

--- WORKING NOTES ---

The Blind Elephant. A Reply to Claudio Gnoli's Comments

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I am very pleased that my paper *The Blind Men and the Elephant* (Kleineberg 2013a) has found such a friendly response, and I would like to take the opportunity to discuss some of Claudio Gnoli's (2013) comments in more detail.¹ In these continuing working notes, my focus will be on three main issues, namely, on the concept of phenomenon (1), on modeling levels of being (2), and on the relevance of levels of knowing for knowledge organization (3). Furthermore, I will present a selected bibliography on the proposed concept of Integrative Levels of Knowing (ILK) (4), which might hopefully inspire some further discussion.

(1) What is a phenomenon?

Information Coding Classification

First of all, I have to thank Gnoli for the clarification that Dahlberg's Information Coding Classification (ICC) is neither directly influenced by the Classification Research Group nor a genuine phenomena-based knowledge organization system (KOS) since it uses rather subject fields as basic units. The reason why I have subsumed the ICC as a *phenomena-based* KOS (in opposition to a *discipline-based* KOS) is because its subject fields appear merely as a secondary derivation from the combination of nine levels of being and nine general form categories, whereas the former are derived primarily from "objects of being" (Dahlberg 2008, 163)—a concept commonly referred to as phenomena. As I understand it, this reference to ontic structures is actually Dahlberg's argument to overcome the handicap of discipline-based classifications. In any case, there would be few doubts to consider ICC as a classification-as-ontology instead a classification-as-epistemology.

León Manifesto

In more general terms, the classification-as-ontology approach finds its programmatic expression in the *León Manifesto*, particularly, in the following statement with regard to the Integrative Levels Classification (ISKO 2007, 8):

Its unities of classification are phenomena, considered as neutral objects of knowledge, independent from any approach or viewpoint by which they can be treated.

¹ For these and further working notes see: <<http://www.iskoi.org/ilc/elephant.php>>.

In the light of recent theory of knowledge, such a “neutral” approach seems to be hopelessly outdated. There is a large agreement about three succeeding main paradigms in the history of philosophy, beginning with a paradigm of ontology (prevailing in ancient and medieval times), followed by a paradigm of epistemology (e.g., Descartes, Kant, Hegel), leading to a paradigm of language (e.g., Wittgenstein, Heidegger, Gadamer, Foucault, Derrida). In other words, pure ontological approaches which seek to describe the structure of reality in terms of “neutral” phenomena are left behind centuries ago and would appear as a kind of anachronism today.

Since I share some major goals with the *León Manifesto*—such as the development of an inter- or transdisciplinary KOS based on phenomena and the organizing principle of integrative levels, a comprehensive organization of different viewpoints and methods, or the maintenance of a universal scope with regard to human knowledge—a main purpose of my paper was to “update”, as Gnoli writes, the underlying metatheoretical assumptions towards a more “postmodernist” (or even “post-postmodernist”) approach.

According to Gnoli, the *León Manifesto* acknowledges an important role for the epistemological dimension in knowledge organization (KO). While this is true for the practical purpose of organizing different viewpoints or methods as facets, it seems still not sufficient to make the underlying metatheoretical assumptions acceptable for the interdisciplinary scientific community (or at least for the “postmodernist” camp in KO research). In this regard, I agree with Gnoli that the crucial question is whether or not perspectives can be separated from phenomena.

Phenomena versus perspectives?

Unmistakably, Gnoli believes that it is possible to separate phenomena from perspectives, although, his comments seem somewhat ambiguous on that point:

I acknowledge that KO can only start from phenomena, that is, from the part of reality to which we currently have access through our senses, tools etc. [...] I agree that our phenomena are the result of both the resistance of reality and our epistemological means (our “theories”, in Popper’s terms): so there is a feedback circle between phenomena and perspectives.

In this statement the concept of phenomenon seems to be used in two different ways. The first meaning would be in line with my own concept of phenomenon as a combined ontology (“resistance of reality”) and epistemology (“our epistemological means”). But once such a *constructive realism*, as I would call it, is adopted, there simply is no way back to a separation of “phenomena and perspectives” (for a quite similar approach see [Mazzocchi 2013](#)). The second meaning underlying such a separation might be termed the “naked phenomenon” considered as an isolated and self-sufficient entity, as if a pre-given world out there would wait to be received by knowing subjects.

Today, there is a large agreement in the philosophy of science that the world is not simply perceived but constructed by knowing subjects. For example, Luciano Floridi ([2011, 47](#))—another important level theorist in the field of information studies—follows the common distinction between “ontological levelism” versus “epistemological levelism” but emphasizes that the former approach at least in its pure form seems to be untenable. Floridi ([2011, 41](#)) writes:

Many approaches seem to be ontologically over-committed. Instead of empirical affordance and constraints to be designed, they assume a world already well-modeled, ready to be discovered.

In other words, human knowledge appears less as a “discovery” than as a “construction”. The constitution of these constructions (or more precisely: co-constructions) depends, as Gnoli and I agree, on both the “resistance of reality” as well as “our epistemological means”. But following Søren Brier (2008, 233), it makes an important difference to accept a resisting “outside reality”—an assumption denied only by a deluded solipsist—or to accept an “objective reality” respectively a reality in itself, as assumed by the old-fashioned mirror metaphor of human knowledge. This is why Floridi (2011, 75) would rather speak of a “realism without descriptivism”.

Of course, elephants exist independently from human observers, but who could say what an elephant in itself would be like? Even an elephant could not tell. The elephant in itself is unqualifiable unless a knowing subject (not necessarily a human being) will co-construct it according to the underlying epistemic framework of this specific knowing subject. Therefore, Charles S. Peirce argues to abandon Kant’s concept of a “thing in itself” since there are only signs in an unlimited semiosis, only signs about something for someone, that is all. If we avoid the assumption of a view from nowhere or a god’s eye perspective, then the concept of a “naked phenomenon” would be absurd since there is always a semiotic distance, as Peirce put it, between the knower and the known. This inevitable perspectivism seems to be one of the most important insights from the various postmodern theories of knowledge, and I think we should not fall behind this level of reflection.

My point here is that we should not confuse the two meanings of the phenomenon concept. If Gnoli acknowledges that phenomena are an “aposteriori result of a long collective effort” (first meaning), then I do not see how these phenomena can be separated from this effort (second meaning). I believe they cannot. Furthermore, Gnoli’s claim, “Saying that there is no knowledge of elephants independent from senses and theories is not the same as saying that there are no elephants independent from senses and theories” depends on metatheoretical assumptions chosen in the first place. While this claim might be true from the perspective of radical emergentism (the assumption that knowing subjects jump suddenly into a preexisting world), it does not hold for a panpsychist point of view (the assumption that knowing subjects are there from the very beginning) as long as we adopt a broad meaning of “senses and theories” referring to interiority as such, a first-person-perspective assigned to all beings even to atoms or to whatever lower levels there might be.

Admittedly, to embrace panpsychism is usually held up for ridicule, as Poli suggests, but the increasing literature on panpsychist theories (Jantsch 1980; Chalmers 1996; Wilber 2000a; Skrbina 2005; Strawson 2006; Brier 2008)—which by the way differs enormously—has reached an academic maturity that we should at least take panpsychism as serious as any other reasonable contribution to the discourse of ontological and epistemological issues. This is recently the case, for example, in an ongoing debate between Ken Wilber (2012) and Roy Bhaskar (2012) in which *integral theory* based on a kind of panpsychism with a strictly combined ontology and epistemology meets *critical realism* based on an ontological grounding of any epistemology. I suppose that critical realism as one of the most sophisticated theories of knowledge comes very close to Gnoli’s approach, and that such a dialogue might be rewarding for both parties.

But even if we assume a reality in itself independent of any knowing subject, or the notion of an elephant in itself as a perspectiveless “naked phenomenon”, such a conception would be completely meaningless for KO, as Gnoli seems to agree, since we cannot refer to something we do not know in any way. If Gnoli concedes that the only reference for phenomena-based KOSs are phenomena considered as “the result of both the resistance of reality and our epistemological means”, then it would be self-contradicting to claim that we can refer to the “notion of phenomena as such”. Of

course, for the purpose of analysis we can distinguish phenomena from perspectives, and we can also refer to phenomena as basic units of our KOSs as long as we know what we are doing, as long as we consider these phenomena not as “neutral” but as “our” or “their” phenomena co-constructed in a particular point in time and space by a particular epistemic framework or perspective.

The crucial point is, if epistemological frameworks change (which seems not to be in question here), then the co-constructions of reality change too. In other words, what appears as one and the same object (e.g., an elephant) might be better described as different phenomena, or following Esbjörn-Hargens (2010a) as a “multiple object”. It resembles a bit of Kant’s Copernican revolution when Esbjörn-Hargens and Zimmerman (2009, 179) write, “Real objects are not seen from a perspective—they are within that perspective”. As a consequence, the one is not separable from the other. Therefore, I argue that knowledge organization research is in need of an adequate classification of such perspectives.

Dimensions in knowledge organization

As a point of departure for such a context-sensitive classification, Gnoli proposes an analytical tool of six dimensions in KO. While I can clearly see the practical advantage offered by that proposal, I have some reservations with regard to the way the ontic and epistemic dimensions are modeled. For the purpose of analysis, I would accept the α dimension as an unqualified reality and agree that our KOSs cannot rely directly on this dimension (which I would term the ontic dimension). Likewise, I would accept the γ dimension of perspectives which describes the epistemological frameworks of knowing subjects.

But as Gnoli rightly suggests, I differ on how to treat the β dimension of phenomena. In my view, there simply is no further dimension. The phenomena placed here, I would rather consider as the immediate result from the α dimension and γ dimension, from the “resistant reality” and “our epistemological means”. Taking it the other way around, we could also say that there is only the β dimension, there are only phenomena co-constructed by knowing subjects investigating reality. In both cases the result would be the same, a combined and inextricably interwoven ontology and epistemology. Therefore, any strict separation between perspectives (γ dimension) and isolated “naked phenomena” (β dimension) would be a backslide into the anachronistic paradigm of ontology which we should attempt to overcome.

Again, I insist that our metatheoretical assumptions should be up-to-date, otherwise we could not defend ourselves in the face of the broad scientific community we seek to serve with our KOSs. I believe, indeed, this is not an unsolvable task. A reasonable point of departure for doing this seems already acknowledged by Gnoli (2012, 270) when he writes:

Of course, the ways in which reality is analyzed into distinct concepts depend on the current advancement of knowledge [...]. Even the ontic dimension of knowledge depends both on reality and on theories about it (Popper 1972). The extent at which theories determine concepts is widely debated in philosophy. Still, given a certain stage of development in knowledge, phenomena can be conceived as entities separate from the ways to study them.

I largely agree. But let us note that this is not any longer a pure ontological approach. In the long run, the ontic dimension would be grounded in the epistemic dimension, or as Gnoli writes, in a “certain stage of development in knowledge”. As I stressed in my paper, the historical development of human

knowledge is not a cumulative process but involves rather unpredictable changes of our epistemic frameworks. Therefore, our own ways to define and to classify the phenomena of the β dimension are relative to our own historically situated epistemic frameworks. This is quite another position as proclaimed by the *León Manifesto*.

Horizontal versus vertical change of perspectives

A possible source of misunderstanding might be the undifferentiated concept of “perspective”, respectively “viewpoint”, “epistemic framework”, or “context”. As I argued in my paper, there are weak and strong notions of contextuality as well as weak and strong notions of the relationship between different perspectives. It might be useful to highlight this point more clearly.

An example given by Gnoli (2012, 270) seems to be instructive when the phenomenon “stars” is considered as a neutral entity which might be seen likewise from different perspectives such as Western astronomy or Arabian astrology. But according to Thomas S. Kuhn, we have to acknowledge the divergence between underlying epistemic frameworks respectively paradigms (one of his own examples is about the concept of “planet” in geocentric versus heliocentric theories), and we should be aware of their possible incommensurabilities. To be incommensurable means to have no common measure or to compare apples with oranges. Likewise, “stars” for an Arabian astrologer seem not to be the same phenomenon as “stars” for a Western astronomer since both worldviews are simply incommensurable (which is not the same as to claim that any translation or mutual understanding would be impossible). In terms of levels of knowing, this example seems to indicate the difference between a magic mode of thought (preoperational cognition in Piaget’s terms) and a more rational mode of thought (operational cognition in Piaget’s terms), although sometimes these levels of knowing might overlap in the worldview of a single person (precisely because levels of knowing are integrative in nature).

In the study of the historical change of worldviews, Habermas following Piaget’s developmental structuralism emphasizes the distinction between *content* versus *structure* of consciousness, a distinction reflected by Wilber as *surface* versus *deep* features of consciousness. While the content or the surface features are very specific and highly influenced by culture or the actual context, the structure or the deep features refer to a more stable pattern such as the underlying mode of thinking, type of rationality, or cognitive competence. Both content as well as structure can change over time. While the surface features change any time new information is obtained or a new aspect is taken into account, a change—if at all—of the underlying deep features might be a matter of centuries. But once the underlying structure of consciousness has changed (as in the so-called “axial age”, for example), the whole worldview will be completely different. This fundamental shift of perspectives is what makes them incommensurable.

Therefore, I would like to introduce the distinction between *horizontal* versus *vertical* change of perspectives. While the former indicates a change (or horizontal translation in Wilber’s terms) within a given level of knowing, the latter indicates a change (or vertical transformation in Wilber’s terms) between lower and higher levels of knowing. My general impression is that Gnoli mostly refers to “perspectives” in terms of horizontal change, whereas my proposed concept of Integrative Levels of Knowing (ILK) refers to the vertical change of perspectives.

Of course, within the same culture or discourse community perspectives might differ from one person to another but these rather horizontal differences would still remain commensurable since the overall background assumptions are roughly the same. For example, there should be no

unbridgeable gaps between the viewpoints of a physicist, a chemist, or a biologist with regard to an elephant—literally as well as metaphorically. These different perspectives seem mostly associated with the WHAT of knowledge or the particular aspect of an object. This is why our scientific worldview is able to integrate physics, chemistry, and biology into one big picture, at least in a fairly well way without serious contradictions.

Maybe this is what Gnoli has in mind when he argues that we can separate phenomena and perspectives. And for the particular case of horizontal changes of perspectives, that will be fine. But as I concluded in my paper, from a broad historical and intercultural point of view such an ahistorical “big picture” is actually a very limited notion of the elephant as a metaphor for reality since all perspectives are only considered in their content or surface features. As a consequence, such a static kind of a “big picture” would be relative to a specific level of knowing, it would absolutize its own epistemic framework without acknowledging this bias.

