STUDII ŞI CERCETĂRI

TOWARDS A METHODOLOGICAL PERSPECTIVISM AND SCHEME-INTERPRETATIONISM

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Abstract. In any kind of cognition or action we are bound to use frames, forms, shapes and constructs, as well as schemata. These schemata might be used consciously or activated subconsciously. Any sort of interpretation is connected with the activation or reactivation of such schemata. In this paper six levels of interpretative schema activations (schema interpretations) are outlined. Many philosophical problems could and should be reformulated along these lines.

Key words: cognition, perspective, schema, schema interpretation, level of interpretation.

Traditions of perspectivist interpretations

We all cannot do without perspectives as we are not able *not to interpret* (Lenk 1993, 350). Both insights are methodologically speaking a priori and indispensable principles I shall argue for.

Historically, one might go back to Chladenius and his idea of "*Sehepunkt*" ("point of seeing" or apprehending) or to Kant's transcendentalism (at least the methodological variant of it, see Lenk 2004). Extremely important is certainly the overall conception of unavoidable perspectives in Nietzsche's philosophical-methodical approach. According to Kaulbach (1990, 307), Nietzsche "in his thinking radically consummated the tradition of perspectivistic thinking to the very end (whereby Kant's *Critique* plays a key role) … Nietzsche's perspectivism reads that man is in need of designing a perspective by which he acquires the world, in and with which he is able to live". (As regards Nietzsche's interpretationism, cf. also Abel 1984, Lenk[1] 1988, 1993 a, Gerhardt 1989.)

For Nietzsche, "cognition is a form of acting" (action) requiring "decisions between competing world perspectives" – with which he would "perform experi-

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[1] I had developed my epistemological-methodological interpretationism by the end of the seventies starting from a Kantian, though more flexible, approach and methodological analyses of the social and natural sciences (1978, 1978 a, b, 1979, 1982, 1988, 1990, 1991 a, b, 1993, 1995 etc. Later on – ca. since 1988 – I extended the terminology to SCHEME – or SCHEMA-INTERPRETATION(ISM) in order not to have my approach confounded with traditional hermeneutical or (also) logical "interpretations" in the respective specific senses.

ments" (Kaulbach 1990, 266). We remember one of the most famous quotes from Nietzsche: "There are no facts, just interpretations" (*WW* vol. 8, 323), which seems to emphasize a pragmatic if not full-scale pragmatist interpretationist idealism. However, we can also understand or further develop all that in the guise of a multifarious methodological perspectivism being fully compatible with background though "indirect" epistemological realism and a pragmatic "actionist" approach of sorts (cf. Lenk 2003). Or, if one wishes (like Röd 1991, Lenk 1988, 1990), with a quasi-transcendental approach as well.

The methodological upshot of all that is that we cannot get out of our "universe of interpretations", i.e. from using patterns, schemes, forms, structures (or rather structuring!): *schematice interpretari necesse est, interpretatio indispensabilis.* Everywhere, schemes and structures are necessarily (unavoidably) used – and thereby also models to be embedded and/or applied in situations and thus, so to speak, automatically in perspectives. Thus, perspectives and perspectivity are unavoidable too.

This is necessary not only for philosophy and philosophical method(ology) but also for everyday conception and any "grasping of reality" (Lenk 2003) and practical acting and modeling – even in the sciences and in philosophy of science. The respective models here are but "interpretative constructs" to be corroborated or falsified by experiments or experience.

Any knowledge avails itself of patterns and structures, in our cognition of any kind we are obliged to use frames, forms, shapes and constructs as well as schemata or schemes. This is true for all sorts of grasping anything whatsoever; this may be by a process of recognition and categorization or of normative structuring or planned acting. Applications of forms and frames are schematizations or schema interpreta-tions as I would like to call these interpretative constructs and their activation in order to distinguish them from the usual text interpretation in the hermeneutical sense. Schemata might be used consciously or activated subconsciously. Any kind of interpretation whatsoever is connected with or bound to an activation of such schemata. This connection might be characterized by core features and core stimuli the selection of which is necessary, even though some of these are conducted subconsciously. Even here, on the subconscious level, cognitive quasi-constructs are used to render the profiles of contrast and the structural differentiation by activating the functions of the respective sense organs or their processing units of perception and cognition in the brain as well as the integrating poly-modal and combining yet hypothetical neuronal nodes and centers. They are partly due to hereditary and evolutionary development, partly developed by early ontogenetic interaction with the world, partly learned by experience and instruction.

