditional view has not decisively been transcended even in the critical forms of economics such as in institutional, ecological, Marxist, or anarchist lines of thought. They all consider for instance the concept of labor — human action for securing the material conditions of existence — mainly in an exterior way (physiology etc.), as an effort that needs recovery for what was sacrificed. The compensations are calculated on this conceptual basis. Wage labor is conceived as submitting one's own labor-power in a labor contract to the authority of an employer for his job's duration — the alternative being unemployment and in the last resort starvation. The wage earner then has the choice between two kinds of sacrifice: the discomfort of a job and the discomfort of being penniless. The meaning of labor is still 'somebody doing something for somebody else, even if the doer does not really approve of having to do it'. What seems to be an objective view (this 'third person perspective') prevailed over what seems to be mere subjectivity (and was confined to the 'first person perspective'). In contrast, by dint of its universal coverage ('first' and 'third' person perspective), the law of real value allows a conceptualization of the compensation of labor without any implication of sacrifice (as demonstrated for instance at www.gemeinsinn.net mentioned above). The conceptual basis of the traditional view cannot provide this degree of non-coercion. The fact that modern techniques and information technology rarely have contributed to a liberation of wage labor from drudgery, but mostly to an even more severe regimentation (as shown for instance in Head [2003]), shows that the crux of the matter is in the ideational foundation, not in the techniques that shape managerial operativeness. The result is a kind of efficiency that grooms executives who groom the system, to the detriment of the lower echelons; the reduction of overall efficiency — by becoming dependent on the conflicts and resource squandering which keep afloat the system for its (self)-limited duration — is only gradually being considered.

The issue finally is whether one chooses to rely on structures in which one believes (one might tag this as 'confessio'), which is ultimately of static character and can thus only be of provisional value, or on a quest for ever wider understanding of totality ('re-ligio'), which is unfettered by presuppositions and hence a dynamically incorruptible principle. The latter path fosters personal integrity — which can as such not yet warrant moral flawlessness, because by pursuing an equilibrium of personal representations it embodies a static aspect, but personal integrity is the best (in the sense of: most efficient) condition for the dynamics of openness as proposed systematically in this essay, since the integral personality is unified in its encounter with the 'other', the unknown, thus encountering and overcoming contradictions more quickly.

The widespread distrust towards the objective overall order — often 'justified' in theories — comes as no surprise when recalling that the prevalent mechanistic view makes it practically impossible to envisage human ways of being — and hence also labor — systematically on the basis of personal integrity. The Hegelian and later Marxist term of alienation addresses the issue, but remains under the spell of object predication. Personal integrity as a foundation for action — with its potential of non-coercive and inherently cooperative forms of organization — cannot become accessible in the traditional perspective,
because personal integrity — a higher form of self-organization than mere personal identity — addresses explicitly the overall order of the person, which exceeds the potential of traditional conceptualizations. The gist of being human is not appreciated adequately in considering humans only as discrete objects that obey some physical laws of mental and material processing.

Thinking beings operate in a self-referential dynamic way, becoming the more rational the more they become aware of their ideational embeddedness, increasingly understanding that understanding is what advances them, because it makes them aware of their conceptual means for directing their own mental processes and physical acts. Of course this process takes place in interaction with the material world, its conducive and its obstructive conditions. The space shaped by humans becomes beneficially cultural — not just civilizational — when the just outlined interconnections become part of the structuring awareness. This inevitably implies the transcendental level — content considered for its own sake, understood as conditions for understanding — since the empirical level can on its own never offer the necessary conceptual linkage on the level of all possible interconnections, or in other words entirety.

