Paper

Human Development

Process Structure of Semiotic Mediation in Human Development

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Abstract
Development of semiotic mediation of psychological functions entails construction and use of signs to regulate both interpersonal and intrapersonal psychological processes. The latter can be viewed as regulated through a hierarchy of semiotic mechanisms. It is demonstrated that semiotic mediation leads to the creation of psychological problems as well as to their solutions. Semiotic mediation guarantees both flexibility and inflexibility of the human psychological system, through the processes of abstracting generalization and contextualizing specification, which operate through the layers of the semiotic regulation hierarchy. Context specificity of psychological phenomena is an indication of general mechanisms that generate variability.

Much has been written about the role of signs – semiotic mediators – in psychology over recent decades. Usually more or less elaborate claims in favor of the importance of signs – semiotic mediators, words, 'voices', meanings – in human psychological worlds have been made [Cole, 1996; Shweder, 1995; Wertsch, 1991, 1998]. That importance is here taken for granted, and the question addressed moves beyond the discourse about the social nature of the human individual *psyche* [Valsiner & Van der Veer, 2000].

In which ways could one conceptualize the functioning of signs in the regulation of psychological processes? The present elaboration is based on previous work along similar lines [Valsiner, 1996, 1997a, 1998a, 1999]. By a focus on *regulation*, a systemic perspective is immediately evoked. The system that is being regulated entails psychological *processes* of intra- and interpsychological communication. These processes are mutually related in a *hierarchical organizational order* – some of them (higher psychological functions, based on the operation of signs) control-

ling others (lower, nonintentional psychological functions, or flow of personal experience). The hierarchy can be viewed as open to changes [including reversals, or formation of intransitive order – see Valsiner, 1997d]. The person is viewed as *inclusively separated* from its environment [Valsiner, 1997a, 1998c]. The intrapsychological system is cultural through the inclusion of semiotic regulators into the hierarchy of psychological processes [Valsiner, 1998a]. How that system works in its immediate relatedness with the environment is the target of the present theoretical construction.

The General Bases for the Present Approach

Historical Background

Scientific psychology begins with a clear focus on how human language guides the human mind. Starting – in the 19th century – from the language philosophy of Wilhelm von Humboldt [1822/1905], and continuing along the lines of the first institutional recognition of psychology (i.e., the first psychology professorship of Volkerpsychologie given to Moritz Lazarus in Bern in 1860), the focus on the sign-mediated nature of the human psyche reached the epistemological pool of ideas of the social sciences by the 20th century in three forms. First, there was the semiotics of C. Sanders Peirce [1893, 1935] which grew out of efforts to develop a logic for the human mind. Second, the intellectual tradition emanating from the work of Franz Brentano led to the analysis of presentation *(Vorstellung)* as meaning construction tactics [Meinong, 1902/1983]. Finally, the emergence of Ferdinand de Saussure's view on signs in the language area [Engler, 1968] brought the notion of signs and their relevance into the minds of psychologists.

The 20th century entailed further to make sense of the role of sign systems in human psychological processes. Two philosophical systems – those of Henri Bergson [1907/1911] and Ernst Cassirer [1926/1955; 1929/1957] – stand out as the key catalysts of psychological thought in this area. The notion of social origins of human psychological processes was a widely appreciated core notion of the 1900s [as it has become again so in the 1980–1990s – see Valsiner & Van der Veer, 2000]. The focus on the study of genesis of psychological synthesis [Baldwin, 1915] as well as that of the study of higher thinking processes [in the 'Würzburg School' of Oswald Külpe and Karl Bühler – Budwig, 1998; Valsiner, 1998b] laid the foundations for the cultural-historical thinking of Vygotsky [Van der Veer & Valsiner, 1991]. Vygotsky's consistently semiotic and developmental theoretical quest has survived over the past century to envigorate contemporary sociocultural thought. A parallel system of *sematology* [Bühler, 1934/1990] remained underdeveloped due to historical circumstances [Budwig, 1998; Valsiner, 1998b].