Generally speaking, I call these abstract constructs of frame character schemata. Schemata are developed and applied on different representational levels in order to integrate individual experiences, single activities and sense data or stimulations into a more general frame, pattern or similarity structure. In any case, whenever we try to combine phenomena and the results of categorizing under generic perspectives, concepts, equalities of form or shape and similarities as well as analogues (*analoga*) of all these, whenever we try to identify, retrieve, recognize

shapes transcending the individual phenomenality of the so-called qualitatively given, we rely on the activation of such schemata. Any recognizing and generalizing, particular conceptual knowledge is thus bound to cognitive schemata which can be understood as more or less abstract constructs which are projected onto and into the seemingly direct sense perception and the respective experiences by recognizing Gestalten or constituting objects, processes, events etc. Any seeing and recognizing shapes and forms is dependent on and guided by schemata. Any cognition whatsoever is thus schematic. This is true not only for recognition, but also for actions, i.e. not only for rather passive sorts of "grasping", but also for rather active kinds of grasping.

It was Kant who developed in his *Critique of Pure Reason* the concept of schema for epistemology by conducting within quasi operational procedures of instantiating as well as developing schemata a connection between sense reception on one hand and conceptual recognition on the other. Kant defined (CPR B, 179f., my translation) a schema as a "product of the power of imagination (*Einbildungs-kraft*), which is not attending to individual images or imaginations, but towards the 'unity' of sensations and intuitions (*Anschauungen*) and the determination of sensuality", "which is rather the imagination of a method to imagine according to a certain concept in an image than the image itself". "Now, this imagination (*Vorstellung*) of a general procedure of the power of imagination to render an image for a concept, I call the schema connected with this concept". Kant related the concept of schema as a concept of such an operation of the sensual and conceptual shaping and framing not just to sense perception like the sensing and seeing of figures in visual space, but also to the imaginative substantiation of the "pure concepts of reason" (categories). The respective abstract – "transcendental" – schema is "but the pure synthesis, according to a rule of the unity following concepts in general …" (category) (ibid., p. 181); "In fact, at the foundation of our pure sensual concepts there are not pictures of the objects, but schemata" (ibid.). He terms the procedure, to render to the categories their "image" or mental image, a *transcendental schema* and calls the respective mechanism of coordination *transcendental schematism*.

However, Kant applied this procedure of coordination and therefore also the concept of schema also to "imaginative" and mental representation of any objects of experience whatsoever, i.e. of their images: "The image is a product of the empirical capacity of the productive power of imagination, the *schema* of sensual concepts (being of the figures in space) is a product and so to say a monogram of the pure power of imagination a priori, by which and according to which the images are rendered possible at all, which however have always to be connected with the concept only by using the schema which they designate and with which they per se are not totally congruent" (ibid.).

Kant anticipated the process of developing and establishing as well as applying cognitive constructs for the imaginative realization, visualization of mental configurations and models, i.e. of cognitions. Cognitive psychology has only since few decades in the wake of theories and concepts of Gestalt psychology rediscovered this concept of schemata as "imaginative" cognitive constructs (cf. e.g. Rumelhart 1978). Schemata are called by Rumelhart the very "*building blocks of cognition*"

(1978). Psychology discovered that not only visual conception and sense perception general, but also conceptual and common sense or naive theoretical cognition operates in terms of the developing and applying schemata, i.e., any cognitions, interpretations, knowledge whatsoever are bound to the application, selection and activation as well as checking of schemata (see, e.g., Neisser). The process of interpretation is basically to be seen in the or even as the selection and activation of possible configurations of schemata which are verified underline perspective whether or not they are congruent with thought data-fragments of memory. Beyond that, this process is an active process of searching for and structuring information.