The bridge between reality and rational norm arises out of the rationality developed in approaching totality. The structure of what-is, the overall order, is not normative per se; any normativity arises only as an effect of the vectoriality of a guiding idea — desire, fear, hope, objective, query, etc. But as is shown in this essay, being open to the overall order allows for more objective ways of also situating the ideational vectors — which can reach beyond what can be grasped in the usual rationalizations. — An example might be useful. When seeking to formulate the general objectives towards justice, or towards sustainable development, one can investigate the objectively necessary conditions for steering the proper course. Traditional approaches can refer to adequate ways of dealing with facts (for instance with resources), but cannot include simultaneously, in a conceptually homogenous way, the necessary condition of fully adequate theorizing — which would allow one to reach a structure of necessary and sufficient conditions. In contrast, by considering in a 'listening' mode the overall order — in hermeneutic terms: the text and context, the given answers to life (arising phenomena, 'facts') and the motivating thrust behind them (urges, desires) — a bridge between reality and rational normativity can result from the new conceptualization. The theoretical and practical sides of the problem meet in the fact that concepts and representations are simultaneously results of mental action and the means for steering this action. Whichever way one sets out, final effects compel to tackle the whole — in mental materiality or in physical materiality. The two sides are profoundly interrelated — physical materiality in the immediacy of 'actio = reactio', or in features such as nonlocality in the quantum approach, and mental materiality in the need to develop and use conceptually polar oppositions for understanding. The principle of self-referentiality and therefore the dynamism of dialectics cannot be eluded, while the path of ideas is endlessly modifiable. Doing justice to completeness is the path for overcoming the habitual limitation to adultomorphic and often even pathomorphic reasoning.

In contemporary systems, the corrective element for steering the course is supposed to reside in public response — be it among academics (in interdisciplinary work), be it through the public at large (in transdisciplinary procedures). The crux is shifted to the material realm, by postulating capabilities and institutions of deliberation — in other words: social forms of interaction that look like thinking (depending on what one imagines it to be). The basic idea is mirrored in many ways. There is for instance a debate on social capital — an idea going back to Alexis de Tocqueville, Emile Durkheim, and Max Weber, currently represented by authors such as Robert Putnam, Pierre Bourdieu, James Coleman, or Francis Fukujama, in models
ranging from the welfare state (with a more or less passive population) to the activating state (with a strong civil society). In considering the sustainability of development, practically all indicator systems — the Bellagio Principles, systems of the United Nations, of the European Union, etc. —, mention social cohesion as being essential. Already Almond and Verba [1963] had cautioned that "The role of social trust and cooperativeness as a component of the civic culture can not be overemphasized. It is, in a sense, a generalized resource that keeps a democratic polity operating". A topic is therefore the means for (or the style of) getting things done, where for instance Joseph Nye coined the idea of 'soft power' vs. 'hard power' (explicit in [2005]), whose application is not limited to tensions of the bellicose sort. Without wanting to accuse anybody — after all, the mentioned limits are not being imposed malevolently, but arise out of sticking to collectively respectable beliefs — it still might be useful to say that, objectively speaking, deferring problems of systematic (and insofar individual) theorizing to intersubjectivity (and insofar sociality) is a way of escaping responsibility. In particular, a socio-economic theory can become fully-fledged only by seriously considering complete reality.

An explicit formalization, often used for handling the sustainability of procedures and ways of life, is the DPSIR model (Driving Forces > Pressures > State > Impact > Responses). It models self-referential processes. Since the categorial instrumentation of habitual approaches cannot allow for an uncompromising bridge between the material and the immaterial realms, this model is usually applied to energy-matter flows with cyclic aspects. Applying the model to purely ideational processes — for instance in the social domain — could be useful, but must seem problematic as long as the nature of the conceptual means between ideality and materiality is not adequately grasped in theory. Then a response loop must look — as just mentioned — like requiring social learning in some 'procedural sustainability', because 'substantial sustainability' (based on securely fundamental knowledge) is believed to be impossible. As 'systematic attentiveness' shows, this belief must arise in 'normal science', but is not reliable due to a limited understanding of the conceptual problems at its basis, which imposes a meander of trial-and-error in the cognitive steps. The horizon can open up under the conceptual conditions offered by 'systematic attentiveness', as it allows a clarification in a universal way of the dynamics of self-referentiality by linking objectively fruitful categorial structures to the respective content vector of foundational interest. In 'systematic attentiveness' it is easy to acknowledge theoretically that conceptual means are just as much material elements as other goods and commodities; they are merely being operative on another level of the resulting structure. This is especially useful in a practical situation that unnecessarily complicates the trial-and-error meander, namely where power play — often habitual — attempts to direct a discourse by imposing the categorial terms, frequently succeeding precisely because the materiality of the conceptual means is not part of the debated topics. The really immaterial elements are not the categorial concepts, as is often believed ('abstract objects'), but the pure forms of order to which they refer, and the mental acts which produce the categorial concepts.