Developmental Orientation in Psychology

The term development is used in psychology in very many ways, only some of which reflect the actual developmental orientation [Valsiner, 1997d]. Three basic kinds of models can be found in the thinking of psychologists – one that disallows the study of development, and two that allow for various takes on the developmental process.

The first kind – *essentialistic models* – entail attribution of causality for development to presumed static causal entities that exist independent of time in development. All attributions made in child psychology to genetic, temperamental, or even environmental factors that cause or contribute to development are of this kind. The essentialistic models are ahistorical and guide researchers' focus away from the study of processes of development. They represent nondevelopmental mindsets of researchers.

The *past-to-present-models* accept the role of the past life history of the organism in leading to its present state of functioning. Evolutionary, Freudian, stage-accounting, and frequentist probability-based specific approaches are examples where these kinds of models are applied. One can easily look at development as it had proceeded from the past to the present moment. Most stage accounts depict such history – development is viewed as a sequence of stages. These models often attempt to predict the future. For example, various carryovers of *past* transitions from antecedent to consequent events are transposed (as conditional probabilities) to predict the future (e.g., Markovian designs). All of those explain the attainment of a future state *post factum* – when it already has become present (e.g., explanations in evolutionary psychology). The underlying assumption that is axiomatically accepted here is that the dynamic *changes* of the past that have led to the present can also explain any future. History (of the past) is here utilized to eliminate history (of new developments) for the future. The future is assumed to be similar to the past.

These past-to-present models do not concentrate on the study of *the future-in-the-making*. This is the realm of the developmental models of the third kind – those of *present-to-future models*. These models give researchers a focus on the processes of emergence – or construction – of novelty. The research orientation of semiotic mediation belongs to the realm of these models. The semiotic/historical view is constantly *oriented towards the immediate future* of the present psychological processes. The semiotic mediation focus allows charting out developmental events *before* these happen, through their study *while* they are emerging. The focus of researchers is maintained on the process of the present (actuality), on the basis of anticipation of immediate future possibilities and through construction of reality out of these anticipated possibilities.

Signs as Makers of the Immediate Psychological Futures

Signs are part and parcel of human psychological functioning – linking the person with the world in the constant striving forward towards the future. The special focus here is on issues of hierarchical regulatory systems as those emerge to organize conduct – and as they are undergoing the constant process of alterations. This focus is based on the present-to-future generic developmental model (above).

The present view is *semiogenetic* – signs are seen as emerging from the field of communication through the principles of genetic logic [for elaboration of how this happens, see Josephs, Valsiner & Surgan, 1999]. Once emerged, the signs continue to differentiate and become hierarchically integrated in accordance with the general orthogenetic principle [Werner & Kaplan, 1956]. In the case of continuous use in communication, the sign undergoes a process of abbreviation [Lyra & de Souza, in press]. Abbreviation entails partial (or full) disappearance of the external manifestations of the sign, yet it is retained in an abstracted and generalized intrapsychological domain. In this way, the sign acts as a semiotic reserve for future needs of semiotic regulation.

Signs operate psychologically only through human intrapsychological worlds. Without human personal worlds there could be no signs – the central notion of the person as the source of agency in sign making (and subsequent abbreviation of signs) is an axiomatic given. All in all, signs are *subjectively constructed, interpersonally consolidated, and stored in both intra- and interpsychological domains.* By their main role – 'standing in' for some aspect of experience – signs acquire flexibility through their abstractive generalizing role (see below). Signs create *relative stability* within the field of experience – 'capturing' some (generalized) features of the irreversible flow of experience of a personal kind. Through that relative stability, human beings can bridge their past and present with the immediate next future-in-the-construction.

Heteroregulation and Autoregulation by Signs

Every world a person utters for others (*hetero*regulation) is simultaneously an act of regulation of oneself (*auto*regulation). Yet those two directions necessarily differ from each other – since the generation of a communicative message to another person is not isomorphic with that of the message the sign carries for oneself [Mead, 1912, 1913]. This is guaranteed by the principal impossibility of any other person but the speaker to assume the present moment's subjective position in relation to the process involved [see Bühler, 1934/1990].