In general, we use mental representations of frames or data features or contents which are typified, generically distinguished and concentrated to relevant features which are retrievable from memory. One may well ask whether or not the expressions and concepts of "structure", "construct" and similar concepts like "strategy", "script" (after Schank-Abelson, 1977), "frames" (after Minsky and Goffman), "configuration", "conceptual schema" etc. are essentially referring to the same concept, namely *schema*. There is no explicit, really non-circular definition of 'schema'; therefore Rumelhart concentrates on developing a schema theory which proceeds by giving essential features within hypotheses and thereby an implicit or functional or "operational" definition of the functional concept of "schema".

Rumelhart (ibid., 1978) compares the concept, role, activation and function of a schema with similar concepts of structured activities: for example, schemata are like theater staging: the instantiation or activation of a schema is like the staging of a drama, the internal structure of the schema referring to the script or plot. Similarly, schemata can be compared with theories, computer programs, parsing analyses in linguistics etc. In all these cases we have procedures and functional shaping of reconstructions which comprise variations, checks, ramifications and extensions as well as a judgment about fitting or falsification, substitution or modification of a construct by another one. It is characteristic that schemata are connected with other schemata and subschemata in a certain hierarchical architecture and those schemes have variables connected with different aspects of the environment and the diverse instantiations of the schema. For instance, the schema BUYING admits of the functional roles and schemata of BUYER and SELLER as well as the media MONEY and GOODS as well as the subschema BARGAINING. The instantiation of such a schema may indeed be considered as an analogue of the staging of a drama whereas however the concretization and instantiation of the variables allow for a greater flexibility and openness than the interpretation of a plot by the actor or director.

Schemata however are more abstract and general than a drama or its plot and script. Schemata can also refer to things, objects, shapes and events as well as any spacial, static or functional relationships and constellations whatsoever[2].

The comparison of schemata with programs, networks etc. is certainly fruitful and can be visualized in flow charts and related structural means admitting of state and point identification of the constituents and the ramifications of such

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[2] It is important that schemata consist of subschemata. The activation of a subschema is usually immediately related with the activation of the schema itself and the other way around.

structures. The total set of the schemata we use to interpret our world comprises in some sense our private theory of the nature of reality. Schemata represent so to speak our internal model of the respective situations in the world: Methodologically speaking, (*schema*) *interpretation* is but the *(re)activation of schemata*. It is true that according to modern cognitive psychology the interpretative structuring of sense perception the comprehension of texts as well as memorizing and the solution of problems is essentially dependent on the selection, (re)activation and instantiation of schemata. But not only the interpretation of a situation, but also active information seeking as well as the integration into contexts and the development of strategies for problem solving will follow the lead of partly concept- guided, partly data-guided application of schemata. The mutual activation of schemata and subschemata is essential. In general, the concept of schema or cognitive construct or even interpretational construct is a rather fruitful instrument for developing a cognitive psychological theory, but beyond that also for a new methodological epistemology. Cognitive constructs, schemata and interpretational constructs are really "the building blocks of cognition" (Rumelhart 1978) and of any mental representation or information manipulation.

As Kant already recognized the dynamical and structural as well as functional visualization of abstract constructs is schema dependent and this is not only true for empirical procedures of grasping, i.e. cognition and action, but also for methodological constructs. One may develop a sort of non- foundational transcendental philosophy of the fundamental conditions of any development, application and stabilization of any procedures of structuring by any kind of representation, be it by frames, concepts, orders, unifications, configurations etc. *Interpretation is*, generally speaking, the development, stabilization and *activation* (application) *of* mentally representing constructs or *schemata. Interpretation* (in a wide sense) is *basically schema interpretation* and founded on this as well as grounded in schema activation. Therefore, I talk of *schema interpretation*. We can even conceive of a basic axiom or principle of methodological interpretationism stating that all kinds of grasping, cognition and action are interpretation dependent, i.e. founded on the activation of schemata. This is true far beyond psychological theories and epistemological perspectives, but rather a totally general methodological comprehensive approach comprising the philosophy of knowledge (traditionally called epistemology) as well as philosophy of action and representation. We can call this approach a methodological and transcendental construct or scheme-interpretationism overarching even the modern split between natural and social sciences as well the humanities, since all these disciplines would structure their fields and objects according to the activation of schemata by using procedures of establishing, stabilizing and activating schemata as cognitive constructs in order to structure the respective world versions and sets of objects or events, structures, procedures as well as projections.