This crucial point is already emphasized by Piaget. According to his developmental theory of knowledge, we have to distinguish between a *specific* and a *general* genetic epistemology. In his monumental work *Introduction à l'Épistémologie Génétique* published in 1950—unfortunately not yet translated into English—Piaget (1975, Vol. I: 49-50; my translation from a German edition, M.K.) writes:

We call every psychogenetic or historico-critical investigation of the development of knowing as special genetic epistemology, if it is based on a reference system which is given by the momentary state of knowledge. In contrast, we speak of a general genetic epistemology, if the reference system itself is included in the genetic or historical process which one might study.

To illustrate the ontological implications of such a general genetic epistemology more clearly, I would like to quote the following passage at length (Piaget 1975, Vol. I: 50):

However, the inclusion of the current state of knowledge in the genetic process leads not only to a consideration of each truth, even of the truth accepted today (including the fundamental logical truths), as relative to a specific developmental level of thought, but it also avoids to anticipate the relation between the subject and the object. From the special epistemology's point of view, the problem is not so decisive since the study of the subject's activity and cognition is based on the assumption of an objective and stable outside reality, as described by the current state of science. But from the perspective of the general genetic epistemology such a reality does not exist any longer. Just as the structure of the knowing subject develops constantly within psychogenesis, this structure [of the known object, M.K.] might continue to develop endlessly as well. In this evolution, however, the supposed objective reality appears under permanently changing aspects which means that some of its so-called objective features are subjective conditions, and that reality might continue to change for later modes of thought.

Thus I would suggest that the crucial difference is that Gnoli's approach is based on a fixed and stable reference system, whereas I argue to acknowledge the temporary state of any reference system. Both approaches seem to be legitimate for the construction of KOSs but I would like to stress the fact that any truly universal KOS has to integrate both horizontal and vertical changes of perspectives,

and this task requires the acknowledgement of one's own historically situated perspective since development is an open process.

In summary, as a first step to "postmodernize" our metatheories of phenomena-based KO we have to acknowledge that what we regard as phenomena depends heavily on our epistemic framework, and that a "neutral phenomenon" would be a contradiction in terms. Since there is no fixed and stable reference system, we have to adopt perspectivism. Therefore, we should make our own perspectives explicit and relate them to others. In my paper, I have tried to do so in discussing premodern, modern, and postmodern perspectives on knowledge organization while arguing from a post-postmodern perspective (at least according to the adopted level theory of knowledge which, of course, is not unchallenged).

But before we discuss these levels of knowing in more detail, I would like to have a closer look on modeling levels of being. Although my proposed concept of phenomenon is based on a combined ontology and epistemology, it seems still useful to consider levels of being and levels of knowing in separate sections as long as we keep in mind that both kinds of level models remain our very own co-constructions.

(2) Levels of being

In defense of the AQAL model

Another major interest Gnoli and I share is an adequate modeling of levels of being respectively levels of reality. My overall impression is that this is still an open task. As a point of departure, Gnoli prefers Nicolai Hartmann's level theory, whereas I myself prefer Ken Wilber's. Therefore, it might be worthwhile to have a closer look on both approaches and the crucial differences between them. I should emphasize, however, that my proposed concept of Integrative Levels of Knowing does in no way depend on the AQAL model. Nevertheless, I would like to stress some points in order to defend this co-evolutionary approach—not alone for aesthetic reasons but for logical ones as well.

First of all, I have to admit that I appreciate Hartmann's "new ontology" in many ways, in particular, his non-reductionist approach that attributes an ontological status not merely to material phenomena but also to mind or consciousness phenomena as a "being of the spirit" (Hartmann 1953, 24). Besides the legitimate rejection of a metaphysical "world of essences" (Hartmann 1953, 7), this is actually the "new" part in his ontology contrasted with former pure materialist or pure idealist approaches maintaining that either matter or mind is the only "real stuff".

Taking that for granted, the big question is how does spirit respectively mind or consciousness has come into being. This question suggests two possible answers. The first one would assume that, at a certain point in time, consciousness in a broad sense of qualia, inner life, interiority, or first-person-perspective has been jumped into existence as a radical emergent phenomenon, as "something absolutely new, a categorial novelty" (Hartmann 1953, 74). In contrast, the second answer would assume that consciousness as an ontological category was there from the very beginning. While Hartmann seems to prefer the former answer related to a strong or radical kind of *emergentism*, Wilber definitely favors the latter answer in adopting a specific kind of *panpsychism*.

I suppose we simply do not know (and maybe we cannot know at all) how consciousness has come into existence, but at the same time we have to make explicitly or implicitly assumptions about this issue in our ontological theories. My point is that some of these assumptions appear as mere

speculations, and I see no reason why we should not attempt alternative solutions as long as they do not contradict the evidence available.

According to Hartmann (1953, 51), ontological theories have to deal at least with two main tasks, namely, with a “categorial analysis” and an “analysis of the strata”. The “categorial analysis” aims to identify the categorial differences of ontological realms such as matter, life, or mind; whereas the “analysis of the strata” investigates how these ontological realms are interrelated. In the following, I argue that Hartmann and Wilber come to quite similar results with regard to the first task, but differ essentially with regard to the second task of interrelating the ontological realms.

While Hartmann and many others argue for a linear but not necessarily integrative sequence of levels such as matter–life–psyche–spirit, Wilber proposes a co-evolutionary quadrant model with a truly integrative sequence of levels as shown in Figure 1. The concentric circles depict three main levels as physiosphere (e.g., atoms, molecules), biosphere (e.g., cells, organisms), and noosphere (e.g., human beings) co-evolving in four categorially different quadrants of subjective, objective, intersubjective and interobjective phenomena. Admittedly, Wilber’s re-organization of the ontological realms is in strong opposition to present main stream views but this fact alone is not yet a compelling argument against it. In fact, most level theorists would concede that virtually all models with a linear level sequence are challenged by some inconsistencies and open problems. At least some of these problems are addressed by the AQAL model, so it might be rewarding to reconsider our usual way of thinking.

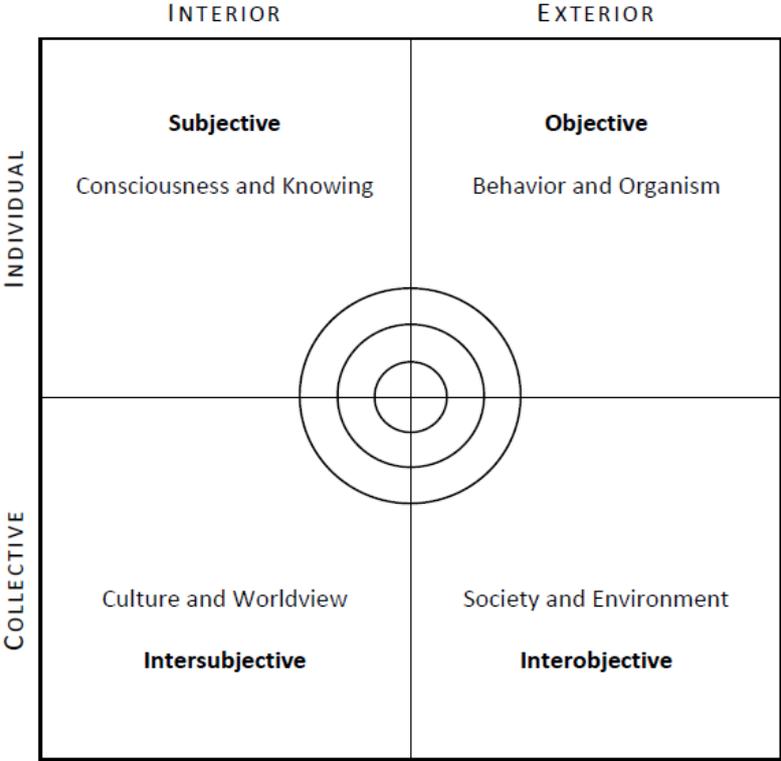


Figure 1. Physiosphere, biosphere, and noosphere (AQAL)

Cartesian and non-Cartesian dichotomies

In order to avoid misunderstanding, I would like to address Gnoli's notion of the AQAL model as a "Cartesian system". At first glance, the distinction made in the AQAL model between *interior* phenomena as the inner world of sensations, perceptions or thoughts versus *exterior* phenomena as the outer world of spatial and material things resembles the Cartesian dichotomy between *res cogitans* and *res extensa*. This distinction is well-known as the matter-mind problem or the body-soul problem. Certainly, there is nothing exclusive about the AQAL model recognizing this dichotomy, so do many others including Hartmann (1953, 44):

At this point we need not scruple simply to accept the Cartesian dichotomy of the world into *cogitatio* and *extensio*. This division is intended to determine a categorial difference of regions. Not only are "soul and body" here placed in contrast to each other, but a non-spatial inner world, intelligible to consciousness with its multiplicity of contents and acts, is opposed to the spatial outer world. By their whole mode of being these two realms are different and, therefore, do not gradually shade off into one another.

But for Descartes the realm of *res cogitans* is considered as god-given and strictly limited to human beings, whereas animals are seen as mere automata. In contrast, the AQAL model depicts a whole level sequence of interior phenomena ranging from human beings to higher and lower animals and even further down the evolutionary path to more and more vague forms of interiority. At this point, let us note that the Cartesian non-evolutionary approach to consciousness with privileged human beings as the only species possessing interiority at all seems quite arbitrary for us today. Furthermore, Descartes had to assume an ontological dualism of two different kinds of substances which must somehow exist separately in human beings, as Hartmann (1953, 25) points out:

In this dichotomy the true and the untrue are disastrously confused. It is true that spatiality and materiality separate the two worlds of being from each other, but the idea of man as an entity composed of two heterogeneous substances has shown itself to be erroneous. The human being as a whole is much of an indivisible unity.

Accordingly, within the AQAL model the upper left quadrant (interior-individual) and the upper right quadrant (exterior-individual) are considered as both irreducible to each other and at the same time as an inextricably interwoven unity. There is no strict dualism but rather a dual-aspect monism (for a detailed discussion see Skrbina 2005) largely in line with Hartmann's (1953, 121) „indivisible unity of the two given spheres, the inner and the outer aspects“. From the perspective of the AQAL model, this unity is assumed not only for the human level but for the animal level as well, and even for further levels all the way down. As Wilber put it, every exterior has its interior.

Incidentally, the whole issue of Cartesian dichotomy can also be considered in terms of levels of knowing. For example, within premodern magic or mythic levels of knowing, there would hardly be a conscious distinction between the known object and the knowing subject since there would not appear a clear concept of the self. This could be developed at first within a rational level of knowing (formal operational cognition in Piaget's terms). Historically, this has been the case in early modernity (with some precursors in the ancient schools of skepticism), in particular, with the Cartesian philosophy itself. Furthermore, within a postformal level of knowing the differentiated realms of exterior and interior phenomena as well as their respective validity spheres might be integrated into a bigger whole such as Hartmann's "indivisible unity" or Wilber's centauric worldview structure. Following Erik Erikson, Wilber's term "centauric" refers to the mythic figure, which is half

animal and half human being, as a metaphor for an integration of body and soul (as opposed to the undifferentiated “unity” within magic or mythic levels of knowing as well as to the non-united dualism within a rational or formal operational level of knowing).

While the Cartesian philosophy might be seen as a historical turning point in early modernity from a paradigm of ontology to a paradigm of epistemology, the following turning point in early postmodernity from a paradigm of epistemology to a paradigm of language is completely missing in “Cartesian systems”, whereas the lower quadrants in the AQAL model indicate that every knowing subject is context-situated in a given society and culture (e.g., language) at a particular point in time and space. In other words, integral theory underlying the AQAL model does in fact acknowledge important insights from the Cartesian philosophy but seek to integrate these partial truths into a somewhat bigger picture.

On choosing coordinates

Gnoli legitimately asks what is the principle leading to choose the two coordinates of the AQAL quadrant model, namely, the *interior/exterior* distinction as well as the *individual/collective* distinction. I would say the principle leading to these major ontological distinctions is the very same as applied by Hartmann: categorial analysis. In fact, the decisive results of Hartmann’s investigation are exactly the same two categorial distinctions. On the one hand, Hartmann (1953, 79) identifies a “psychophysical border line” that leads to the *interior/exterior* distinction as discussed above. On the other hand, Hartmann (1953, 79) finds “another border line of a similar type” that leads to the *individual/collective* distinction. Hartmann (1953, 80) continues:

It runs straight through the kingdom of the spirit and separates the personal spirit from the objective spirit. For the historical life of the objective spirit does not consist of psychic acts but only “rests” on them as on its ontological foundation. Speech, legal order, custom, morality, and science are more than parts of a consciousness. The individual receives them from the common spiritual sphere of which he becomes a participant, and then hands them on. He contributes his share to their total historical process, but he does not create for himself his own speech, morality, or science. Correspondingly, the spiritual world does not form the content of a superpersonal consciousness as is believed by some metaphysical theories.

For the sake of terminology, let us note that Hartmann’s “objective” spirit (quite similar to Popper’s “objective” knowledge, as noted by Rudd 1983) refers merely to a superindividual or transsubjective phenomenon and not to an exterior entity or objective phenomenon as such. Thus it might be better termed as “intersubjective” spirit (respectively “intersubjective” knowledge). In other words, the Hegelian term “objective spirit” is simply another word for “culture” or “intersubjectivity” or “collective consciousness”, and as such it is indeed irreducible to the personal spirit as the consciousness of an individual.

In connection to the “categorial analysis” as the first task of ontological theories, Hartmann and Wilber seem indeed to identify the same two major categorial distinctions. At least in this respect, both approaches do not yet contradict each other. Of course, there remain important differences, particularly, in defining the boundaries and interrelations of the different ontological realms but this is already related to the second task of the “analysis of the strata” and seems rather subordinated, as Hartmann (1953, 47) suggests:

The drawing of a boundary is, after all, not as ontologically important as is the discovery of the special nature of the strata themselves.

By now let us note that Hartmann considers both the *first border line* between interior/exterior as well as the *second border line* between individual/collective as even more important as the other categorial distinctions, for example, between “matter” and “life”, or between “psyche” and “spirit”. In fact, these two border lines force Hartmann (1953, 79) to invent the concept of “superimposition” (*Überbauung*)—sometimes translated as “building-above”—in order to describe a completely new relation between ontological realms in addition to the much better analyzed relation of “superinformation” (*Überformung*)—sometimes translated as “over-forming”—also known as the principle of integrative levels (see Figure 2).