Autoregulatory processes guarantee that any level of sign use by a person cannot be isomorphic with the lower psychological processes (i.e., the semiotically unregulated ones – or involuntary processes). Signs necessarily differ from what they signify in order to allow the person to transcend the current flow of here-and-now experience. A slowly emerging understanding in my intrapsychological field 'I *can* do X' prepares me for future actions towards achieving X, rather than merely summarizes my actions in the present [for further elaboration, see Heider, 1958, pp. 86–109]. In a (hypothetical) sequence of efforts to reach X, one can observe the forward-oriented function of the sign: {effort towards X, limited success} → 'I can get X' → {another limited-success effort} → 'I can get X' → {another effort} → ...{success}. The intrapsychological self-assurance about one's capability here *preemptively regulates and directs* the action. Semiotic regulation is thus of crucial relevance for intrinsic motivation.

A Fresh Look at Consistency

Semiotic regulation provides a simple solution to a long-standing concern in empirical psychology. Psychologists have disputed the issue of 'consistency between behavior and self-report', usually lamenting that such consistency is low. From the present viewpoint, *low* consistency between acting and reflecting upon acting is a necessary and expected result from the role signs play in regulation of conduct. Refer back to the 'can do X' example (above) – it is unlikely to expect full consistency here. The self-report at any time in the sequence – 'I can do X' – it is unlikely does not ('fully and accurately') depict the concurrent behavioral state of affairs (i.e., the person currently *cannot* do X). The self-report is functional for the future of the person's conduct, rather than a reflection of its present state. To limit the role of signs to merely describe the present would deny both the heteroregulatory and autoregulatory functions of signs. The *process of semiotic mediation creates difference* – rather than similarity – between

the interpersonal and intrapersonal psychological domains. The difference between the internal (expressed through self-reports) and external (expressed in actions) side of human psychological functions is the norm, and its absence (i.e., what would be considered full consistency of self-reports and behavior, in terms of behavioristic observational methodology) can be a rather unfortunate (for the person's development) exception.

Future Orientation in Communication Process

Communication efforts are goal-oriented by persons in their assumed social roles. Thus, a person in a particular role would differ from the same person in another role. Thus, under the same shared referent, the same message emerges with different meaning nuances:

A to B (while both see scene X): '*Look, this is X*'

This message can entail – given the past experiences and future expectations:

A (as teacher) implies '*and you should learn about it*'
A (as tourist group member) implies '*isn't that nice?*'
A (as a spouse talking to the other spouse) implies '*and you should feel guilty for not bringing me here during our honeymoon*'

Thus, in each use of signs in auto- and heteroregulation, the same sign appears simultaneously within a multitude of functions. In terms of broad domains of semiotic mediation, the same mediating device makes the links between past, present, and the future. It first relates what is presently the case with some contrast with the past. Secondly, it encodes the feelings of the person concerning the here-and-now setting. Finally, it makes the distinction between the immediate next developmental possibilities/ impossibilities (what can and cannot happen next) and potential possibilities (what *could* be brought to the realm of possibilities). The latter actualization of such possibilities may follow – but can also be redirected or aborted through semiotic suppression. For example, a person, who has had an idea X popping up in her mind, immediately moves on to say to herself, 'what a horrible idea!' In the heterocommunication process one can observe the unfolding of redirected speech forms (e.g., unfolding exclamations, such as 'what the he ... ck').

Three forms of presentation – re-presentation, co-presentation, and pre-presentation – focus on past, present, and future. Consider a statement: 'This child is blind'. *Blind* here is a sign that carries (simultaneously) a message about the child's past (somehow the blindness has occurred – *re*-presentation), the present (here-and-now we have a child who can't see – *co*-presentation), and continued future impossibilities (unable to see – *pre*-presentation), possibilities (the child can experience the world through all other sensory systems), and potential possibilities (blindness can be overcome by visual prostheses). The use of this statement by anybody may include all of these three, or only some of them [Valsiner, 1997c].