It is interesting that schema interpretation admits of levels of categorization as well as according to the variability of the respective schemata, i.e. whether or not they are hereditarily fixed or conventionalized or flexible, whether they are

subconsciously developed and activated or consciously conceived and used. I developed a hierarchy of levels of interpretation consisting of six different levels or plains of interpretation. The following diagram shows the respective six levels:

Diagram of the Levels of interpretation

IL$_1$: practically unchangeable *productive primary interpretation* ("Urinterpretation") (primary constitution or schematization, respectively)

IL$_2$: habit-shaping, (equal) forms-constituting *pattern interpretation* (ontogenetically habitual(ized) form and schema categori(ali)zation and preverbal concept-formation)

IL$_3$: *conventional concept formation* transmitted by social, cultural and norm-regulated tradition

> **IL$_{3a}$**: … by *non-verbal* cultural gestures, rules, norms, forms, conventions, implicit communicative symbols
>
> **IL$_{3b}$**: … by *verbal* forms and explicitly representing communicative symbols, meta-symbols, metaschemata etc.

IL$_4$: applied, *consciously* shaped and accepted as well as transmitted *classificatory interpretation* (classification, subsumption, description by "sortals", generic formation of kinds, directed concept-formation)

IL$_5$: explanatory and in the narrow sense "comprehending" ("verstehende"), justifying, *theoretically* or *argumentatively substantiating interpretation, justificatory interpretation*

IL$_6$: epistemological (methodological) *meta-interpretation* (plus meta-meta-interpretation etc.) of methods, results, instruments, conception of establishing and analyzing interpretative constructs themselves

The different levels of interpretation are the following ones: IL$_1$ comprises the practically unchangeable productive primary interpretations of primary constitution which might be represented by subconscious schema instantiation. They comprise the hereditarily fixed or genetically founded activation of selective schemata of sense perception (e.g. contrasts of dark and light etc.) as well as the interactive, selective activations of early ontogenetic developments like the stages of developmental psychology discussed by Piaget. Also comprised are the biologically hardwired primary theories which we cannot alter at will, but which we can (only) problematize in principle. For instance we have no magnetic sense or capacity to trace ultrasound like the bats. But we can conceive of conditions in which we could have these senses or at least devise technological means for substituting these. – On the second level we have the habitual, quality forming frame interpretations and schema categorizations as well as categori(ali)zations which are abstracted from pre-linguistic discriminatory activities, experiences of equality of shape, similarity of presentation

and experience etc. Establishment and discriminatory capacity of pre-linguistic conceptualization and development of concepts about language is to be formed on this level. – On level IL_3 we have conventional concept formation, namely socially and cultural traditional conventions and norms for representation and forms of discriminatory activities like the explicit conceptualization of framing the world according to natural kinds etc. In so far as this is not related already to language differentiation we can think of a sublevel (IL_{3a}) on which pre-linguistic convention(alization)s are characteristic. On the other hand (on IL_{3b}) we have the explicitly linguistic conventionalization or the differentiation of concepts by means of language. – IL_4 would comprise the consciously formed interpretations of embedding and subsuming as well as classifying and describing according to generic terms, kinds etc. It is the level of ordered concept formation and classification as well as ordering and subsumption. – Level IL_5 would go beyond that by rendering explanatory, or in the narrower sense comprehending ("*Verstehen*") interpretations as well as justifying a theoretically argumentative interpretations in a sense of looking for reasons and grounds of justification.

These activities are certainly not only advanced in science and intellectual disciplines but in any case also in everyday life and common sense. Any kind of a systematic comprehension within the compounds of theories, systems and overarching perspectives of integration is important here.