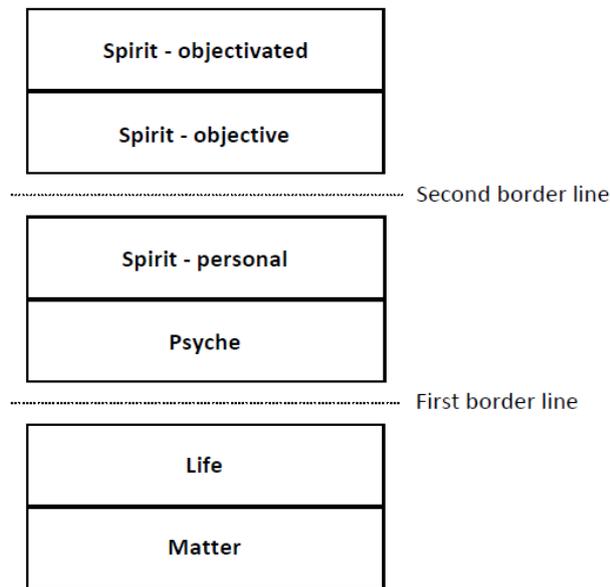


Figure 2. Hartmann’s model with parallel border lines

For the purpose of comparison, I would like to draw some attention to Poli’s (2001) model already mentioned in my paper. Using Hartmann’s ontology as a point of departure, Poli proposes an alternative solution for the arrangement of the same ontological realms and the same two border lines. Poli suggests a foundational “material realm” which includes inanimistic as well as animistic phenomena and functions as a bearer of both the co-evolving “social realm” and “mental realm”. As a consequence, in Poli’s model the two border lines are arranged in an orthogonal way (see Figure 3).

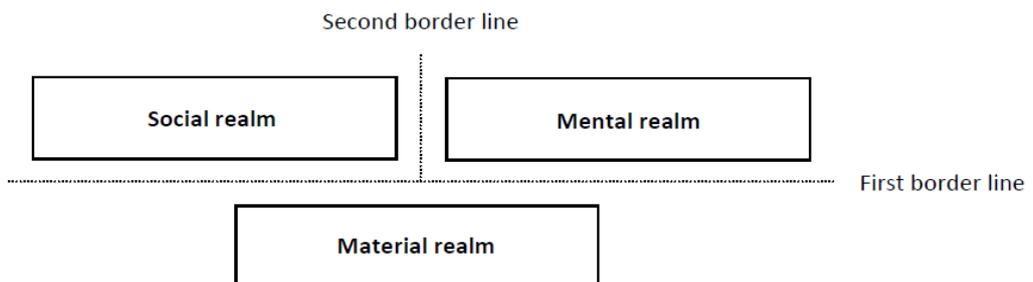


Figure 3. Poli’s model with orthogonal border lines (based on Poli 2001, 273)

On the one hand, I think that Poli is absolutely right about the co-evolution of the social realm and the mental realm. On the other hand, I believe that he is not consequent enough in applying the concept of co-evolution. According to Erich Jantsch (1980, 12), there is a co-evolution of the micro- and the macrocosmos from the very beginning including the material realm:

Nobody imagines that the structures of the universe were built one-sidedly from the bottom up, from particles and atoms to stars, galaxies, and clusters of galaxies.

Therefore, Wilber (2000b, 73) distinguishes between *individual* and *social* holons (= part/wholes):

For the time being, let us simply recognize that there are important distinctions between micro- and macroevolution, between an individual holon and a social or environmental holon (even though they are inseparably bound interactive, which is the meaning of “coevolution”). A social holon is still a holon—not mere heap or aggregate—because it displays a whole/part pattern, it is rule-bound, it in a sense develops (we speak coherently of stellar evolution, ecosystem evolution, social evolution, etc.) [...].

As a consequence, Wilber (2000b) proposes a further solution for the arrangement of the same two border lines as coordinates of a quadrant model (see Figure 4).

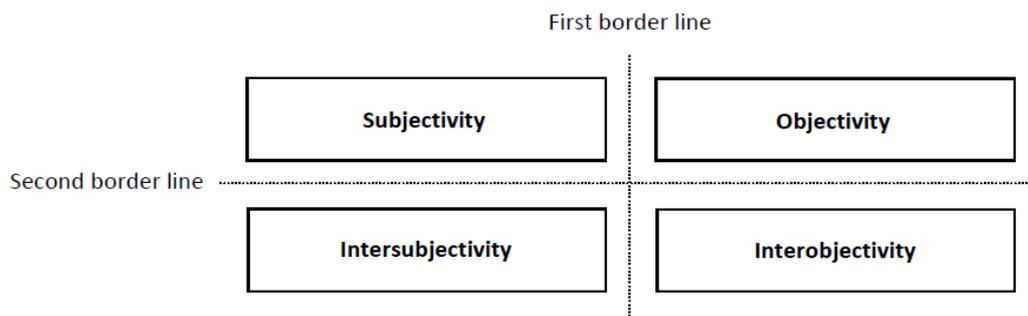


Figure 4. Wilber's model with crossed border lines (coordinates)

The comparison of these models demonstrates that all three of them use the same two categorical border lines of *interior/exterior* and *individual/collective*. This is precisely because these distinctions are not chosen in an arbitrary way but the result of a valid categorical analysis since these distinctions indicate categorially different ontological realms. The question remains, however, how these ontological realms are interrelated. Where exactly can the boundaries of these realms be located? And even more important, how is the dependence between them constituted? At this point in analysis, it would be a prejudice to label these realms as “levels”, “layers”, “strata”, or “tiers” since these terms would already implicate a vertical or chronological dependence relation. For example, Poli's (2006) terminology seems to be inconsistent in labeling the co-evolutionary ontological realms as “social stratum” and “mental stratum”.

Dependence, Independence, and Interdependence

In connection to the “analysis of the strata” as the second task of ontological theories, Hartmann distinguishes two kinds of dependencies, as reported by Poli (2001). While layers are constituted by overforming with a matter/form dependence, strata are constituted by building-above with a bearer/borne dependence. Both cases represent a hierarchical relation which can be described in

terms of lower and higher levels. As often noted, the higher levels always depend causally on the lower levels but not vice versa (likewise for a “material integration” and an “existential dependence”, as Gnoli distinguishes them). As Hartmann (1953, 36) put it:

The lower tiers of being are independent of the higher ones and do not need them, but the higher are dependent on the lower.

Besides these relations of *dependence* and *independence*, Poli identifies even a third kind of relation not considered by Hartmann: co-evolution. In Poli’s model the social realm and the mental realm co-evolve together, which means they constitute a relation of “bilateral dependence” (Poli 2006, Figure 2) or *interdependence*. Such interdependent relations cannot any longer be described hierarchically in terms of lower and higher levels since they exist at the very same level. In short, we can identify at least three kinds of relations between ontological realms: dependence, independence, and interdependence.

It is important to note that what one might call “existential dependence” could be either a hierarchical relation of building-above (dependence) or a non-hierarchical relation of co-evolution (interdependence). My argument here is that Hartmann’s analysis of the building-above relations in his linear level model is logically incoherent since the concepts of dependence and interdependence are confused. I believe this is the case for both border lines but to demonstrate this confusion seems to be much easier for the second border line which is why I will focus on this one at first.

The border line between “personal spirit” and “objective spirit”

The second border line in Hartmann’s model is cutting straight through the level of spirit and distinguishes the personal and the objective spirit. This is what we have already identified as the *individual/collective* distinction. If Hartmann is right in considering the objective spirit as a higher level than the personal spirit, then the objective spirit must depend on the personal spirit but not vice versa. While the former condition is obviously fulfilled, the latter condition that the personal spirit can be considered as independent from the objective spirit seems to be in question.

Hartmann’s level of spirit is the genuine objective of the social sciences and humanities which are likewise concerned with the personal spirit (e.g., cognitive psychology, phenomenology, micro-sociology), the objective spirit (e.g., cultural anthropology, hermeneutics, macro-sociology), and the objectivated spirit in the form of cultural artifacts and documents (e.g., archaeology, library and information science). Therefore, I would like to present three further quadrant models from the noospheric sciences which are in line with, but independently developed from, the AQAL model.

The first example is proposed by sociologist Georg Ritzer as a model of his integrated sociological paradigm as an attempt to locate and embrace all known sociological approaches within four distinct realms (see Figure 5).

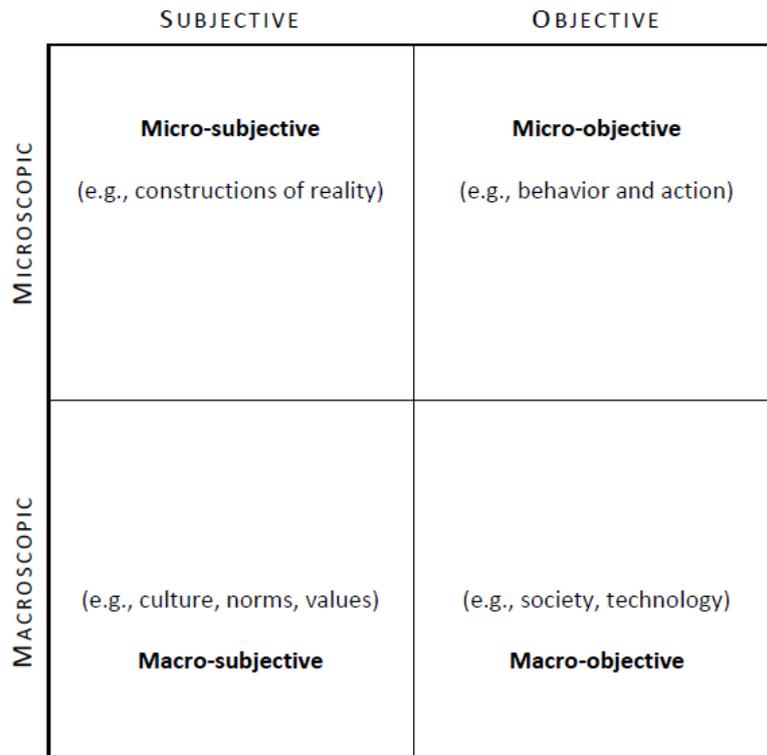


Figure 5. Integrated sociological paradigm (based on Ritzer 2001, 93)

Ritzer (2001, 93) writes:

The microscopic-macroscopic dimension relates to the magnitude of social phenomena ranging from whole societies (or even more macroscopic world systems) to the social acts of individuals, whereas the objective-subjective dimension refers to whether the phenomenon has a real material existence (e.g. bureaucracy, patterns of interaction) or exists only in the realm of ideas and knowledge (e.g. norms and values).

A second example is proposed by social psychologists Tim Jukes and John Barresi (1993, 213) who emphasize the “dialectical interaction” and interdependence between these four realms (see Figure 6).

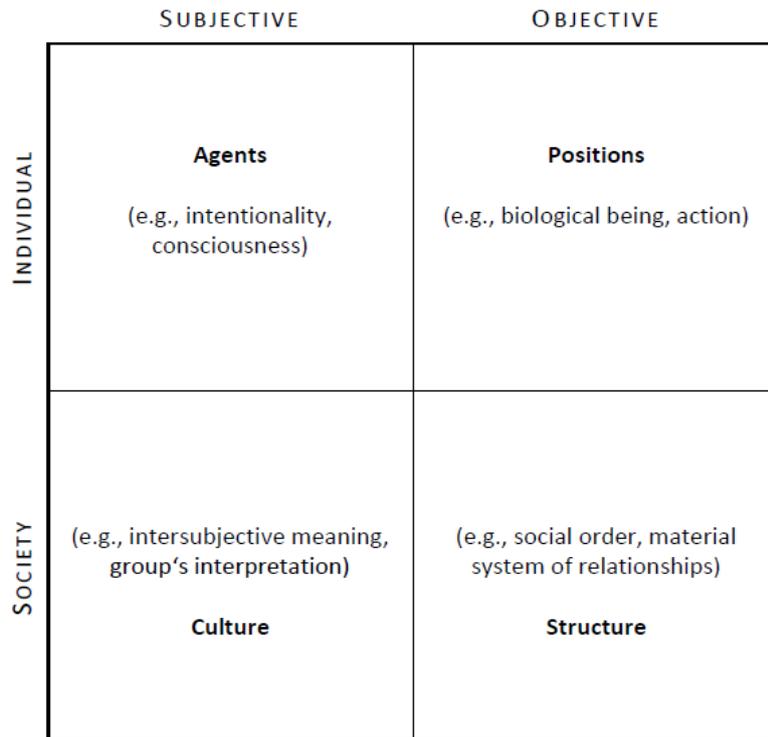


Figure 6. Dimensions in social sciences (based on Jukes & Barresi 1993, 209)

Jukes and Barresi (1993, 213) write:

Although each of the four elements identified in the model is analytically distinguishable, it is important to recognize that a description of any element entails the functioning of the others. [...] There is a continuous cycling process of maintenance and modification, with the isolation of elements something of an illusion.

Finally, a third example might be particularly helpful for a disambiguation of at least three meanings of the term “superorganic”, which seems to be mandatory for an adequate analysis of the relation between the personal spirit and the objective spirit. According to anthropologist Tim Ingold (1999), we have to clarify the concepts of “culture” and “society” since both of them refer to something more than an individual biological organism, to something “superorganic” (see Figure 7).

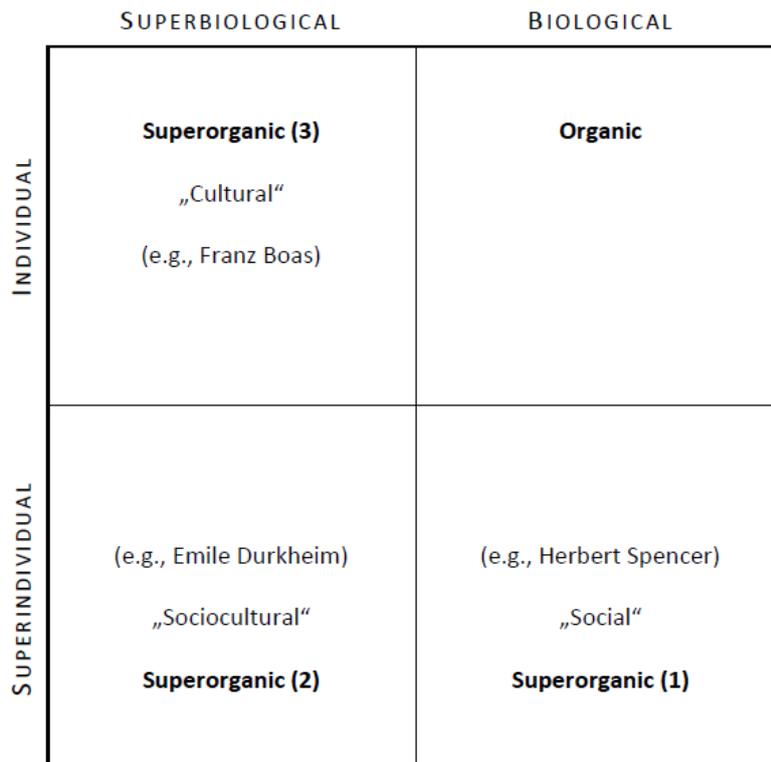


Figure 7. Three meanings of “superorganic” (based on Ingold 1999, 180)

The first meaning of the term superorganic refers to something superindividual but not superbiological. For example, an ant colony is an entity not reducible to the features of an individual ant, but it still remains a biological entity. This is why, for example, evolutionist Herbert Spencer urges for a science of sociology including animal societies as well as human societies since both of them are considered as different only in degree not in kind.