Permanent Impermanence of Signs

The core assumption in the present exposition is the *permanent impermanence* of signs as they function in human psychological organization. Such a combination of opposites reflects the realities of the semiotic mediation of the human psyche. Human beings are constantly creating their immediate future through the construction and use of signs in the present. Since the present is but a transitory moment, all sign mediation efforts are limited to that moment. In this sense, they are impermanent. Yet it is precisely through that mediation – by transitory sign uses – that the person creates continuity of meaningful relating to the world over time (hence permanence). That is guaranteed through the recurrent use of signs; hence temporary signs lead to relatively permanent – or relatively stable – reflection upon oneself within the world. In other terms, it is through constant alteration in the signs used (i.e., their impermanence) that the permanent role of signs is exemplified. The particular signs may come and go, but the meaningfulness constructed by them (which itself is a kind of metasign) stays in a steady state. This was captured by Vygotsky (who reiterated the ideas of Frederic Paulhan, and dialogued with them) in explaining the relations of *meaning* and *personal sense*:

> The sense of a word ... is the sum (totality – '*sovokupnost*' of all the psychological events aroused in our consciousness by the word. It is a dynamic, fluid, complex whole, which has several zones of unequal stability. Meaning is only one of the zones of sense that the word acquires in the context of some kind of speaking – the most stable, precise and unified zone. As is known, a word easily changes its sense in a different in which it appears. Meaning, on the contrary, is that stationary and unchanging point that remains stable in case of all changes of the sense of the word in a different context. This change of the sense of the word we could establish as the basic fact in the semantic analysis of speech. The real meaning of the word is non-constant. In one operation the word presents itself in one meaning, in another – it acquires another meaning. This dynamicity of meaning brings us to Paulhan's problem – to the question of the relations between meaning and sense. The word, taken separately in a vocabulary, has only one meaning. However, that meaning is nothing more than a potentiallity, which becomes realized in live speaking, in which that meaning is only a building block of the edifice of sense. [Vygotsky, 1934, p. 305][1]

Vygotsky's emphasis on the new meaning emerging (as a synthesis) from the investigation of the field of sense is an example of the permanent impermanence of signs. Constant meaning making by the person grants temporary steady state features to meanings of words. Even if in the dictionary the meaning of a word seems fixed, it is an example of temporary fixation that will undergo transformation as the word is being used to arrive at sense in some new context.

In their permanent impermanence, sign construction is similar to all other biological life-sustaining processes. In our breathing we are involved in permanently impermanent intake of oxygen; in our assuming upright (bipedal) posture we are permanently

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[1] This is a new translation of the original passage from Vygotsky indicating the relations of sense *(smysl)* and meaning [*znachenie* – for standard English translation of the same, see Vygotsky, 1986, pp. 244–245]. This somewhat clumsy new translation demonstrates Vygotsky's emphasis on relativity of the stability of both sense and meaning – both are dynamic (yet the field of sense more dynamic than the realm of meaning), the act of speaking dominates the process of actualizing real meaning, which may be based on a fixed – dictionary-kind – meaning, but would undergo change in the process of sense construction.

maintaining balance through minute corrections of temporary imbalanced states. The stability of our upright posture is maintained through routine overcoming of minor instabilities. What externally seems as stable 'being' is inherently a process of constant regulation of a *status quo* – dynamic stability.

Signs Create Both Stability and Instability

Growth of semiotic control systems guarantees human psychological flexibility, together with its opposite – inflexible fixing of a way of thinking or feeling about something). It is important to make it clear that semiotic mediation is instrumental in human development not only for *solving* psychological problems, *but also for creating them*. Human beings create their problems through the use of cultural tools, and then try to use other tools to solve these problems. The majority of human needs are culturally constructed; their meaningful nature – through the prism of affective evaluation about their current state of satisfaction – leads to constant creation of new 'psychological problems' for the representatives of *Homo sapiens*. In the human world, the new problems set up social contexts for different institutional role carriers – psychologists, social workers, healers, etc. – to come to the capacity of selling their problem-solving expertise for some gain.