Debates are determined by the concepts within which they are allowed to unravel. The fundamental questions are of a methodological order, whoever the actors may be, while crucial concepts are not determined by the public at large — except where massive problems arose, which can lead to a public outcry. Quite generally, the epistemological problems and the laws of logic are the same for the public at large, for a scientist, or for a philosopher, and only a difference in the used concepts in dealing with questions will lead to differences in approach. The question is whether one can agree on the shared subject matter — think for instance of the different ways of conceptualizing justice, or the political domain. Any secure material realization of coercion-free systems depends first on the possibility of thinking theoretically the
respective realms — as phenomena and their conceptualization — in a coercion-free way, or in other words in a way that is theoretically uncompromising in the sense of being able to include also the thinker's own activity in the respective perspective or theory. Any attempt at materializing an idea that does not fulfill this criterion is sure to entail uncertainties and hence tensions that will not be solvable by the means offered within that view or theory. This is the epistemological and logical point of the approach presented in this essay. It is interesting that truth — the adequacy of a view — represents non-coercion.

Some might still be puzzled by the fact, mentioned in Section V, that on the ontological level the utterly decisive elements of reality — for instance in a process view: laws and forces — are not observable in any way, they appear only in results and can be grasped only by means of adequate mental activity, while they ultimately determine the structure of reality, being part of it. Where intelligibility is truly aimed at, this level of reality needs therefore to be conceived. The endeavor will always require fundamental concepts that are totally abstract, but which cannot fully be achieved in any object orientation (including mental objects) because that path is compelled to get lost in details, it can never really reach totality.

What kind of ontology follows from this insight? We propose an ontology of movement. Here this does not only mean movement as moved 'things' as in the traditional view, which then is compelled to veer generally between 'corpuscular' and 'relational' approaches — with a 'functional' branch combining some aspects of the two sides — in the hope of being able to encompass every kind of 'things'. In contrast, movement here addresses already the level of what thinking needs for intelligibility as such — for instance in a processual view: the laws and forces. The corresponding categorial structure is on the level of the 'origins' (arché) with their 'double face', useful in an epistemic approach for finding the ratio cognoscendi of things, and in an ontic approach for discovering the ratio essendi, i.e. how reality is organized (see Section V).

There is the set of intrinsic laws in the universe, the ways of being of all the beings — inert (determined from outside: mechanisms) and alive (self-determined to their degree by their desire: organisms), which above has been called the 'order of being'. And there is the resulting pattern of movements, the 'order of life'. To live is to move, finally in self-referential ways — self-directing the body, self-controlling mental moves, self-referring for assessing meanings, etc. This is possible on an immaterial level too. Beings who have made themselves capable of fully self-regulating the content in all their mental life towards its equilibrium are independent of gross materiality. They can 'carry themselves'. An immaterial existence is thus possible on principle, but not easy in full freedom. The mind is a model of life on one level, organic bodies are models on a second level, and the material matrix of the universe is a model on a third level.