In opposition, the second meaning of superorganic would rather assume a difference in kind between animal and human societies. In this view, as prominently represented by sociologist Emile Durkheim, the superorganic realm of sociocultural phenomena such as symbolically mediated collective representations is considered as superindividual as well as superbiological, therefore, as uniquely human. This concept of superorganic seems to be compatible with Hartmann’s *objective spirit* (and with Ritzer’s, Jukes’, and Barresi’s concept of culture).

Finally, the third meaning of superorganic, as exemplarily represented by cultural anthropologist Franz Boas, refers to something superbiological or cultural but still individual. This concept of superorganic seems to be in line with Hartmann’s *personal spirit* considered as a “spiritual consciousness” in contrast to a “spiritless consciousness” (Hartmann 1953, 46) at the lower level of psyche. The relation between personal spirit and objective spirit is described by Hartmann (1953, 80) as follows:

Consciousness exists only as the consciousness of the individual, but this is no adequate consciousness of the objective spirit. Besides their common racial origin, the individuals are tied together only by their common spiritual world. Every human being has his psychic life incontestably for himself. Nobody else can act or suffer for him. Consciousness divides; the spirit unites.

I agree with that. Nevertheless, we have to be careful with Hartmann's use of the terms "psychic life" and "spirit". In arguing that the objective spirit is a higher level or stratum, Hartmann refers to the "psychic life" instead to the "personal spirit". But this point was never in question. Of course, there would be few doubts that the level of spirit is a higher one than the level of psyche. The crucial question is whether or not the objective spirit is a higher level as the personal spirit, as claimed by Hartmann as well. I do not think so. Hartmann's famous phrase "Consciousness divides; the spirit unites", I would rephrase as, "Spiritless consciousness divides; the spirit, as an interdependent relation of personal spirit and objective spirit, unites".

I maintain that it would make few sense to speak of a personal spirit without a corresponding objective spirit. It is not the case that at first there are some personal spirits and then later in time the objective spirit emerges somehow. It would make much more sense to consider this relation as a co-evolutionary process. This fact is emphasized by Habermas' (1992) mantra "individuation through socialization". Following Mead's theory of intersubjectivity, Habermas highlights the importance of symbolic interaction (e.g., communication through language) for the process of individuation as the emergence of a culture-bearing person (or a spiritual consciousness in Hartmann's terms). Habermas (1992, 153) writes:

The identity of socialized individuals forms itself simultaneously in the medium of coming to an understanding with others in language and in the medium of coming to a life-historical and intrasubjective understanding with oneself. Individuality forms itself in relations of intersubjective acknowledgement and of intersubjectively mediated self-understanding.

Even in Piaget's (1995) sociological writings—largely ignored by his critics—we can already find the same conclusion. In a discussion of the polarizing sociologies of Gabriel Tarde (methodological individualism) and Emile Durkheim (methodological collectivism), Piaget (1995, 41) concludes:

The third solution arises directly from this difficulty, proposing relativism and concrete sociology: the social totality is neither a combination of preexisting elements, nor a novel entity, but a system of relationships each of them in its own right brings about a transformation of the elements thus related.

As a consequence, the relation between personal spirit and objective spirit should rather be seen as an "unbreakable circle" (Piaget 1995, 85), as constituted by a relation of co-evolution and interdependence. In this respect, Poli seems to be absolutely right about the bilateral dependence of the mental realm and the social realm.

In the light of Ingold's disambiguation of the term "superorganic" we should also reconsider Gnoli's claim that mind precedes society. The crucial question here is what kind of "mind" precedes what kind of "society". Of course, nobody would deny that animal mind precedes human society (or that lower animal mind precedes higher animal society). But this conclusion seems not yet sufficient to justify Gnoli's postulate that "minds without societies do exist in all non-social higher animals". According to Ingold's model, Gnoli's term "mind" means the upper left quadrant (third meaning of superorganic) including human as well as animal consciousness. Furthermore, Gnoli's term "society" means the lower left quadrant (second meaning of superorganic) including human and at least some higher animal culture. Finally, Gnoli's term "social" as the implicit opposite term of "non-social" means the lower right quadrant (first meaning of superorganic) including human and some higher animal populations with a high rate of interaction between conspecifics.

Based on this conceptual analysis, we should not mix-up these particular meanings and misleadingly conclude that “non-social” higher animals have a “mind” but not a “society”. Tigers or eagles, for example, might be non-social animals with a low rate of interaction between conspecifics but this does neither mean that there would be no interaction at all nor that there would be no intersubjectivity (or animal culture in a broad sense) between conspecifics. Of course, symbolic interaction based on shared attention and the use of language seems to be uniquely human. But this does not mean that human culture has no precursors in the animal kingdom. Just as human consciousness is different from animal consciousness, human culture is different from animal culture. From this point of view, we have to deal with a difference in degree rather than kind. Accordingly, Ingold (1999, 200) distinguishes a narrow and a broad meaning of “culture”:

For in short, though in one sense both “culture” and “social life” may be regarded as products of symbolic imagination, in another they represent the very conditions of its evolutionary emergence.

Therefore, we should not confuse the narrow and the broad meanings of terms such as “consciousness”, “culture”, or “society”. While the narrow meanings refer to specific degrees along a categorial dimension (e.g., spiritual or spiritless consciousness), the broad meanings refer to general categories (e.g., consciousness as such). This conceptual differentiation (between “levels” and “quadrants” in Wilber’s terms) seems to be crucial for the interrelation of the ontological realms. For example, while many level theorists including Hartmann and Gnoli tend to a level sequence such as matter—life—mind—society, emergence theorist David Blitz (1992) proposes a slightly different version as matter—life—society—mind. Who is right?

I believe none of them. Both proposals adhere strictly to a linear level model at the price of a confusion of the narrow and broad meaning of either “mind” or “society”. On the one hand, the former level sequence uses the term “mind” in its broad meaning (likewise human and animal), while the term “society” is used in its narrow meaning (uniquely human). On the other hand, the latter level sequence uses the term “mind” in its narrow meaning (uniquely human), while the term “society” is used in its broad meaning (likewise human and animal). If we avoid these conceptual confusions and use the terms “mind” and “society” exclusively in their broad meaning (as general categories or ontological realms), then the linear level model has to be replaced by a model of co-evolution. As Wilber (2000b, 90) concludes:

[The individual and the collective dimensions] are not two different levels, [...] but the individual and social aspect of the *same* level. (We know this to be true because if we destroy *either* “level,” the other is also destroyed, which means *neither* is higher or lower relative to the other.) [...] In other words, the individual and the social are not two different coins, one being of a higher currency than the other, but rather the heads and tails of the *same* coin at every currency. They are two aspects. What is necessary, then, is to construct a series of true holarchies [= hierarchy of holons, M.K.] of compound *individuals* and then indicate, at the *same* level of organization, the *type of environment* (or social holon) in which the individual holon is a participant (and on whose existence the individual holon depends). And this needs to be done in all three of the great realms of evolution—physiosphere, biosphere, and noosphere.

The border line between "life" and "psyche"

The first border line in Hartmann's model distinguishes the realm of life and the realm of psyche. This is what we already discussed as the interior/exterior distinction. The relation between matter and mind or between body and soul is probably the most intractable problem in philosophy ever since. We simply do not know much about it. Nevertheless, our ontological theories have to deal with it. As most theorists of mind, Hartmann (1953, 78-79) suggests a bearer/borne relation in terms of lower and higher levels:

The "inner world" which is built up out of them—the world of experience, feeling, perception, thinking—is an ontological region "above" organic structure, but it only rests "upon" it as on its ontological basis. It does not consist "of it" as of its material. In contradistinction to superinformation, this relation of one stratum put on top of another may be styled "superimposition".

If Hartmann is right, then the realm of psyche depends causally on the realm of life but not vice versa. In opposition, I would rather suppose an interdependent relation of life and psyche as co-evolutionary realms, as suggested by Wilber (2000b, 566-67n2):

My own claim, however, is that the distinction interior/exterior is *not* an emergent quality, but rather exists from the *first moment a boundary* is drawn; exists, that is, from the moment of creation. What most panpsychists mean by consciousness or mind is not what I mean by consciousness, which is depth. Because consciousness is depth, it is itself literally *unqualifiable*. It is depth, not any particular, qualifiable level of depth (such as sensation or impulse or perception or intention)—those are all forms of consciousness, not consciousness as such. [...] I am a pan-depthist, not a pan-psychist, since the psyche itself emerges only at a *particular* level of depth.

From this point of view, Gnoli rightly suggests that intentionality in a narrower sense occurs rather late in evolution since it merely constitutes a specific form of consciousness, not consciousness or interiority as such. At this point, it becomes evident that panpsychism does not contradict emergentism in general but only the specific form of radical emergentism, as Skrbina (2005, 7) emphasizes:

Nearly all present-day philosophers of mind are emergentists, who assume that mind emerged at some point in evolution. Usually, however, they do not address the question of how such emergence is conceivable, and they do not acknowledge that *one need not assume this*. [...] The above does not imply that panpsychism is somehow fundamentally anti-emergentist. Panpsychism can, and in fact nearly always does, admit the existence of a vast range of mental complexities or "degrees of animation," each new level of complexity explicitly emerging under some condition. Mind is often correlated to structural or evolved complexity; as new physical forms of being emerge, so do new forms of mind.

However, Hartmann seems to restrict the realm of consciousness to some extent. While Hartmann (1953, 46) acknowledges a gradation of consciousness, for example, from a higher form of "spiritual consciousness" (level of spirit) to a lower form of "spiritless consciousness" (level of psyche), he is not quite precise about the location of the very first form of consciousness in cosmic evolution, although, it seems to correlate with higher forms of the organic realm (level of life). But for some

reasons he seems to be absolutely convinced that the inorganic realm (level of matter) has no “inner aspect” at all. Admittedly, such an assumption seems quite reasonable but I would like to stress the fact that this is not a conclusion based on evidence but on mere speculation. In fact, even Hartmann (1953, 112-13) emphasizes that any genetic or developmental interpretation of the ontological realms would remain a status of speculative conclusions:

It must not be forgotten that this whole perspective is, after all, no more than a hypothetical interpretation, and it is not feasible to make out of it a theory to be defended on ontological grounds. Categorical analysis must keep close to the given phenomena, avoiding speculative conclusions, even those that have a certain hypothetical value. The categorical laws, within the limits of our present knowledge, can be demonstrated. The suggested schema of a genetic interpretation on the other hand, cannot be demonstrated—whether merely for the time being or not at all is a question that must be left open.

In other words, we are able to identify the categorial difference between exteriority and interiority, but we cannot say whether or not the one emerged from the other. Likewise, it is an open question how far down on an evolutionary scale we can assume any kind of interiority. Hartmann postulates that the lower organic realm as well as the whole inorganic realm have no interiority at all. But how does he know? It is important to note that this is pure speculation. In principle, such kind of speculations is not a problem since we cannot avoid it without holding an agnostic position (which would also be fine but could challenge neither Hartmann’s nor Wilber’s background assumptions).

Admittedly, Wilber’s opposite postulation of interiority assigned to the inorganic realm is a speculation as well. Obviously, the problem here is that even if there are such lower forms of interiority, we would hardly have any access to these phenomena and hardly know anything at all about an “inner aspect” of molecules or atoms. For that reason, one might argue that we should use Ockham’s razor and cut off such unnecessary ontological assumptions. But how, then, can we be sure not to cut into the flesh, as once did the Cartesian philosophy in rejecting any kind of consciousness in lower levels than human?

From an empirical point of view, we cannot proof the existence of any consciousness except our own “inner life” to which we have privileged access from a first-person-perspective. Nobody can ever be sure that another person has interiority at all. In philosophy, this is the well-known problem of other minds. But if we cannot be sure whether or not there is any kind of interiority in other persons, then how can we be sure whether or not there is any kind of interiority in animals, or single cells, or molecules, or atoms? We can only speculate.

All I am trying to do here is to invite the reader to change at least provisorily the metatheoretical perspective from radical emergentism to a panpsychist point of view. Referring to philosopher Thomas Nagel, Skrbina (2005, 236-37) provides us a reasonable point of departure:

In 1979 Thomas Nagel published *Mortal Questions*, which included a chapter titled “Panpsychism”. As Nagel wrote, “panpsychism appears to follow from a few simple premises, each of which is more plausible than its denial”. The premises are:

- (1) physical reality consists solely of rearrangeable particles of matter;
- (2) mental states are neither reducible to, nor entailed by, physical states;
- (3) mental states are real; and
- (4) there are no truly emergent properties.

This argument constitutes perhaps the first analytic argument on behalf of panpsychism, and the first in at least a century to arrive at it deductively.

I suppose that Hartmann would agree with the first three premises and reject the last one. Truly emergent properties means what Hartmann (1953, 108) calls “the sudden emergence of new categorial groups at certain levels” such as the emergence of psyche from life. In other words, such a radical emergentism assumes the emergence of consciousness (interiority) from non-consciousness (exteriority). As often noted, this would be nothing else but a miracle.

Unfortunately, Hartmann is not very precise in what he calls a “categorial novelty” since this term is related likewise to the emergence of life from matter and the emergence of consciousness (spirit and psyche) from life. But according to Hartmann’s own categorial analysis, these kinds of emergence are not the same. While the former indicates a *weak* emergence resulting in a matter/form relation, the latter indicates a *strong* or radical emergence resulting in a bearer/borne relation. Emergence means the appearance of something new, something different from anything else. But even differences can be different. As Skrbina (2005, 260) put it, “The jump between any two levels is incomparably less than the jump from no-mind to mind”.

For example, in Poli’s (2001) model the weak emergence of life from matter indicates merely a difference in degree within the material realm since organic phenomena are correctly considered as a higher form of matter than inorganic phenomena, whereas the strong or radical emergence of consciousness from life indicates a difference in kind between the material realm and the mental realm. This is precisely the reason why the latter are depicted as strictly separated by a border line.

My point here is that the categorial differences between Hartmann’s ontological realms should itself be differentiated more carefully. While the weak emergence of overforming relations indicates a *difference in degree*, the strong or radical emergence of building-above relations indicates a *difference in kind*. Following Nagel’s last premise that there are no truly emergent properties, I would suggest that Hartmann is falling prey to a category mistake in claiming that consciousness phenomena emerge from non-consciousness phenomena. In fact, Hartmann’s speculations about this radical emergence seem to be by far the weakest aspect of his whole ontology. For example, he draws an analogy between genetic variability in biological evolution and a variability of emergent properties in the evolution of new “levels” of reality. As if consciousness phenomena were merely some mutations of material or organic phenomena.