Beyond that however, we have also a level (IL_6) of the epistemological and philosophical as well as methodological interpretations of a meta-character, overarching and integrating the procedures of theory building and theory interpretation, methodology and the models of interpretation in the sense of methodological schema interpretationism itself. One could call this a meta-level of interpretativity and talk about epistemological meta-interpretations[3]. Therefore, we have the possibility of a self-application of the interpretational method to interpretatory procedures itself. The philosophy of schema interpretation is a philosophy of *interpretational constructs* as an epistemological model which admits of a certain kind of meta-theoretical and meta-semantical self-application in the form of a sort of "meta-interpretation". This is certainly an asset and epistemological advantage compared to a few other epistemological approaches including critical rationalism after Popper, a theory which does not admit and conceive of the precise conditions of being falsified itself. The human being is indeed the "meta-interpreting being" (cf. my 1955), capable of ascending to ever higher meta-levels of (schema) interpretation.

If we use these levels and meta-levels of interpretational constructs we can reinterpret many of the traditional philosophical problems and reformulate them with respect to the relationship between different interpretational levels as men-

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[3] However, this level is cumulative and can be considered as being open towards further meta-levels. The model and approach of epistemological interpretationism is itself certainly an interpretative one and can be described and developed only on a certain respective meta-level which is to be seen within the level IL_6.

tioned. This is true, e.g. for the concept of truth according to the correspondence theory as well as the consensus or pragmatic theory as well as many other central problems like the problem of meaning, the problem of reference and even the problem of content and intentionality as well as the old-fashioned problem of realism. The latter one can be solved now with respect to what may be called a pragmatic interpretational realism on which we have to rely for practical and common-sense-life reasons.

In addition, we can so to speak via interpretation relativize the problem of the reality of the world by discussing it under the 'perspectives of the different levels of interpretation as sketched out above. Certainly we have to dispense with absolute foundationalism in philosophy and epistemology. But in any case, the differentiation between reality and the interpretational representation of it is still relevant under the auspices of the above-mentioned axiom of the all-pervasive interpretativity and interpretation-impregnated- ness of everything which is "grasped" or even conceived by delineating an interpretative relationship between the respective level or meta-level of interpretational constructs and post-interpretationist distinction between the concepts, framings etc. on the one hand and "things", "objects" and so on the other hand. We can talk of a certain pragmatic or practical realism not only for common sense reasons, but also from the perspective of a methodological interpretationism of a quasi-transcendental character which allows of a relativized realistic position. This realism is certainly not a naive one, but a critically and interpretatively broken or really schema interpretation-impregnated one. Any realism whatsoever is to be restricted from an interpretational perspective in so far as we have no pure unbiased knowledge of the hypostatized world (any hypostatizing is necessarily schema interpretative). We have to recognize that all our "graspings" of reality are but shaped, impregnated, established and pre-structured by our different sorts, of schema interpretations starting from primary ones to more conventional ones (this might be considered a Kantian approach which also is to be found in internal realism as developed by Putnam).

Secondly, we have to acknowledge, that methodologically speaking even the distinction and differentiation between the "real" world and the interpreting being, the interpreting "self" or traditional transcendental subject, are *per se* a result of such an epistemological interpretation. The quasi dualistic model of distinguishing and differentiating between "world" and the "self" is – judged from a higher level (e.g. IL_4 through IL_6) – an interpretational model[4]. The same is true for the distinction and differentiation between knowledge and action etc. We can only represent "something" and operate within our interpretational bounds, so to speak from certain interpretational perspectives, under the auspices of applying and using interpretational methods and methodologies.

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[4] Nevertheless, from the viewpoint of a specific higher epistemological interpretive level "real" world factors might be interpreted as affecting, influencing, even co-"causing" schemata activation (as e.g. in direct perception). I more specifically call the schema activations thus mediated by "world factors" impregnations (see my 1997).

In short: The indispensability of schema interpretation is beyond any doubt and discussion. Any knowledge and grasping in the active and passive sense of the term, any comprehension of something <u>as</u> something – be it ideal or real or whatever – is dependent on interpretational forms and structures, in short: on interpretational constructs and schema interpretations. Any reality whatsoever, any ideal object and object of the activity of meaning something can possibly only be captured or grasped in schema-interpretative forms and frames and is therefore necessarily to some degree interpretation-dependent, interpretation-imbued, constituted and only "constitutable" by interpretational means. It is perspectival without – as in the case of impregnations – necessarily being totally relativistic. However, schema interpretation itself is but an epistemological means of interpreting. It is itself an interpretative construct or activity, namely under the auspices of a pragmatic interpretational methodology, which can possibly be combined with a pragmatic realism. *Schema interpretation is not everything, but anything conceivable is perspectively interpretation-dependent or in the more specific sense interpretation-laden, if not even – as again in the case of direct perception – schema interpretation-impregnated in the narrower sense. Everything can only be grasped by means of schema interpretation, i.e. by constituting schema and developing as well as activating and reactivating schemata, in short, by schema interpretation.* Any "grasping" of anything whatsoever (be it seemingly passively in the form of perception or "impregnation" in the narrower sense by factors of the 'external world' or be it more actively by framing thoughts and actions) is formed, influenced or externally impregnated by schema selection and activation.