Finally all 'things' are constituted by movement, which can phenomenally appear on the 'material' level and whose constitutive character is accessible on the 'immaterial' level, where thinking beings can participate by thinking the respective content. In the long run they produce their disposition by their way of dealing with the mind and its instrumentation. Different ways are reflected in styles of theories, paradigms, and ways of life. The more an empirical scientific approach to these phenomena interconnects the details, the more it must acknowledge that humans at the outset of conscious life, infants, develop meaning from wholeness to its parts or aspects (for example Stern [1992], Dornes [2001]). This research confirms the relevance of the universally applicable categoriality achieved in systematic attentiveness: the psychic and material movements of neonates and infants follow precisely these categories in interplay with their
environment; this reveals their truly categorial status, which adultomorphic reasoning can never attain. Besides, new human life is extremely sensitive. A fussy environment diverts babies from their integrity — and they lovingly adapt themselves to the treatment, often to the point of becoming convinced that interfering is the only real way of life. As adults such persons are unable to do anything else but intervene all the time, without ever wanting to find authenticity. These facts are well-known in psychology and psychoanalysis. Beyond that, authors such as Liedloff [1986], Donaldson [1993], or Field [2003, 2006] — investigating fields that 'normal science' must tend to neglect, due to its basic beliefs — offer solid insights on the constitutive level into the dynamics of touch and the dynamics of fear: insensitive touch induces fears, which in turn give rise to compensatory aggression. Infants growing up in a regime of non-coercion develop a robust constructiveness in relationships. Non-coercion does not mean having to adapt to their whims, but responding adequately to their intense relational needs. Even though this level of reality escapes habitual awareness, it determines much more than the widely debated normative elements whether the future adult interaction will have a tendency to produce more 'tame' situations (in which solutions can be found) or more 'wicked' ones (where any attempt at a solution produces new problems) — a distinction coined by Horst Rittel and Melvin Webber [1973] for planning issues —, thereby making the development of a social structure sustainable or temperamental. Being profoundly adequate to infant development is concretely the most efficient path because it avoids the merely corrective influence of ethics and morals, for instead handling competently the dynamic reality of the full cycle of being human (in a corrective view it appears as preventive). At rock bottom, the best 'oil in the social gearbox' is and remains the capacity to sense and think fully oneself — the competence that allows nonconflictual autonomy on all levels.

For integrating all levels of reality, Ken Wilber presents since [1977] an approach that became quite fashionable. Especially in pragmatic issues it is certainly a lot better than what mainstream thinking can offer. But, in spite of its 'comparative advantage' over competitors today, it is not suitable as a general theoretical foundation or methodological basis, because it is not uncompromising on principle. It remains essentially in the descriptive mode, applying this in its four quadrants which cover at first sight everything, including levels of reality that elude other approaches. Yet the relations between the four aspects remain insufficiently grasped, as the objective of Wilber's approach is not to discover the nature of categoriality as such, but to paint a picture in as much detail as possible of what meets consciousness. Insofar, some crucial elements of the overall order elude also Wilber's attempt at a complete grasp. Of course this does not exclude his formulating his 'Theory of Everything', according to his view — but this does not constitute a proof of strict completeness as such, it is only one more picture.

In a secure overview of the immaterial and the material domains, the endeavor towards freedom from coercion has better prospects than mainstream theory allows an understanding of, whose representatives will be surprised that the real solution is not where they expect it. As outlined in this essay, it is possible to develop a conceptual foundation that bridges homogenously the dualities that arise at the end of the line in any predicative mode. The nature of the individual and the collective as well as their interrelation can be approached in a conceptually more homogenous way than mainstream theorizing can offer.

A useful first step is to distinguish tactical and strategic endeavors while acknowledging that the quality of the former always depends on the latter. While some practical decisions may have to be taken pragmatically ('tactical level'), it is reasonable to limit these to the minimum, pursuing simultaneously ('strategic level') the necessary investigations
for assessing uncompromisingly the methodological foundation. In this essay, the fundamental second level is the one mainly being attended to, by outlining a path on which interdisciplinary endeavors can become uncompromising by using (or if necessary developing) a homogenous conceptual framework across all activities, quests and disciplines. The tactical aspect is considered too, insofar as the necessity for transdisciplinary endeavors, namely the intelligibility of the quest in a subject matter and the procedural terms, can become more easily tractable than in the specialized terminologies. In particular, the fundamentally relevant tenet of our proposal — to 'listen' to the subject matter instead of prematurely 'talking' into it — is understandable by any thinking being, fostering thus any desired degree of transdisciplinarity.

References