An alternative solution avoiding such a category mistake is provided by pansychist metatheories as described, for example, by philosopher Galen Strawson (2006, 24) who labels the ontological realm of consciousness or interiority as “experiential phenomena” in a broad sense:

This is what I believe: experiential phenomena cannot be emergent from wholly non-experiential phenomena. The intuition that drives people to dualism (and eliminativism, and all other crazy attempts at wholesale mental-to-non-mental reduction) is correct in holding that you can’t get experiential phenomena from P phenomena, i.e. shape-size-mass-charge-etc. phenomena, or, more carefully now—for we no longer assume that P phenomena as defined really are wholly non-experiential phenomena—from *non-experiential* features of shape-size-mass-charge-etc. phenomena. So if experience like ours (or mouse experience, or sea snail experience) emerges from something that is not experience like ours (or mouse experience, or sea snail experience), then that something must already be experiential in some sense or other. It must already be somehow

experiential in its essential and fundamental nature, however primitively or strangely or (to us) incomprehensibly; whether or not it is also non-experiential in its essential nature, as conventional physicalism supposes.

And Strawson (2006, 27) continuous with his own version of ontological co-evolution:

Once upon a time there was relatively unorganized matter, with both experiential and non-experiential fundamental features. It organized into increasingly complex forms, both experiential and non-experiential, by many processes including evolution by natural selection. And just as there was spectacular enlargement and fine-tuning of non-experiential forms (the bodies of living things), so too there was spectacular enlargement and fine-tuning of experiential forms.

Changing perspectives

After discussing the tasks of “categorical analysis” and “analysis of the strata” in more detail, I would like to compare Hartmann’s and Wilber’s models by changing perspectives. As we have seen, both authors indentify roughly the same ontological realms based on the very same categorical border lines. The crucial differences can be recognized with regard to the definition of the actual boundaries and interrelations of these ontological realms. In order to illustrate these differences it might be useful to describe one’s model in terms of the other (see Figures 8 and 9).

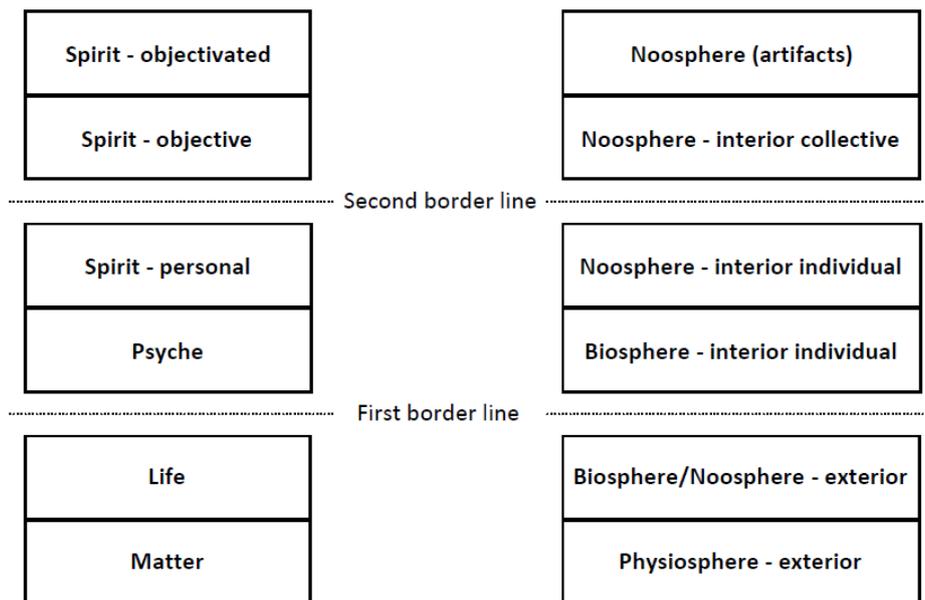


Figure 8. Hartmann’s model in Wilber’s terms

Figure 8 illustrates that all ontological realms distinguished by Hartmann are also identified by Wilber. A particular case, however, seems to be Wilber’s treatment of Hartmann’s “objectivated spirit” as manifested in material artifacts and documents. At first glance, this realm might be labeled as “noosphere - exterior collective”, but Wilber emphasizes that artifacts are not self-organizing holons but created by intentional human beings. Therefore, artifacts as such do not possess a corresponding interior (although their intact parts such as molecules or atoms might do so). For this

reason, Wilber has developed a theory of artifacts using an extended version of the AQAL model, as I will shortly introduce in the next section.

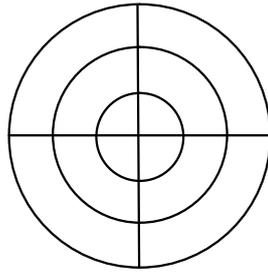
In any case, the most striking fact is that Hartmann (1953, 79), in his attempt to integrate the two border lines within a strictly linear level model, is forced to abandon the concept of integrative levels as a universal organizing principle:

The building up of the real world is no homogeneous sequence of superinformations. It cannot be represented by the generalized relationship of two of the fundamental categories, form and matter alone. All theories which try to do this break down at the psychophysical border line.

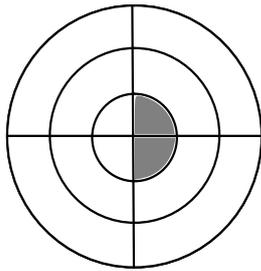
I strongly disagree. Obviously, this claim has been disproved by the AQAL model. Even if Wilber's co-evolutionary model is based on very controversial assumptions, it demonstrates a logical coherent way to describe the real world as a "homogeneous sequence of superinformations" (or truly integrative levels), while at the same time it does not at all "break down at the psychophysical border line". The simple solution provided by the AQAL model is to take the difference of differences seriously. While differences in degree are depicted as "levels", differences in kind are depicted as "quadrants". No radical emergentism is needed here, no miracle neither.

In opposition to Hartmann's speculations on a developmental interpretation based on some abstruse "mutations", Wilber offers an explanation based on the paradigm of self-organization. Initially, the concept of self-organization (or more precisely: autopoiesis) as proposed by biologists Maturana and Varela was conceptualized for the *biosphere*, but soon its scope has been expanded to the *physiosphere*, for example, by physicist Jantsch as well as to the *noosphere*, for example, by sociologist Luhmann. Similar to Hartmann's or Feiblemann's or Koestler's "laws" of the levels of reality, Wilber (2000b, 40-85) summarizes some twenty tenets describing the emergence and the interrelations of such levels in more general terms. One of the most important results is the distinction between *vertical hierarchies* ("integration" in Gnoli's terms) versus *horizontal heterarchies* ("aggregation" in Gnoli's terms), whereas Gnoli's third relation of "representation" would be considered as a co-evolutionary rather than a hierarchical one.

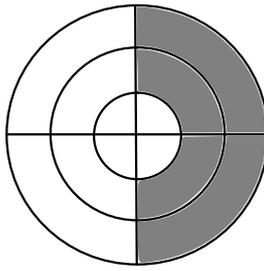
Without going into any more detail, I believe a closer look on Wilber's analysis of these inter- and intra-level relations might help to address some of the remaining problems in level theory discussed since the days of the Classification Research Group. Basically, I suppose that Hartmann's intention to diminish the level concept (strata instead of layers) is right but not consequent enough. What he identified as hierarchical strata should rather be seen as what they appear, namely, as co-evolutionary ontological realms (see Figure 9).



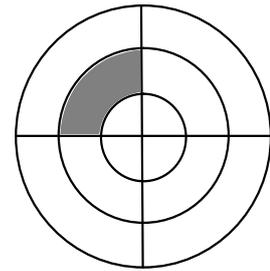
I. Physiosphere, biosphere, noosphere (AQAL)



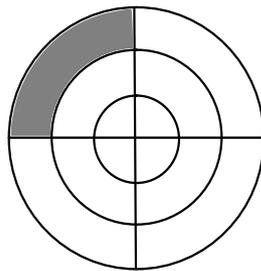
II. Matter



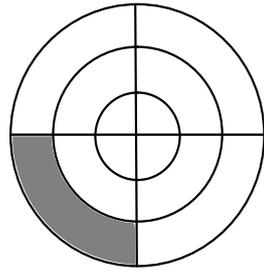
III. Life



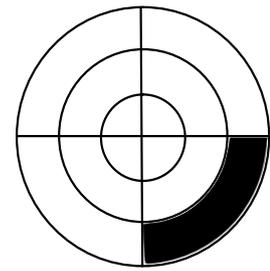
IV. Psyche



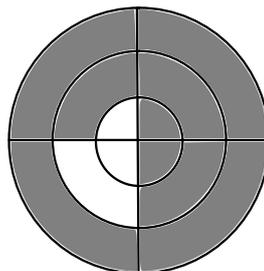
V. Spirit - personal



VI. Spirit - objective



VII. Spirit - objectivated



VIII. All together

Figure 9. Wilber's model in Hartmann's terms

Again, Figure 9 illustrates that all ontological realms analyzed by Hartmann fit nicely into the AQAL model. Nevertheless, putting all these realms together we can still see some blind spots not covered by Hartmann's model, namely, the interior dimensions of the physiosphere and the interior collective dimension of the biosphere. On the one hand, the acknowledgement of the latter realm of animal culture (or even plant or cell culture) depends on the use of a narrow or a broad meaning of the term "intersubjectivity". In opposition to Hartmann, Gnoli seems at least to concede a kind of animal

culture for some higher social animals. An even more inclusive concept of intersubjectivity is proposed, for example, by Esbjörn-Hargens and Zimmerman (2009, 51-52):

Complex forms of intersubjectivity occur at all levels, not just in human cultures. [...] Of course, hermeneutics, the analysis of such intersubjectivity, becomes more difficult when we study animal culture, and even more so when we study plant culture, one-celled organisms, and molecules. The farther down the Kosmic scale we travel, the simpler the form of intersubjectivity. But a simple interior does not mean there is an absence of interior.

On the other hand, the acknowledgement of the former realm of an “inner aspect” of matter depends on the adoption of a panpsychist metatheory. Apparently, Gnoli and many others are not willing to make this step. The mainstream view of radical emergentism assumes that before the appearance of consciousness phenomena (still an unlocated point somewhere in the evolution of organisms) reality appears as dead matter. Metaphorically, the elephant itself is blind and even deaf and dumb.

But even if an ontological status for the spots left open in Figure 9-VIII is denied, it still seems that co-evolutionary models are logically more coherent than strict linear level models. At least many existing level models might benefit from the concept of co-evolution. For example, the Integrative Levels Classification could easily re-consider the main classes “society” and “culture” as co-evolutionary realms and this would probably have some consequences for the analysis of their interrelations. This analysis in turn might help to better understand and organize the methodological pluralism approaching social and cultural phenomena.

More generally, my original paper provides two tables, one representing some popular level models, and another one representing three different value spheres of knowledge. Obviously, there seems to be a large agreement about the general outline of both tables. The crucial point is that the three values spheres (“objective”, “intersubjective”, “subjective”) should not be considered as levels itself but rather as cutting straight through the level sequence. After all, this seems not such a hard thing to do, although people might differ on how far down this should be done.

Hartmann’s “objectivated spirit” and Wilber’s integral theory of artifacts

The whole discussion about modeling levels of being seems to be crucial to locate phenomena as known objects and to define their manifold interrelations. But if we as knowledge organizers consider the epistemological dimension of knowing subjects, then we should focus on the noosphere, in particular, on the production and communication of human knowledge via meaningful artifacts and documents. While integral theory provides us a developmental theory of knowing ranging from physiosphere to biosphere to noosphere, the core objective of knowledge organization research is limited to human knowledge (please note that in this respect the controversial assumption of panpsychism is not directly of particular interest). Therefore, I would like to sketch out briefly Wilber’s (1998; 2013) integral semiotics.

As we have seen, the noosphere can be described in Hartmann’s terms as “personal spirit” (upper left quadrant), “objective spirit” (lower left quadrant), and “objectivated spirit” (artifacts). The latter includes all material products (e.g., books, buildings, cars) intentionally created by human beings. As noted above, Wilber emphasizes that the production of artifacts is not a self-organizing process but can be traced back to an intention, a meaningful conception or idea of its creator or author (the

primal holon in Wilber’s terms). In other words, the underlying intention—the content and structure of the author’s consciousness—is to some extent embedded in the artifact. Therefore, Wilber proposes an extension of the AQAL model in order to analyze meaningful artifacts in semiotic terms (see Figure 10).

	INTERIOR	EXTERIOR (ARTIFACT)
INDIVIDUAL	<p>Signified</p> <p>interior apprehension, concept, interpretant</p> <p>(e.g., the idea of an elephant in mind)</p>	<p>Signifier</p> <p>material mark, term, sign</p> <p>(e.g., the word E-L-E-P-H-A-N-T)</p>
COLLECTIVE	<p>(e.g., an elephant as a symbol of mental strength in buddhism)</p> <p>cultural meaning, historical horizon, pre-understanding</p> <p>Semantics</p>	<p>(e.g., elephant myths in oral, written, or electronic media)</p> <p>grammar, rules and codes, materiality of communication</p> <p>Syntax</p>

Figure 10. Artifacts in the extended AQAL model

While the upper right quadrant (“Signifier”) represents the material dimension of an artifact, the upper left quadrant (“Signified”) represents the meaning dimension of an artifact. However, the actual interpretations given by the author and the recipient might differ dramatically. Furthermore, the lower left quadrant (“Semantics”) represents the cultural background of meaning production, whereas the lower right quadrant (“Syntax”) represents the materiality of communication. To summarize the scope of his integral semiotics, Wilber (2013, 8-9) writes:

This gives us a chance to bring together the various semiotic schools [...]. For example, by seeing that the signified (Upper Left) arises only in the space of the collective worldview or cultural semantic (Lower Left)—which will serve as the necessary background context for the individual interpretation—Peirce’s triadic and Saussure’s dyadic structure of the sign can be brought into close accord: Peirce’s sign is Saussure’s signifier (both nestled in a system of social syntax); Peirce’s object is Saussure’s referent (both existing in a particular worldspace); and Peirce’s interpretant is Saussure’s signified (both resting in a system of cultural semantics). We can likewise find room in this integral approach for the important discoveries of postmodernism on the nature of the materialities of communication and the chains of sliding signifiers (Lacan, Derrida), and on the importance of transformative codes in selecting which signifiers will be

deemed serious and which marginal (Foucault). Even more important, I believe, we can honor Paul Ricoeur's "structuralist hermeneutics," a bold (and partially successful) attempt to integrate formalist explication (structural system or syntax of Lower Right) with meaningful interpretation (cultural hermeneutics and semantics of Lower Left).