Interestingly enough, modern neuroscience is on the brink of giving a naturalized theory of schema development, schema activation and stabilization as well as schema reactivation. Brain researchers think of the brain as an interpretative system" (Roth, 1992, 120, 1994) or of "brain constructs" ("*Hirnkonstrukte*") (Singer, 1990, 8) which are based on the establishment and development of plastic (i.e. flexible though relatively stabilized) neuronal assemblies (von der Malsburg 1986, cf. also Rakic; Singer 1988). The forming and the establishment of neuronal assemblies is hypothesized as being a building-up and stabilization of the frequency phases of oscillatory reactions of different overlapping co-varying and co-oscillating neuronal entities and the neuronal assemblies or networks which are activated simultaneously and selectively on adapting to a certain rhythmic ground oscillation of 40 Hertz and a respective process of synchronization of these oscillations which are starting to oscillate in common phase. Such a theory of the synchronicity of building up and dynamically stabilizing a certain kind of oscillation pattern and initiated impulses in the physical sense seems to be a potential explanation for the recognition of patterns, representations of forms and recognition of mental states of activities as well as mental imaginations and retrievals from memory. Therefore, we have special grounds to hypothesize about the neural biological and neurophysiological foundations of the schematization processes and establishment of constructs within the brain and in interaction with the external environment of stimuli and representational 'encodings' as well as

"active" interaction and intervention with it. This can also be related to the development of neurons and perceptual as well as cognitive capacities in developmental psychology and physiology, cognitive science and neuroscience and may potentially render a naturalized basis of the processes of formation of knowledge, perception and cognition in general. I do not think that all semantical programs of meaning and epistemological problems of intentionality can be naturalized in the strict sense. We are not yet able fully to straddle the "semantic lacuna" – even not in teleological-functional approaches like Millikan's (1984) well elaborated one.
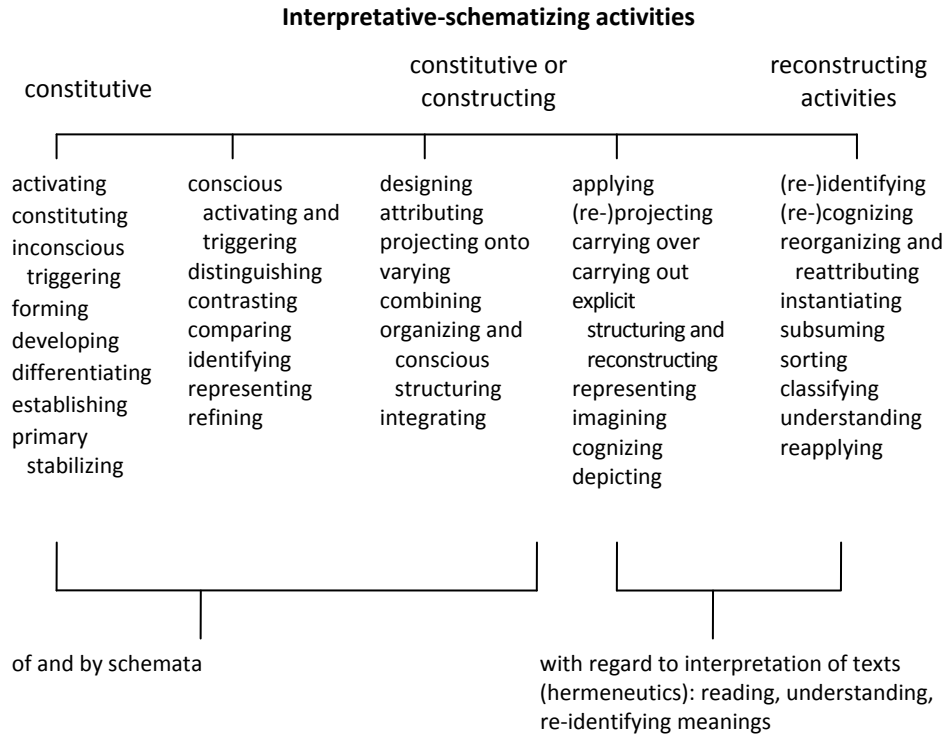
Even natural scientists in modem fields like microphysics, in dealing with theoretical entities avail themselves of interpretational constructs as we all do in our everyday life, too. Therefore, the cleavage between natural sciences and interpretative disciplines, the gap between reality and representation, between knowledge and action, between experimental results and the pre-experimental setup, between concept formation on the one hand and referents of concepts on the other is not as wide as we would traditionally think. Knowledge and action are connected and overlapping, they are but perspectival differentiations of one another under a certain emphasis. Intervention into the world is always dependent on interpretation and the other way around. Interpretation in general and the capacity to interpret is dependent on impregnation in the narrower sense, that is on the fact that hypostasized "real" worldly structures have an impact on our actions and reactions as well as our modes and means of representation. Intervention, interpretation and impregnation are mutually related, even the distancing of "the world" from our acting and recognizing, from cognition and knowledge is gradual, relativized, itself in a sense interpretation-dependent, at least from an epistemological perspective.