Consider the use of labeling of any specific part of the human life course. Such labeling establishes a notion of a stage in development – a period that becomes viewed as relatively homogeneous, and contrasted with others. The highlighted stage can acquire specific valuational nuance through the act of labeling. Thus, distinguishing the stage of adolescence in child psychology is an act of conceptual categorization of all the variety of psychological phenomena of teenagers under that general label. The nuance of adolescence can be that of 'problematic' (when viewed from an adults' control-oriented standpoint). Alternatively, it could be 'creative', 'spiritual', or anything else. Differently from the latter (unused) possibilities, the 'adolescence = problem' designation leads to further construction of the meanings of the 'problems', followed by efforts to solve those.

Re-Contextualization of Signs through Generalization

Human ontogeny entails the construction and use of signs to regulate both interpersonal and intrapersonal psychological functions. The latter are described here as the build-up of hierarchical regulatory mechanisms of increasing generalizability. All generalization involves abstraction from some aspects of the original sign and its referent. It is through abstraction that the present sign relates to previously created and/or used ones. Thus, abstraction entails the formation of a new whole (new Gestalt) within which the parts are unified.

Subjective generalization allows the person to unite different personal experiences of the past with a new experience. Through the use of signs, human beings can transcend any here-and-now situated activity context by way of subjectively constructed personal meanings.

Generalizability is the propensity of a sign to create an abstracted reflection upon that initial context. In order for that to happen, the sign becomes separated from the context in which it emerged, and becomes transferable to other, new contexts. The generalized sign is capable of assuming autonomous existence (albeit within the mind of a
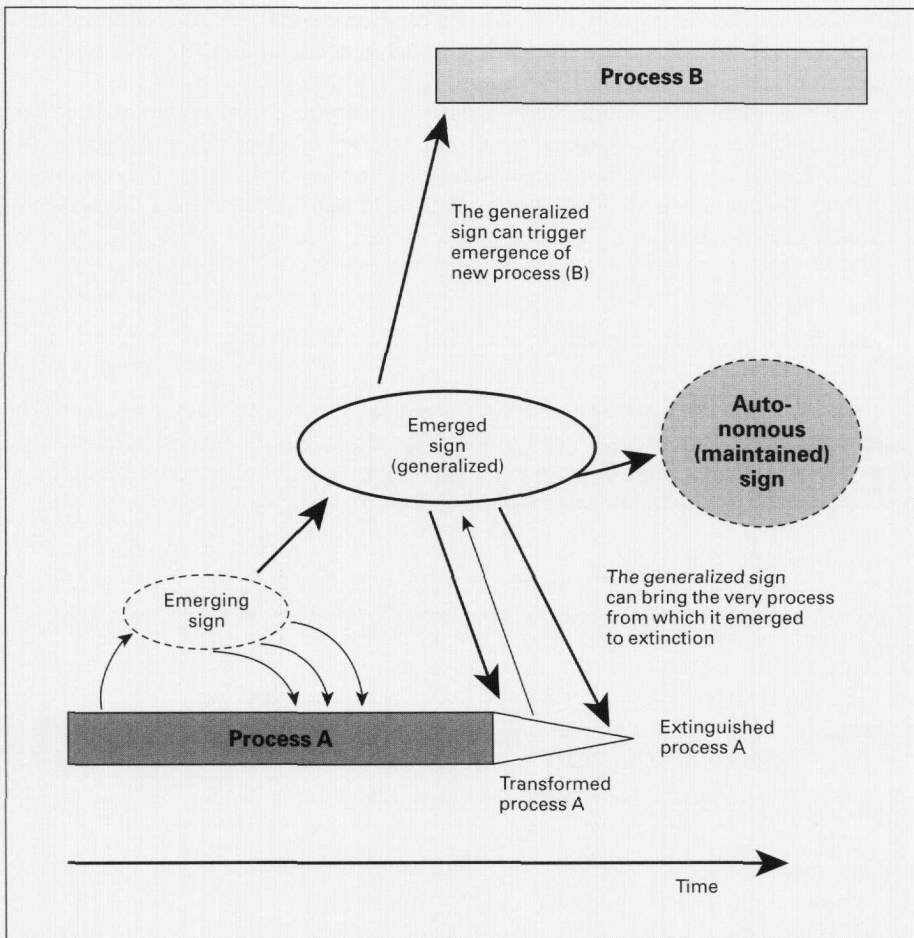
Fig. 1. Generalizability as a property of a sign.

person – intrapsychologically, and in the communication between persons, interpsychologically).