The decisive advantage of integral semiotics becomes even more apparent when the multi-leveled nature of interiority will be integrated within this model. In doing so, Wilber (2013, 8) speaks of "developmental signifields" referring to the context-dependent nature of interpretation according to specific levels of human consciousness or worldview structures. This differentiation of Integrative Levels of Knowing seems particularly helpful to avoid the threat of "'cross-level' miscommunication" (Wilber 2013, 11). Indeed, I believe many of the often overemphasized cultural issues with regard to communication might be better understood in terms of levels of knowing, considered as developing diachronically within a single culture respectively person. As a primary goal, Wilber (2013, 17-18) suggests the construction of a basic KOS—a kind of glossary—based on the hierarchy concept of Integrative Levels of Knowing:

What is required, at this point in evolution, is a "Giga glossary"—a comprehensive listing of the various phenomena (and hence various referents) found in each and every aspect of each and every dimension of the AQAL Matrix—listings of the phenomena found in all the quadrants, all the quadrivia [= quadrants of knowing subjects, M.K.], all the levels and Views, all the lines, all the states, and the types of existence and being-in-the-world that are presently arising. This would give us the Kosmic Address of every major phenomenon in the Kosmos (at least as now understood).

Such a universal as well as context-sensitive KOS seems to be promising, for example, for semantic web research or the current "Big Data" discussion, as Wilber continues (here as elsewhere he uses a color signature for the developmental levels of knowing):

There is, at present, a movement known as "Big Data" that is attempting to computerize every known fact in the world. At this point, this would require hundreds of computers—the amount of data far outruns what any one computer can carry. But the problem so far is that, as you look at their "data," virtually the only data being included is from the sensorimotor realm, the material or infrared realm. But there are data from literally all levels, lines, states, and quadrants in the Kosmos. There is a magenta world, a red world, an amber world, an orange world, a green world, a teal world, a turquoise world, an indigo world, a violet world, an ultraviolet world, and a clear light world [...] Each of those levels and realms, and their Views and Vantage Points, have real truths and real realities that most definitely need to be included in anything resembling a true "Big Data" project.

(3) Levels of knowing

Integrative levels and the epistemological dimension

In recent postmodern times, it is rather difficult to speak of levels of knowing since the assumption of any hierarchy of consciousness phenomena in terms of lower and higher levels seems to imply a value ranking and is often, sometimes harshly, criticized as being ethnocentric, oppressing,

dominating, marginalizing, masculinist, logocentric, arrogant, and even worse. Indeed, such criticisms are often justified what makes it a highly sensitive issue.

Nevertheless, even if some hierarchies are oppressive, it does not mean that all hierarchies should be or could be avoided (ironically, to prefer a non-hierarchical approach means to establish a value ranking as well: hierarchy is bad, non-hierarchy is good; the one has lower value, the other has higher value). I believe that reality appears to us as multi-leveled for good reasons. Undeniably, the existence of some entities depends causally and chronologically on the existence of some other entities. Even extreme postmodern relativism could hardly deny that the emergence of cells depends on the emergence of molecules which in turn depends on the emergence of atoms. In other words, there is a developmental logic at work that defines a non-interchangeable sequence of emergent levels. For every matter/form or part/whole relation we can easily identify different degrees of organization and integration. This kind of a nested hierarchy is known, of course, as the principle of integrative levels.

I maintain that this principle of integrative levels underlies not only the ontological dimension but the epistemological dimension as well (according to both Hartmann and Wilber, the multi-leveled realm of consciousness could also be described in ontological terms since these phenomena are considered as real realities). In spite of the political dimension of the issue we should not ignore the evidence provided by developmental approaches in psychology, anthropology, or sociology with regard to human knowledge (see the selected bibliography).

Terminologically, the concept of “levels of knowing” has many names in the literature. For example, the term “levels” is sometimes used interchangeably with “stages”, “structures”, “layers”, “strata”, “tiers”, “ranks”, “modes”, “styles”, “waves”, “sets”, “modules”, “memes”, “phases”, “periods”, “stations”, “stadiums”, or “frameworks”. Even more numerous seems the amount of synonyms for the term “knowing”, for example, as levels of “consciousness”, “cognition”, “thought”, “thinking”, “mind”, “spirit”, “interiority”, “reflection”, “perception”, “awareness”, “understanding”, “interpretation”, “abstraction”, “description”, “representation”, “reasoning”, “intelligence”, “knowledge”, “epistemology”, and further more.

Historical precursors

In a broad sense, the concept of levels of knowing as a hierarchy of consciousness has a long history and can be traced back at least to Plato’s *Symposium*, Aristotle’s *De Anima*, or Plotinus’ *Enneads*. All of them express different versions of the „Great Chain of Being“, a term coined by historian of ideas Alexander Lovejoy (1978). Since this idea considers all sentient beings as god-given creatures which gradually possess forms of consciousness ranging from lower bodily senses up to higher godlike enlightenment one might also speak of the „Great Chain of Knowing“. In medieval times, other versions are presented, for example, by Pseudo-Dionysius the Areopagit’s *The Celestial Hierarchy* or by Thomas Aquinas’ *Summa Theologica*, followed in early modern times, particularly, by the philosophies of Baruch Spinoza or Gottfried W. Leibniz. As already suggested by the latter, in the 18th century and even more important in the 19th century a temporalization of the Great Chain has taken place.

Henceforth, the concept of levels of knowing was considered in developmental terms as articulated, for example, by Johann G. Herder, Friedrich Schiller, Georg W. F. Hegel, Friedrich Schelling, August Comte, Ludwig Feuerbach, Karl Marx, Friedrich Engels, Herbert Spencer, Lewis H. Morgan, or Edward B. Taylor. Besides the overoptimistic Victorian progress theories, some more

balanced approaches of the development of knowing appeared in the late 19th century and in the 20th century, for example, by Mark Baldwin, Max Weber, Alfred Weber, Karl Lambrecht, Lucian Levy-Bruhl, V. Gordon Childe, Leslie A. White, Sigmund Freud, Carl Jung, Erich Neumann, Erik Erikson, Heinz Werner, Jean Piaget, Lev. S. Vygotsky, Alexander R. Luria, Alexei N. Leontiev, Ernst Cassirer, Jean Gebser, Norbert Elias and others (for an overview see [Sanderson 2007](#); [Carneiro 2003](#); [Oesterdiekhoff 2012a](#)).

In a narrow sense, the concept of levels of knowing takes explicitly the integrative nature of the hierarchical sequence into account. Therefore, I term my own proposal as Integrative Levels of Knowing. This concept, however, has been described in many different ways for both individual development as well as cultural development. Indeed, most authors who adopt a developmental theory of knowledge emphasize some similarities—although not a strict parallelism—between ontogenesis and phylogenesis respectively historiogenesis.

Variations on a theme

In the following, I would like to present some examples from the impressive body of literature as variations on the theme of Integrative Levels of Knowing (underlines are my emphases).

Georg W. F. Hegel ([1983, 155](#)):

This volume deals with the *becoming of knowledge*. The phenomenology of the spirit is to replace psychological explanation as well as the more abstract discussion of the foundation of knowledge. It considers the *preparation* for science from a point of view, which makes it a new, an interesting, and the first science of philosophy. It includes the various *forms of the spirit* as stations on the way on which it becomes pure knowledge or absolute spirit. In the main parts of this science, which in turn are subdivided further, consideration is given to consciousness, self-consciousness, observing and acting reason, the spirit itself as ethical, educated, and moral spirit, and finally as religious in its different forms. The wealth of the appearance of the spirit, which at first glance seems chaotic, is brought into a scientific order which presents them according to their necessity in which imperfect ones dissolve and pass over into higher ones which constitute their next truth.

Karl Marx ([1994, 211](#)):

In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure, and to which correspond definite forms of consciousness. The mode of production of material life conditions the general process of social, political, and intellectual life. It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness. At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or—this merely expresses the same thing in legal terms—with the property relations

within the framework of which they have operated hitherto. From forms of development of the productive forces, these relations turn into their fetters. Then begins an era of social revolution. The changes in the economic foundation lead, sooner or later, to the transformation of the whole, immense, superstructure.

Lev S. Vygotsky (2012, 149):

It would be erroneous, however, to imagine that this transition from complexes to concepts is a mechanical process in which the higher developmental stage completely supersedes the lower one. The developmental scene turns out to be much more complex. Different genetic forms coexist in thinking, just as different rock formations coexists in the earth's crust. Such a structure is not an exception, but rather a rule of behavior. We know fairly well that human actions do not belong necessarily to the highest and the most advanced level of development. Developmentally late forms coexist in behavior with younger formations. The same is true for the ontogenetic development of the child's thinking. Even after the adolescent has learned to produce concepts, he does not abandon the more elementary forms; they continue for a long time to operate, indeed to dominate, in many areas of his thinking. As we mentioned earlier, even adults often resort to complex [= pre-conceptual, M.K.] thinking.

Alexander R. Luria (1976, 161-62):

Our investigations, which were conducted under unique and non-replicable conditions involving a transition to collectivized forms of labor and cultural revolution, showed that, as the basic forms of activity change, as literacy is mastered, and a new stage of social and historical practice is reached, major shifts occur in human mental activity. These are not limited simply to an expanding of man's horizons, but involve the creation of new motives for action and radically affect the structure of cognitive processes. [...] In addition to elementary graphic-functional motives, we see the creation of new motives that take shape in the process of collectivized labor, the joint planning of labor activity, and basic schooling.

Aleksei N. Leontiev (2009, 190-91):

If, in the initial steps of the child's psychological development, his biological adaptations (which make a decisive contribution to establishing his perceptions and emotions) appear at the first plane, then subsequently these adaptations are transformed. This of course does not mean that they simply stop functioning; it means something else, specifically that they begin to realize another higher level of activity on which the amount they contribute at each given stage of development depends. [...] The main thing that must not be lost from view is that in inter-level investigations we have to do not with something that is only one-sided but with something that is two-sided and that has a movement with a spiral form: with the formation of higher levels and the "leaving" or alternation of lower levels, which in their turn serve the possibility of the further development of the system as a whole.

Jean Piaget & Barbara Inhelder (1969, 153):

The integration of successive structures, each of which leads to the emergence of the subsequent one, makes it possible to divide the child's development into long periods or stages and subperiods or substages which can be characterized as follows: (1) Their order of succession is constant, although the average ages at which they occur may vary with the individual, according to his degree of intelligence or with the social milieu. Thus the unfolding of the stages may give rise to accelerations or retardations, but their sequence remains constant in the areas (operations, etc.) in which such stages have been shown to exist. (2) Each stage is characterized by an overall structure in terms of which the main behavior patterns can be explained. [...] (3) These overall structures are integrative and non-interchangeable. Each results from the preceding one, integrating it as a subordinate structure, and prepares for the subsequent one, into which it is sooner or later itself integrated.

Lawrence Kohlberg (1973, 186):

The stages are hierarchical integrations. Subjects comprehend all stages below their own and not more than one above their own. They prefer the highest stage they comprehend.

Jane Loevinger (1998, 37):

A final line of evidence for sequentiality is asymmetry of comprehension, that is, people can understand thinking at their own level or at levels below their own, but not at levels above their own.

Robert Kegan (1982, 85):

What we traced in the preceding section on infancy was the transition from the incorporative stage to the impulsive stage. This transformation was accomplished through a process which we will see repeated. It has been called a process of decentration (Piaget, 1937), emergence from embeddedness (Schachtel, 1959), the recurring triumph over egocentrism (Elkind, 1974); it has been referred to as a process in which the whole becomes a part to a new whole (Perry, 1970); in which what was structure becomes content on behalf of a new structure (Piaget, 1968); in which what was ultimate becomes preliminary on behalf of a new ultimacy (Kegan, 1980); in which what was immediate gets mediate to a new immediacy (Kegan, 1981). All these descriptions speak to the same process, which is essentially that of adaptation, a differentiation from that which was the very subject of my personal organization and which become thereby the object of a new organization on behalf of a new subjectivity that coordinates it.

Susanne R. Cook-Greuter (2010, 19-20):

On the whole, developmental stage theories based on Piaget's ideas describe human development as a sequence of increasingly complex and integrated stages or coherent systems of meaning making. Each stage constitutes a different way of how people know reality, in other words, a different epistemology, or a different world-view. Central to this model is the claim that the stage sequence is unidirectional and that the stages constitute hierarchical integrations. Development is unidirectional because the sequence of stages is posited to be the same for all people. It evolves from the least differentiated to ever more differentiated ways of knowing and relating to the world. It moves from simple to complex in regard to all possible contents. It is hierarchical because each subsequent stage constitutes a transformation of the previous way of interpreting reality. A new stage integrates the material or content of the previous one as a special case, that is, as an element into its more inclusive meaning system. Each stage is thus a part/whole. It is a whole in its own right, as well as part of a bigger, more expansive system of understanding.

Patricia M. King & Karen S. Kitchener (1994, 26):

The third major criterion of stage models noted above is that the different forms of thinking appear in an *invariant sequence*. The seven stages of the Reflexive Judgment Model do appear to form such a sequence (though not as predicted using a simple stage model where there is radical discontinuity between stages). That is, the advances of a prior stage appear to lay the groundwork for movement to the subsequent stage.

Robert L. Campbell & Mark H. Bickhard (1986, XI-XII):

The potentialities of properties which may implicitly present at one level of knowing becoming explicitly known from the next higher level iterates unboundedly, generating the primary knowing levels hierarchy. This hierarchy, in turn, generates the corresponding knowing levels developmental stage model: no system at a given knowing level can be constructed, can develop, unless there are already existing systems at all lower knowing levels supporting it. Development through the knowing levels, then, must proceed in a strict stage sequence.

Michael H. Barnes (2000, 45):

Piaget's description of stages helps to *categorize* thought styles more clearly. His theory also helps to recognize the particular *sequence* in which stages of thought appear in cultural history. In cultures as in individuals, the easier modes of thought appear first and continue to be used even when more difficult modes of thought are added.

Robert N. Bellah (2011, 117):

In Chapter 1 I offered a typology of religious representation—unitive, enactive, symbolic, and conceptual—to describe the way in which religions have understood reality. The concepts of enactive, symbolic, and conceptual representation were adapted from the work of Jerome Bruner on child development. [...] I argued that religion draws on all these forms of representation: just as the child continuous to use enactive and symbolic representations, even after becoming conceptually sophisticated, so do religions.

James W. Fowler (1981, 99-100):

Moreover, we believe that faith stages meet the structural-developmental criteria for stages. They provide generalizable, formal descriptions of integrated sets of operations of knowing and valuing. These stagelike positions are related in a sequence we believe to be invariant. Each new stage integrates and carries forward the operations of all the previous stages.

Christopher R. Hallpike (2008, 123-24):

The human mind is not like an empty bucket that is gradually filled with information by adults, or by passively observing the world around one; each individual has *actively* to construct his understanding of the world, of things and of people, by interacting and experimenting with himself. While we are born into a particular culture, which we did not make, our culture can only be transmitted by individuals, including ourselves, so what the majority of individuals can understand must have a fundamental effect on the kinds of ideas and beliefs that can develop over time in any culture. Some ways of thinking are more elementary than others, and provide the foundation on which the more advanced and complex types of thought can be constructed, when the social conditions are right.