Schema Games – an Extension of Wittgenstein's Language Games

The human being is a (scheme-)interpreting and *the meta*-interpreting being (see my 1995 b, 2008). All actions are also schematized or structured by/in patterns, plans, rules, norms etc. Schema interpretations and *interpretative constructs* (my 1993) are systematically connected and embedded in structured and interactive physical, biological, even physiological, networks and social environments. The approach is compatible with a perspectival realism (see my 2003, 1995) and with dynamic processes and procedures rather than static configurations. Cognition and actions are in general schema construction and scheme(s).

Cognitive psychologists like Neisser (1967) and Rumelhart (1980) stress that "cognition is construction" and "Our schemata are our knowledge"; the schemes would be our "private theory" of (the "nature" of) "reality" – including normative patterning and action 'know-how'. Schemata thus comprise all forms and possibilities of "grasping something" on any level of potential abstractions. They are and would be realized (even materialized) as/by active application – though with a realistic underpinning (see my *Grasping Reality* 2003). Without schematization and interpretative constructs no knowledge, no actions, no "grasping" (literally or figuratively)! That's the basic methodological message or principle: All knowledge and action (or behavior) is shaped or impregnated by such processes of schematiza-

tion and interpretative constructs. These "interpretative-schematizing activities" may be listed in a diagram (after my 2003, 23):

Interpretative-schematizing activities

constitutive		constitutive or constructing		reconstructing activities

activating
constituting
inconscious
  triggering
forming
developing
differentiating
establishing
primary
  stabilizing
	conscious
	  activating and
	  triggering
	distinguishing
	contrasting
	comparing
	identifying
	representing
	refining
		designing
		attributing
		projecting onto
		varying
		combining
		organizing and
		  conscious
		  structuring
		integrating
			applying
			(re-)projecting
			carrying over
			carrying out
			explicit
			  structuring and
			  reconstructing
			representing
			imagining
			cognizing
			depicting
				(re-)identifying
				(re-)cognizing
				reorganizing and
				  reattributing
				instantiating
				subsuming
				sorting
				classifying
				understanding
				reapplying

of and by schemata   with regard to interpretation of texts (hermeneutics): reading, understanding, re-identifying meanings

Language games – life forms – schema games

The later Ludwig Wittgenstein did not exactly define his concept of 'language games', but introduced it by describing examples (*PI* § 23) and circumscribing similar ones showing what he calls "family resemblances" without a thoroughgoing common essential trait (see, e.g., the general species concept of "games", ibid. § 67). He thus referred to language and "language games" in his notoriously wider perspective: that "*das Sprechen einer Sprache ein Teil ist einer Tätigkeit, oder einer Lebensform*" ("form of life", ibid. §23). He presented some rather diverse examples like "playing theatre", "producing an object after a description (drawing)", "representing results of an experiment by tables and diagrams" (all these and many others are examples of "language games"). Without needing an explanation such a "*language game is* (just, *HL*) played": It is to be looked upon "as *the primary*!" (ibid. §§ 654–6).