In figure 1, we can see this propensity depicted. The sign as it emerges from the underlying (primary or 'lower') psychological process (process A) remains connected with the process by way of channeling its continuous flow. This SIGN $\leftarrow \rightarrow$ PROCESS distinction and asymmetric regulation (of the dominant position taken by the sign) leads to further distancing of the sign, as it is becoming generalized. The generalized sign not only can continue to regulate process A (including the possibility that process A itself disappears, as depicted in fig. 1), but it can also assume an autonomous sign state. It can also take the role of the trigger for another psychological process (B).

The latter case is that of transfer of a sign through its generalized nature. Signs cannot be transferred directly from one process to another. They need to 'get loose' from

one – by way of distancing from it – so as to become functional in another simultaneously. This is in line with the notion of transfer through generalization that was emphasized by Gestalt psychology [Katona, 1940].

The state of an autonomous sign is a case of encapsulation of the generalized sign 'in itself'. Such signs are maintained over time – intrapsychologically and interpsychologically. These are ready to be brought to action in new contexts when they happen to be usable. As such, the pool of autonomized signs serves as a reserve for the person to encounter new life situations.

Hierarchy of Semiotic Regulation

Signs operate upon signs, and become regulators in respect to one another. The multifunctional nature of signs guarantees the emergence of flexible hierarchical systems of semiotic regulation. The move of a sign into a regulator role creates the minimal case of a hierarchical dynamic system of regulators:

SIGN regulates {PROCESS}.

which can immediately be superceded by another level of hierarchical semiotic regulation:

SIGN (2)
regulates
{SIGN (1) regulates {PROCESS}.}

until

SIGN (n)
regulates
{SIGN (n –1)}
...
regulates
{{SIGN (1) regulates {PROCESS}.}}

Human conduct *overdetermined* by meaning [see Obeyesekere, 1990]. The manifold of signs that is involved in regulating a given basic process is multiple, and can involve temporary hierarchical ordering. Semiotic mediation is *redundant* – different signs, functioning in parallel, organize the same process. This guarantees that the process is regulated in one or another way.

Semiotic overdetermination is flexible – in some moments it is enhanced, at others limited to only one particular sign level. Or it may not be available at all – in cases where there are aspects of human automated actions which have become freed from semiotic control in development.

We may encounter *ever-increasing and ever-generalizing growth of the semiotic regulatory system* (fig. 2). Here we see a linear unconstrained growth of a sign hierarchy that regulates the flow of the lower psychological process. A person is feeling *something* (but it is not yet clear to oneself what that some*thing* is). In reality, it is a field (range) of affective phenomena, not clearly specified. It is not clear what the various manifesta-
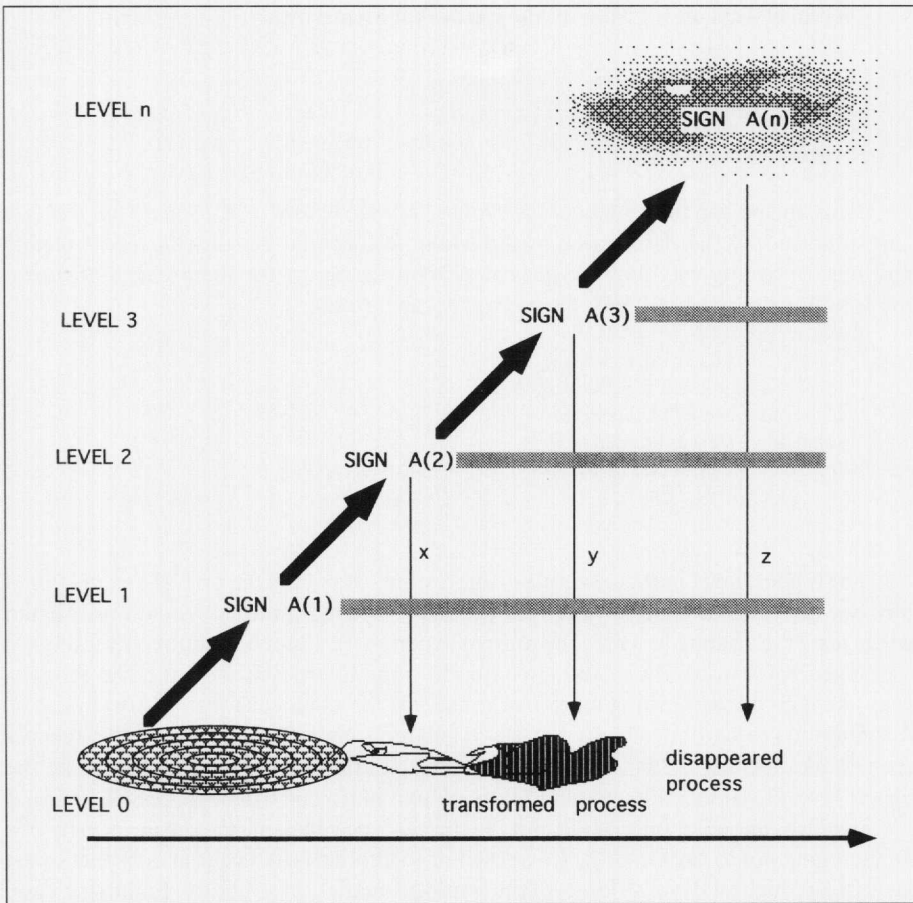
Fig. 2. Growth of the hierarchy of semiotic regulators.