Jürgen Habermas (1979, 140):

In the course of this structure-forming process, societies and individuals, together with their ego and group identities, undergo change. [...] If we separate the logic from the dynamics of development—that is, the rationally reconstructable *patterns* of a hierarchy of more and more comprehensive structures from the *processes* through which the empirical substrates develop—then we need require of history neither unilinearity nor necessity, neither continuity nor irreversibility. We certainly do reckon with anthropologically deep-seated general structures, which were formed in the phase of hominization and which lay down the initial state of social evolution [...]. These basic structures correspond, possibly, to the structures of consciousness that children today normally master between their fourth and seventh years, as soon as their cognitive, linguistic, and interactive abilities are integrated with one another.

Günter Dux (2011, 118):

The more clearly the development of all history comes into view, the greater the contrasts that become evident between past societies and ours, the more urgent the question why people acted and thought in early societies differently from their counterparts in later societies, and why these later societies were able to develop out of earlier ones. [...] The most encompassing condition of development of each and every society, however, is the structure of the society that precedes it, out of which the new one has developed.

Richard J. Robinson (2004, 20):

In addition, the interests (in every sense) that typify each new stage are qualitatively different from those of their predecessors. They are moreover intrinsically more advanced: although neither Marx nor Piaget would have suggested that progress or even normalcy is inevitable, there is nothing that an earlier stage could manage that a later stage cannot manage better, there are many previous misunderstandings and prejudices that are now dropped, and there are innumerable things the new stage can manage that would have been unthinkable before.

Suzi Gablik (1976, 71):

The fact that all these levels are conserved at the same time as they are superseded is what gives history its integrative character and its continuity. A content that has been used on one level with respect to a certain kind of structure can be transposed onto another, by being reconstructed in a new way of thinking. The resulting pattern appears as a succession of repeated differentiations, specializations and reintegrations, with a distinct progression from simple intuition to more complex logical and rational structures.

Don LePan (1996, 20-21):

In other words, the vast majority of the educated adult populations of modern developed societies is in many situations able to think using *either* primitive *or* more complex modes of thought, whereas the vast majority in most primitive societies is *only* able to think using primitive modes of thought in similar situations. ... Once again, what distinguishes the characteristic mode of thought of modern developed societies from those of primitive societies is not the *absence* of primitive processes in the Western mind, but the *presence* of additional modes of causal, temporal and logical thought.

Merlin Donald (2001, 262):

Whereas earlier humans had to depend entirely on their biology—that is, on their brains—to remember, modern humans can employ a huge number of powerful external symbolic devices to store and retrieve cultural knowledge. This revolutionized the way

humans think and the kinds of distributed cognitive systems we could construct. Thus modern culture contains within it a trace of each of our previous stages of cognitive evolution. It still rests on the same old primate brain capacity for episodic or event knowledge. But it has three additional, uniquely human layers: a mimetic layer, an oral-linguistic layer, and an external-symbolic layer. The minds of individuals reflect these three ways of representing reality.

Kieran Egan (1997, 4):

My primary aim in this book is to unravel some of the major strands or layers of our typically polysemous understanding. I try to separate out a set of general and distinctive kinds of understanding and characterize each of them in detail; I distinguish five, which I call Somatic, Mythic, Romantic, Philosophic, and Ironic. I try to show, furthermore, that these kinds of understanding have developed in evolution and cultural history in a particular sequence, coalescing to a large extent (but not completely) as each successive kind has emerged. The modern mind thus is represented as a composite.

Jean Gebser (1985, 42):

In order to achieve the requisite basis for transformation to which we have alluded, we wish to present as a working hypothesis the four, respectively five, structures we have designated as the archaic, magical, mythical, mental, and integral. We must first of all remain cognizant that these structures are not merely past, but are in fact still present in more or less latent and acute form in each one of us.

Erich Jantsch (1980, 296):

The conclusion may be drawn that it is not individual levels which impart depth or height (both terms seem to express the same notion here!), but the multilevel vibrations of many levels of consciousness. A new level does not mean an “ascent” but an enrichment of the ensemble of possibilities of expression and the dimensions of its autonomy.

Ken Wilber (2000b, 118-19):

Each new interior holon, of course, transcends but includes its predecessor(s)—incorporates the essentials of what went before and adds its own distinctive and emergent patterns And notice: these interior holons have nothing to do with size or spatial extension; a symbol is not bigger than an image, an image isn't bigger than an impulse—this is where the application of physicalist science becomes very distorting. The important point, for now, is simply that each new and emergent interior holon transcends but includes, and thus *operates upon*, the information presented by its junior holons, and thus it fashions something *novel* in the ongoing cognitive or interior stream. Hence, each new growth in consciousness is not just a “discovery” of more of a pre-given world, but the co-creation of new worlds themselves, what Popper calls a “making and

matching” of new epistemological domains, a discovery/creation of higher and wider worlds.

Sean Esbjörn-Hargens & Michael E. Zimmerman (2009, 145):

All shifts from one level of development to the next involve a crisis of the self. The self is letting go of old ways of interpreting and seeing the world. It is a death of an old self and a birth of a new, more inclusive self.

Allan Combs (2009, 89):

If we stand back and view the stages of growth charted there from infancy to adulthood, we see that one important theme that runs throughout development is a persistent increase in internal complexity which lies inside and powers the growth of the mind. This complexity presents itself in the form of increasingly sophisticated schemas and patterns of schemas all of which constitute a person’s mind.

Clare W. Graves (quoted in Beck & Cowan 1996, 39):

Without being too technical, may I suggest that human existence contains numerous, probably infinite, modes of being, precisely rooted in the multifold potentiality of mankind’s hierarchically structured brain. [...] To make a long story short, my data support the conclusion that human nature is such that modes of being can ebb and flow. New ones can replace old ones, yet the old ones don’t disappear. They still exist within us. Furthermore, there are potentially new modes of being on the horizon that we have not experienced.

Teilhard De Chardin, Pierre (1999, 172):

Evolution = Rise of consciousness.
Rise of consciousness = Effect of union.

Abraham Maslow (1943, 370):

Human needs arrange themselves in hierarchies of pre-potency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need. Man is a perpetually wanting animal. Also no need or drive can be treated as if it were isolated or discrete; every drive is related to the state of satisfaction or dissatisfaction of other drives.

Erich Neumann (1989, 41-42):

We must again emphasize that “stage” refers to a structural layer and not to any historical epoch. In individual development and perhaps also in that of the collective, these layers do not lie on top of one another in an orderly arrangement, but, as in the

geological stratification of the earth, early layers may be pushed to the top and late layers to the bottom.

Ernst Cassirer (1955, Vol. I: 303):

For epistemological inquiry an unbroken path leads from sensation to intuition, from intuition to conceptual thought, and thence to logical judgment. Yet in following this path, the epistemologist is aware that sharply as its phases must be distinguished in reflection, they must never be regarded as independent data of consciousness, existing separately from one another. On the contrary, every more complex factor here includes the simpler ones, and every "later" one the "earlier", while conversely the latter contains within it the seeds of the former.

Joseph Needham (1937, 49):

Every transition from the unconscious to the conscious implies a step from bondage to freedom, from lower to higher level of organization. All early agriculture and storage of food-products necessitated more conscious control than before. Increases in the efficiency of mechanisms of transport from horse to the aeroplane widened men's conscious horizon.

Nicolai Hartmann (1953, 46):

Thereby consciousness liberates itself from subservience to vitality and becomes a spiritual consciousness. It thus enters into a certain contrast with that primary consciousness which is determined by instinctive life and harnessed to its service. The latter may be called "spiritless consciousness." It is not extinguished in the fully developed human being but persists in the background of his spiritual consciousness. Occasionally it may break forth all of a sudden, perverting the objective order of the spirit. In the young child this spiritless consciousness is the dominant one, just as it is in the higher animals, and there is little doubt that through long periods of man's prehistoric development his consciousness was predominantly a spiritless one.

Hartmann's differential analysis

As the last quotation suggests, even Hartmann (1953, 139) assumes different integrative levels of knowing which he calls "stages of knowledge":

There is rather a wide scale of variation, beginning with simple perception and rising to intellection. The intermediate stages are varied and interlock practically everywhere. [...] The reason is that spirit in itself is richly articulated and graduated. At its lower limit there is, still in close proximity to spiritless consciousness, perception; at its upper limit, intellection and with it the activity of research and critical self-examination.

In other words, Hartmann (1953, 135) distinguishes not only a spiritless consciousness (psyche) from a spiritual consciousness (spirit), but subdivides the latter realm, for example, into a rather naive and

primary “natural knowledge” versus a “secondary reflection”. The latter indicates a knowledge of knowledge also known as second-order knowledge or formal operational cognition. In discussing the relation between ontological levels and epistemological levels, Hartmann (1953, 138) emphasizes that the realm of spirit could be considered both in ontological terms as “belonging to”, or in epistemological terms as “being ordered to”:

Knowledge, then, is such as to be ordered not just to the highest stratum of being but to all strata, and even primarily to the lower strata. For naive knowledge aims first at the spatial and corporeal, at visible things and living beings.

In parentheses, this notion of “being ordered to” is reflected by Wilber’s notion of “worldspace”. For example, an elephant as a spatial and corporeal phenomenon occurs within the worldspace of a sensori-motor level of knowing and can be “seen” by everybody with eyes to look at it. But other kinds of phenomena (for example concepts like culture, DNA, evolution, postconventional moral, ecosystem, space-time continuum, world citizen, atom, epistemic relativism, self, molecule, second-order knowledge, democracy, syllogism, or the square root of negative one) can only be “seen” by knowing subjects who have developed an adequate worldspace or level of knowing. In other words, certain modes of knowledge are “being ordered to” certain kinds of phenomena. As Wilber (2013, 5) put it, “*all of those worldspaces have their own phenomenologically real objects or referents*”.

For a better understanding of the relation between ontology and epistemology, Hartmann (1953, 141) demands a comprehensive “differential analysis” describing the epistemological categories of knowing subjects according to different levels of knowing as opposed to the ontological categories of the known objects. This task becomes even more apparent in Hartmann’s (1982) more epistemologically oriented work *Die Erkenntnis im Lichte der Ontologie (Knowledge in Light of Ontology)*—unfortunately still not available in English (all quotations from this book are my translations). In this investigation, Hartmann (1982, 41) argues for a “typology of modes of thought” (*Denkformentypik*) in order to classify different “kinds of worldviews”, which are seen as the result of fundamental categorial changes. For example, Hartmann (1982, 39) considers mythical, religious, or philosophical worldviews as “stages or ages” in the “history of human knowledge”.

Most importantly, in Hartmann’s (1982, 55) analysis of the “historical spirit” (*geschichtlicher Geist*), a distinction is made between the change of concepts versus the change of categories, a distinction which reflects fairly well the surface and deep features of consciousness. On the one hand, Hartmann (1982, 43) speaks of the “light-footed change of concepts” which corresponds to a change of Habermas’ “content” (horizontal change); on the other hand, he speaks of the “cumbersome categorial change” which corresponds to a change of Habermas’ “structure” (vertical change). The result of the latter is described as a “radical different way of viewing the world” (Hartmann 1982, 44). Referring to Kant’s transcendental philosophy, Hartmann (1982, 52) emphasizes the “changeableness of the a priori”. In this respect, Hartmann (1953, 142-43) leaves no question about the importance of his proposed “differential analysis”:

In the way of a neat ontological analysis of this type—that is, of an epistemologically differentiated investigation of the categorial situation—almost nothing has been done so far. The problem, however, has become urgent as a result of the emphasis placed on the ontological aspect of epistemology. It is to be expected that its treatment, once philosophy attacks it seriously, will develop into a whole science with its own methods and its own division of labor. What can be accomplished by means of such an

investigation is of extreme importance for all scientific knowledge, but especially for philosophical knowledge. It consists in nothing less than progressing along the road opened up by Kant's *Critique of Pure Reason*. At any rate this is so if we strictly interpret the *Critique* as what it was originally intended to be: a critique of a priori knowledge.

I largely agree. But I remain skeptical whether such a “whole science” should be based on rather modernist background assumptions, as adopted by Hartmann, namely, a representational theory of human knowledge, a strict separation between the known object and the knowing subject, or the possibility of an “identity of cognitive and ontic categories” (Hartmann 1953, 142). Since I believe that these assumptions are simply not any longer “up-to-date”, I would prefer to engage in the very same research program of a “critique of a priori knowledge” by adopting more advanced metatheories.

Interestingly, at the very same time Hartmann develops his “new ontology”, authors like Cassirer or Piaget—both of them deeply rooted in the Kantian tradition—undertake such an “epistemologically differentiated investigation of the categorial situation” as well. In contrast to Hartmann, these schools of thought are based on rather constructivist and interactionist frameworks which seem to be much better equipped for the challenges of recent postmodernist criticisms. Indeed, I believe that Cassirer’s *Philosophy of Symbolic Forms* and Piaget’s *Genetic Epistemology* are still the most promising points of departure for a comprehensive analysis of the epistemological dimension of human knowledge in terms of levels of knowing (see Kleineberg 2012).

Piaget’s genetic epistemology and the historico-genetic research program

In comparison with other developmental approaches to human knowledge the single most advantage of Piaget’s genetic epistemology—which is not without serious flaws, as often recognized—seems to be its empirical back up. While the categorial investigations by Cassirer, Hartmann and many other philosophers are mainly based on a kind of “armchair” analysis, Piaget and his associates investigate the development of knowledge by means of real knowing subjects.

The underlying assumption, however, is that the study of the cognitive development of individuals (ontogenesis) helps to better understand the historical development of human cognition (phylogenesis, or more precisely: historiogenesis). In opposition to mere adaptationist approaches such as evolutionary psychology or evolutionary epistemology, Piaget’s developmental approach emphasises the activity of the knowing subject in constructing schemata or cognitive deep structures as the result of a continuing learning process within the natural and social world. Moreover, Piaget’s genetic or developmental structuralism assumes that the construction of such cognitive deep structures has to start always from the previous structure as its material or component. Obviously, the result is a part/whole hierarchy commonly referred to as integrative levels.

Here is not the place to describe Piaget’s genetic epistemology or single levels of knowing in any detail, but I would like to point at a direction which might be promising for further research in KO (for a pioneering approach see Farradane 1963). First of all, the Piagetian framework has been extremely fruitful for the reconstruction of further stage or level sequences in other domains of human development since the evolution of consciousness seems not limited to cognitive development but includes many differentiated and more or less independent developmental lines, as Wilber (2013, 41) specifies:

Cognitive	What am I aware of?	Piaget, Kegan
Self	Who am I?	Loevinger, Cook-Greuter
Values	What is significant to me?	Graves, Spiral Dynamics
Moral	What should I do?	Kohlberg, Gilligan
Interpersonal	How should we interact?	Selman, Perry
Spiritual	What is of ultimate concern?	Fowler
Needs	What do I need?	Maslow
Kinesthetic	How should I do this?	Shawn Philips
Emotional	How do I feel about this?	Goleman
Aesthetic	What is attractive to me?	Housen.