The wider "life forms" and the respective "common human action mode" (ib. § 206) or action usages or "customs" ("*Gepflogenheit(en)*", ibid. § 198 f.), namely "the application" would "remain a criterion of the understanding" of the language game(s) (ibid. § 146) – especially for a foreign language. The meaning of

words and the language games (including pictures and sign usages) would be learned, showed, and understood by their use (or usage) within respective "life forms" (ibid. § 43). "The taken for granted, the Given – one could say – would be *life forms*" (ibid. part XI, 1967).

Wittgenstein's concept of language games was/is indeed very useful to illustrate the general embedding of verbal representation in action contexts and "life forms". But it does also invoke more general perspectives and philosophical problems referring to mental representations, scheme-interpretations, scheme-interpretive activities etc. (as listed above). Not only the traditional limitation of language to verbal speech is avoided but a general functionalistic approach or theory of procedures and means of representation can thereby be developed. To note, initially the proposal seemed to be limited itself to verbalism and behaviorism as well as external media and representation vehicles. However, it isn't or at least shouldn't be. It can and is to extended to virtual and imaginary and traditionally so-called "inner" or mental representations and references as well as social, institutionalized, normative, cultural and abstract, "higher", (re)constructions and focusing or identifying processes within a context or hierarchy of scheme-like networks. The more or even smooth or perfect attunement and gradually established coordination of physiological or even psychophysical learning processes etc. are characterized by playing-in and getting accustomed to or routinized with serial steps, rules and schema successions etc. in more or less systematic learning or self-organizing structures. There is also a sociocultural fixing or developing process of finally well-coordinated schematic action and behavior patterns – even on neurophysiological and neurobiological sublevels in terms of adaptation, (at)tuning, controlling and getting into the "swing of things" by training, exercise and trying out – in short, by schema-learning. There is not only a "fixation of ideas" but also of scheme development and its well-functioning.

Schema games and the respective training and learning processes may in part be conceived of as some sort of "introjected" and socially attuned language games a la Wittgenstein within (after Kripke 1982) deeply "socialized" (or societally impregnated) "life forms" and "institutionalized" "usages" ("*Gebräuche*", "*Gepflogenheiten*", "uses", "customs", *PI*, § 198 f.).

Neuron assemblies and networks (as neuronal correlates of scheme-formations) are nowadays accessible by non-invasive procedures of checking and even control on the basis of the dynamic formation and stabilization of synapses and networks according to models (Hebb, Malsburg).

In general, the wider concept of schema games may indeed, parallel to Wittgenstein's language games, be useful and helpful for the pragmatic and use-oriented embedding and understanding of scheme activations in learning and behavior as well as action contexts and for the respective functional-dynamic explanation of the nonverbal forms of representation. Like the language games they show "family resemblances" and are related or involved in "life forms", although they have a dynamic neuro-deep-structure on the micro-level and on the macro-level as patterns etc. They would, also transcend the singularity of phenomena and single experiences

towards a social anchoring and extension in a relatively flexible, but socially quasi stabilized manner.

In and by schema games we construe (or even unconsciously give) structure and relative stability plus re-identifiability to all our "graspings" (see my 2003) – in our cognitions, perceptions, basic and social behavior as well as in our actions, in principle inseparable thereof.

In summary, we can and should extend Wittgenstein's concept of "games" *from language games towards schema games* – in order to integrate natural science and neuroscience results and hypotheses as well as transcend the terminologically too narrow "lingualistic" model of language games. This is certainly along the lines that Wittgenstein had in mind when he identified language games with "small" "life forms".

Humans are not only beings of descriptive and recursive language but in a more general sense they are also scheme-interpreting creatures, even the meta-interpreting beings always capable of ascending to an ever higher meta-level of conception, theory building and mental abstraction.

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