tions of the feeling are precisely like, it is only clear that the feeling is moving (by the person's introspective) towards becoming narrowly focused. Then, at some instant, the person realized 'I am *angry*' (i.e., creating a sign – A(1) to reflect upon the feeling process).
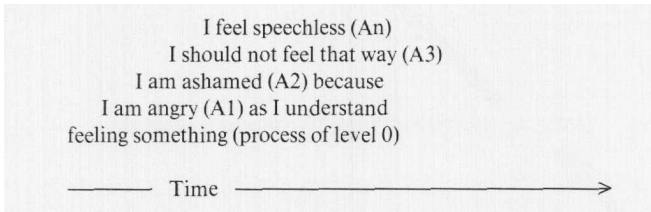
From the instant of the recognition 'I am angry', the feeling realm becomes redirected. The previous feeling becomes now part of the system of anger, and widens to include other feeling phenomena through the sign of 'anger'. This widening guides redefining the range of senses at the sign level. It can lead to the emergence of shame (A(2)), so the person creates a sign hierarchy:

I am ashamed (A2)
because I am angry (A1)
about this feeling (level 0)

A further level – can be added onto the top of that hierarchy:

I should not feel that way (A3)
I am ashamed (A2)
Because I am angry (A1)
About this feeling (level 0)

Thus, the person may include '*I feel angry, I am ashamed of it, I should not feel that way*', followed by the dampening of the whole feeling (the person can report feeling 'nothing', or feeling 'just dumb', 'speechless'). Furthermore, the hierarchical organization is built up over time. Thus, the hierarchy can become.

I feel speechless (An)
I should not feel that way (A3)
I am ashamed (A2) because
I am angry (A1) as I understand
feeling something (process of level 0)

———— Time ————————————>

The highest level in this example is interesting – it entails the arrival at a meaningfully overgeneralized state in which no words are needed. In many situations, human beings just reach a state in which the present experience cannot be captured by a single – even a general – word. This can happen both in the interpsychological realm (confessions like 'I could say nothing more'), or in the intrapsychological realm (A(n) in fig. 2). This amounts to semiotically mediated – regulated – construction of powerful silences [see Ohnuki-Tierney, 1994, on 'zero signifiers']. Refraining from speaking can be the highest level of semiotically mediated state of human psychological processes.