Each of these developmental lines is supposed to follow an invariant level sequence. These level sequences in turn can be arranged according to the general altitude of consciousness as such respectively interiority or knowing. Please note that at the same time one person might be highly developed in the cognitive line, for example, but to a lesser degree in the moral line (as seems to have been the case with the Nazi doctors). As an example, Table 1 presents a synopsis of three popular level models for ontogenesis (for a synopsis or more than 100 developmental approaches see the appendix in [Wilber 2000a](#)):

Table 1. Integrative levels of knowing in individual development (ontogenesis)

Level	Piaget & Inhelder (1969) <i>Cognition</i>	Kohlberg (1981/84) <i>Moral judgement</i>	Hy & Loevinger (1996) <i>Ego identity</i>
I	Sensori-motor		
II	Preoperational	Preconventional 0. Magic wish	1. Presocial (Symbiotic)
III	Concrete operational (early) (late)	1. Punishment and obedience 2. Instrumental hedonism	2. Impulsive 3. Self-protective
IV	Formal operational (early) (middle) (late)	Conventional 3. Approval of others 4. Law and order Postconventional 5a. Social contract	4. Conformist 5. Conscientious-conformist (Self-aware) 6. Conscientious
V	[Postformal]	5b. Prior rights 6. Universal ethical 7. (Transcendental)	7. Individualistic 8. Autonomous 9. Integrated

Source: Kleineberg (forthcoming).

As already emphasized in my paper, there seem to be some structural isomorphisms between individual development and collective or cultural development of human knowing. Accordingly, Table 2 presents a synopsis of some theories of cultural evolution identifying roughly the same levels of knowing, which are considered as significant cognitive breakthroughs in human history.

Table 2. Integrative levels of knowing in biological evolution (phylogenesis) and cultural development (historiogenesis)

Level	Donald (2001) <i>Consciousness</i>	Gebser (1985) <i>Consciousness</i>	Habermas (1979) <i>Worldview</i>	Dux (2011) <i>Thought</i>	Wilber (2000) <i>Consciousness</i>
Ia	Episodic <i>Primates</i>				
Ib	Mimetic (gesture) <i>Homo erectus</i>	Archaic			
II	Mythic (language) <i>Homo sapiens</i>	Magic	Magical-animistic/ Mythic (early)	Mythical-magic	Magical-animistic
III	Theoretic (writing system)	Mythic	Mythic (developed)	Archaic	Mythic
IVa		Mental	Rationalized, Cosmological	Philosophical	Mythic-rational
IVb		(Perspectival-rational)	Theoretical, Reflexive	Modern	Rational
Va		(Aperspectival)		Postmodern	Vision-logic (pluralistic)
Vb		Integral-aperspectival	(World citizen)	Systemic-relational	Vision-logic (integral)

Source: Kleineberg (forthcoming).

In the evolution of human consciousness, these vertical transformations of worldview structures deeply influence the way reality is viewed (or more precisely: they literally co-construct a whole new reality). A prominent example is Karl Jaspers' concept of the "axial age" indicating the historical transition from a mythic to a more rationalized worldview structure at roughly the same time (800-200 BC) likewise in several more or less independent regions such as Greece, India, China, Persia or Israel (Bellah 2011). Interestingly, the axial age example seems also to demonstrate that the determining factor of a vertical change of perspectives is apparently not alone the cultural aspect which seems so often overemphasized as "the" condition of human knowledge.

One of the most promising approaches to cultural evolution might be a school of thought that can be summarized as the "historico-genetic research program" rooted in the Piagetian tradition. In this respect, at least three major theories have reached a school-building status, namely, Jürgen Habermas' *Theory of Communicative Action* (e.g., Döbert 1973, 1977; Eder 1980), Günter Dux' *Historico-genetic Theory of Culture* (e.g., Dux & Wenzel 1994; Wenzel 2000; Psarros, Stekeler-Weithofer & Vobruba 2003; Wenzel, Bretzinger & Holz 2003; Vogel & Dux 2010; Niedenzu 2012), and Ken Wilber's *Integral Theory* (e.g., Combs 1996, 2009; Esbjörn-Hargens & Zimmerman 2009; Esbjörn-Hargens 2010b).

All three of them discuss the inadequacies of the Piagetian framework extensively but emphasize the enduring importance of the concept of Integrative Levels of Knowing. In fact, the historico-genetic research program has been already applied within a wide range of disciplines from the social sciences and humanities such as sociology (e.g., Harten 1977; Miller 1986; Robinson 2004; Bammé 2011; Oesterdiekhoff 2012a), anthropology (e.g., Hallpike 1979), archaeology (e.g., Wynn 2002), religious studies (e.g., Barnes 2000; Bellah 2011), cultural studies (e.g., Brunner-Traut 1996), art

history (e.g., [Gablik 1979](#)), literature theory (e.g., [LePan 1996](#)), medieval studies (e.g., [Radding 1985](#)), or the history of science (e.g., [Schlagel 1985](#); [Damerow 1996](#); [Kälble 1997](#); [Remmele 2003](#)).

Integrative levels of knowing as organizing principle

Finally, I would like to emphasize the relevance of the concept of Integrative Levels of Knowing for the field of knowledge organization. The overall intention is quite similar to the traditional ontologically oriented application of the concept of integrative levels, namely, to adopt this hierarchy concept as a universal organizing principle in order to classify the manifold world phenomena in a systematic way. This time, however, the epistemological dimension of these world phenomena is addressed. Who is the author or creator of the document? Which way of thinking is expressed in the cultural artifact? If the subject matter is an elephant, for example, from which level of knowing is this subject matter approached? If many different viewpoints on a given subject matter confront each other, would it be possible to identify and interrelate classes of structurally similar epistemic frameworks across domains, disciplines, or cultures?

The crucial point is, if human knowledge is context-dependent in nature, then our KOSs should take these epistemic contexts into account by making them explicit. One way to do this might be a historical approach to concept development as in the history of ideas. A similar approach is proposed by [Tennis' \(2002\)](#) dimensionality of KOSs. The basic idea is to record the historical change of concepts as basic units of our KOSs in order to avoid an ahistorical understanding of documentation. I believe this is a promising approach. Nevertheless, it still remains a merely historical view which would be able to recognize contextual differences of surface features (contents) but not contextual similarities of the underlying deep features (structures) such as isomorphisms of concepts from divergent contexts. As [Cassirer \(1992, 69\)](#) emphasizes in his philosophy of culture:

We cannot hope to measure the depth of a special branch of human culture unless such measurement is preceded by a descriptive analysis. This structural view of culture must precede the merely historical view. History itself would be lost in boundless mass of disconnected facts if it did not have a general scheme by means of which it can classify, order, and organize these facts.

Such a “general scheme” cannot any longer be described in terms of semantics referring to the actual contents of concepts respectively knowing but rather in terms of pragmatics referring to the context of meaning production, for example, to the underlying structures or levels of knowing in which each concept occurs. The need to enrich our analytical toolkit is also emphasized by [Dux \(2011, 119\)](#) in discussing the limits of interpretation:

An understanding solely oriented towards semantic contents remains tied to the surface of that which is said. What needs to be understood, however, as we already established at the outset, is that structures underlie that which is thought and spoken that translate themselves into the variety of semantic contents. Without an understanding of the structures, interpretive systems remain ungrasped in their inner logic and are left to the arbitrary graces of the interpreter.

This distinction between content and structure is well analyzed in [Habermas' \(1979; 1984/87\)](#) universal pragmatics. My overall impression is that knowledge organization theory lacks an adequate understanding of this more formal aspect of pragmatics. Of course, in KO research there is an increasing interest in linguistic or semiotic pragmatics which emphasize the context of meaning

production, and I believe this kind of analysis is mandatory for any future context indexing. But still, these rather content oriented approaches (“How does the specific context influence the particular meaning of a concept?”) seem not yet sufficient to analyze the underlying structure (“How does the general context or the universal aspects of communication influence the categorial or epistemic framework in which each concept occurs?”).

Following the Kantian tradition, Habermas (1979, 31) distinguishes between “empirical pragmatics” (e.g., sociolinguistics) and “universal pragmatics” based on a formal analysis of communication. He emphasizes that only the latter is able to transcend the particular context of language use and to reconstruct universal patterns of communicative competence (e.g., levels of knowing). This universal scope of formal pragmatics is what makes it so promising for a systematic organization of epistemic contexts and any truly universal classification. In Hartmann’s terms one might say that empirical pragmatics is mainly concerned with conceptual change (horizontal), whereas universal pragmatics is mainly concerned with categorial change (vertical). Both aspects, of course, should be seen as complementary, as Habermas (1979, 11-12) suggests:

I want to distinguish two levels of explication of meaning. If the meaning of a written sentence, action, gesture, work of art, tool, theory, commodity, transmitted document, and so on, is unclear, the explication of meaning is directed first to the semantic content of the symbolic formation. In trying to understand its content, we take up the same position as the “author” adopted when he wrote the sentence, performed the gesture, used the tool, applied the theory, and so forth. Often too we must go beyond what was meant and intended by the author and take into consideration a context of which he was not conscious. Typically, however, the *understanding of content* pursues connections that link the surface structures of the incomprehensible formation with the surface structures of other, familiar formations. Thus, linguistic expressions can be explicated through paraphrase in the same language or through translation into expressions of another language; in both cases, competent speakers draw on intuitively known meaning relations that obtain within the lexicon of one language or between those of the two languages.

This first kind of an explication of meaning describes more or less the project of hermeneutics. In recent KO research, hermeneutical approaches seem to be “the” answer to the challenges of a context-sensitive subject analysis. But even hermeneutics has its blind spots. This is where the second kind of an explication of meaning comes into play, as Habermas (1979, 12-13) continues:

If he cannot attain his end in this way, the interpreter may find it necessary to alter his attitude. He then exchanges the attitude of understanding content—in which he looks, as it were, through symbolic formations to the world about which something is uttered—for an attitude in which he directs himself to the generative structures of the expression themselves. The interpreter then attempts to explicate the meaning of a symbolic formation in terms of the rules according to which the author must have brought it forth. [...] The attitude changes, however, as soon as the interpreter tries not only to *apply* this intuitive knowledge but to *reconstruct* it. [...] The object of understanding is no longer the content of a symbolic expression or what specific authors meant by it in specific situations but the intuitive rule consciousness that a competent speaker has of his own language. [...] This implicit rule consciousness is a know-how. The

interpreter, in turn, who not only shares but wants to understand this implicit knowledge of the competent speaker, must transform into a second-level know that. This is the task of reconstructive understanding, that is, of meaning explication in the sense of rational reconstruction of generative structures. Since the rule consciousness to be reconstructed is categorial knowledge, the reconstruction first leads us to the operation of conceptual explication.

As a prime example of such a “rational reconstruction of generative structures”, Habermas refers to Piaget’s developmental structuralism. Without going into any more detail, I hope that the crucial distinction between *content* versus *structure* helps to better understand where the concept of ILK might find its appropriate place as an analytical tool for knowledge organization.

Again, I have to emphasize that my proposal of Integrative Levels of Knowing does neither depend on Wilber’s integral theory nor on panpsychist assumptions. The selected bibliography below presents a broad spectrum of theories using ILK as a core concept. Nevertheless, I suppose that Wilber’s AQAL model might be inspiring as one of the most developed approaches to the organization of knowledge in both ontological as well as epistemological terms. In fact, integral theory has been already applied to a wide range of knowledge domains using sophisticated diagrammatic tools which might give an idea about the practical usefulness of the AQAL model as a core element of a future knowledge organization system (for an overview see [Esbjörn-Hargens 2010b](#)).²

Finally, I would like to pick up a last comment by Gnoli regarding the relation between the concept of ILK and knowledge organization systems. On the one hand, I agree with Gnoli that each KOS can be considered as a representation of a specific level of knowing since it represents knowledge of its own particular time. On the other hand, I would stress the fact that levels of knowing are integrative in nature and that a knowing subject acting at a given level would be able to consciously reflect all lower levels. Therefore, I believe that it is possible to develop a more comprehensive or even universal KOS—a kind of meta-KOS, if you will—integrating as many levels of knowing as possible.

From a developmental point of view, it seems evident that the recognition of epistemic pluralism (differentiation) with its inherent threat of epistemic relativism emerges logically as well as chronologically earlier than any attempt to a systematic organization of this fragmented pluralism (integration). In other words, relativistic thinking should not be considered as the highest level of epistemology. For individual development or ontogenesis this fact is well documented ([Kramer 1983](#); [Commons, Richards & Armon 1984](#); [Alexander & Langer 1990](#); [Kitchener & King 1994](#); [Cook-Greuter 2010](#)), whereas for cultural development or historiogenesis this seems to remain a highly political issue.

After decades of a prevailing postmodernist attitude of unbounded relativism (ironically, even critics of marginalization are able to marginalize), some tentative approaches seeking to overcome epistemic relativism are available today, for example, Wilber’s (2000b, IX) “universal integralism”, Kitchener’s and King’s (1996, 40) “post-relativistic epistemological assumptions”, or Dux’ (2011, 225) “systemic relationing”.

In the field of information science, Floridi (2011, 68) too proposes a multi-level approach in order to address the “thorny issues of relativism and anti-realism” and to develop a “pluralism without

² See for example: <<http://integraldiagrams.info/all-diagrams/page-1>>.

relativism” (2011, 74). The truly remarkable thing about Floridi’s (2011, 25) *Philosophy of Information* is his notion of an “*informational turn*”. As discussed in the beginning, the history of philosophy witnessed some fundamental changes, namely, from a paradigm of ontology (“objectivity”) to a paradigm of epistemology (“subjectivity”) and further to a paradigm of language (“intersubjectivity”). After that, Floridi suggests a recent turn towards a new paradigm that is able to integrate different context-situated perspectives within a broad inclusive framework.

Something similar I have in mind. These working notes are, of course, only some preliminary thoughts. There is some work to do. Meanwhile, the old desideratum demanded by Habermas (1984, 135) seems still a promising orienting guide:

Only a systematic history of rationality would keep us from falling into sheer relativism or naively positing our own standards as absolute.

(4) Selected bibliography on the concept of integrative levels of knowing (ILK)

The references below are selected from a broad interdisciplinary field and divided in approaches which are mainly concerned with either individual development or historical development of human knowing, although, many authors analyze their interrelations and isomorphisms as well. The references marked with a * are significantly rooted in the Piagetian tradition, whereas references set in bold seem to be of most interest.

ILK in ontogenesis

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ILK in phylogenesis and historiogenesis

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