Here we can see an interesting unity in human 'speechlessness' – the propensity of a human being not to say anything (to oneself or to another) can occur at *both* the lowest (level 0) and highest (level n) levels of the semiotic mediation structure. In the first case, the person just lives, experiences the moment, and has no necessity to say anything. In the second case, the person has *over*generalized the signs used in the mediational hierarchy to a level where speech turns into speechlessness. This is the desired result of excessive forms of mediation – to get rid of ordinary thought by thinking in terms of overgeneralized semiotic fields. Yogis may reach that level of semiotically mediated overgeneralized silence. The ultimate goal of speaking (to oneself or others) may be precisely the opposite – understanding without any need to speak.

Abstracting Generalization and Contextualizing Specification

The study of human development has been struggling with how to take time into account in its methodology. In that struggle, the necessity to consider dynamic hierarchies of semiotic regulation has not been emphasized. Yet what follows from the present exposition is that semiotic regulation is precisely the work of such hierarchies ('on line', or in real time, so to say). Two processes can be present in the regulatory hierarchies – *abstracting generalization* and *contextualizing specification.*

Abstracting generalization creates new levels of semiotic regulators, removing the re-co-pre-presentational role (as discussed above) increasingly further towards higher

complexity of abstraction. For example, human values are generalizations of an abstracted kind. Extremely general terms like 'love', 'abuse', 'justice', 'freedom', 'depression', and soon are meaningful in their overgeneralized abstractness. As such, these can be brought to bear upon regulating very specific contexts (by a process I call contextualizing specification), yet in their abstract form they are impossible to specify in their entirety. Such signs are of nebulous character – like clouds (as those frame our everyday weather), they give overwhelming meaning framing to a person's understanding of the ongoing experience.

Let us consider real-life examples of how persons utilize hypergeneralized semiotic mediators in the specific regulation of a particular ongoing event. In the US, the notion of *fun* has acquired this sort of overgeneralized and abstracted meaning. Nobody can exactly define what 'fun' means, but its use is possible across an immense variety of concrete contexts. People can 'have fun' doing almost anything – from doing nothing to working hard on their self-created hobbies. People can set up 'fun' as a criterion for improvement (by making 'having *more* fun' one's personal goal orientation) or even for competition ('I want to have *more fun than* John').

The meaning of 'fun' itself is in principle indeterminate, and in two ways. Within a person's psychological realm, it is an abstracted overgeneralization from a wide variety of personal life experiences of the past, linked with the language notion of 'fun'. The contrast here is with the opposite ('non-fun') that helps to specify the boundary of the two for specific referents. Yet such a contrast is made – and maintained – only within the personal meaning-making process. My stating '*It was a lot of fun* to write this paper' provides the reader with no basis for understanding of what for me the *fun <> non-fun* distinction is like. In interpersonal communication, the notion of 'fun' is completely indeterminate in its meaning, yet easily usable for creating a state of illusory intersubjectivity. Such intersubjectivity sets the stage for communication (with oneself and with others). On the basis of intersubjectivity, the semiotic mediation process creates mediating hierarchies of signs, and makes it possible to use vague general meanings in concrete new contexts.

General Conclusion: Human Development Is Organized by Flexible Semiosis

The sociality of the individual mind is proven by its unique subjectivity or the historical specificity of human psychological existence is its universal feature, from both developmental and cultural-psychological perspectives. Developmental psychological research, if serious about making sense of the development of sign-mediated action, cannot escape including in its methodology the study of the processes of abstractive generalization and contextualizing specification. In addition, there is a need to look at the abundance of human uses of semiotic devices as an example of excessive *hyper*production of potentially usable vehicles for meaningful relating with the world. Hyperproduction is a way to adjust to the indeterminacy of the immediate next experience. Indeterminacy of the future breeds the overpreparedness for it from the past, in the realm of sign construction.

Constructed personal meanings are interdependent with – but not determined by – the realm of interpersonal communicative processes. The multiplicity of communicative messages constitutes the heterogeneous 'input' into self-construction by individual

human beings. The dual process of internalization and externalization makes each individual into a *unique* person, while based on the *same* general background of the given society. The universal role of semiotic mediation can be proven not by persons 'sharing' the 'same' meanings in their intrapersonal worlds, but by their construction of their subjectively unique understandings on the basis of socially communicated messages.

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