TOWARD AN INTEGRATED CONSTRUCT OF APPLIED PSYCHOLINGUISTICS: THE CASE OF SECOND LANGUAGE ACQUISITION*

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RESUMO

Nos últimos anos tem sido realizado um progresso lento mas firme no sentido de elucidar certas estratégias e certas variáveis fundamentais do aprendizado de uma segunda língua. A teoria e a pesquisa passaram por profundas fertilizações mútuas das quais resultou uma visão cada vez mais clara de que determinados aspectos importantes do processo de aprendizagem de uma segunda língua eram consecutivos com os processos de aquisição da língua materna. Na medida em que a pesquisa desvendava de maneira firme e enérgica novos horizontes, as teorias apareciam e desapareciam como soía acontecer no audacioso novo mundo da psicolingüística. O objetivo central deste trabalho é expor o que considero ser o ponto essencial: uma teoria abrangente ou integrada para o aprendizado de uma segunda língua. Tal teoria deve ser vista em termos de um modelo holístico do comportamento verbal e do aprendizado lingüístico, capaz de amplas potencialidades de transferência.

ABSTRACT

Slow but steady progress has been made in the last few years in the attempt to clarify some basic modalities and factors specific to second language learning. Theory and research have undergone deep cross – fertilization, whith the result that students of the problem have begun to see through a few important aspects of the process of learning a second language as consecutive to the acquisition of the first language. While research steadily and strenuously blazes new trails, theories come and go as has been wont to happen in the brave new world of psycholinguistics. The chief objective of this paper is to sketch out what I consider to be the essential point at issue, namely, the path of a comprehensive or integrated theory of second language learning. Such a theory is viewed in terms of a holistic model of language behaviour and language learning, capable of broad transfer potentialities.

0 – The application of psycholinguistic theory to language learning has recently involved a search for multidimensional models which can be derived from a variety of communication sciences. The following proposal will review some basic process di-

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mensions in light of a fuller consideration of the structure and dynamics of language acquisition as an important objective of Applied Psycholinguistics.

1 – A Holistic Model of Language Behavior and Language Learning.

1.1 – Changing Models of Language Learning: stages of theoretical evolution.

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1 – A HOLISTIC MODEL OF LANGUAGE BEHAVIOR AND LANGUAGE LEARNING

1.1 – Changing Models of Language Behavior

The quick passing away of five – to my reckoning – generations of psycholinguistics is indicative of a deep-seated state of dissatisfaction on the part of most students concerned with the psychological problems of language. However, this succession of varied theories during such a short period of time (1954-1994) has at the same time been characterized by a constant flow of progress: ever closer approximations to a realistic and comprehensive concept of language.

Briefly, the stages of this theoretical evolution are:

– Stage 1. The wedding of a structural-taxonomic concept of language with a behavioristic-empiricistic view of verbal behavior (Bloomfield/Skinner)

– Stage 2. A rationalistic generative-transformational explanation of language combined with a cognitive (mentalistic) interpretation of human behavior (Chomsky/Miller)

– Stage 3. A generative-semantic reinterpretation of language processing branching out into anthropological and pragmatic connotations of communicative behavior ("communicative competence") (post-Chomskians-Chafe/Hymes)

– Stage 4. The social (sociocentric) contextualization of language and the social functions of linguistic messages (Leontycv/Slama-Cazacu/Rommetveit/Halliday)

– Stage 5. The attempt to recapture the total personality (behavioral, cognitive, affective, ego-dynamic dimensions) of the speaker/hearer in communicating and learning to communicate (Titone 1970, 1981).

The five stages are placed in a progressive order of theoretical development, based on the successive "falsification" (Popper, 1959) of inadequate hypotheses.

Mechanistic and cognitive models have held key-positions in this specific warfare, but they are far from being the final winners. Stages 4 and 5 are acquiring momentum.

1.2 – The cognitive view of language acquisition

1.2.1 – Theoretical developments in cognitive psychology

Language and linguistic processes have been more and more frequently related to cognition albeit by often applying inadequate models. The purpose of the present discussion is to point out a few ways of integrating current theories of cognition and cognitive learning with a view to yielding a more comprehensive picture of language acquisition.

A recent cognitive framework aims at explaining how information is stored in memory and particularly how new information is acquired. In its simplest form, the framework suggests that information is stored in two distinct ways: in *short-term memory* (or *working memory*), or in *long term memory*. In this paradigm, new information is acquired through a four-stage encoding process involving selection of information from the environment, acquisition by transferring information from working memory to long-term memory for permanent storage, construction of internal connections between ideas contained in the information, and integration of new acquisition into prior knowledge in long-term memory.

It seems that this paradigm consisting of the two-stage framework of short-term and long-term memory and the four mental processes just described is inadequate to meet the need for a theory to explain the role of cognition in language acquisition (LA). A theory is needed that addresses integrative language use in all four language skills – listening, speaking, reading, and writing – and that addresses language acquisilion from the earliest stages of language learning to fully proficient use of the language (first, L1, and second, L2). Further, the theory must be able to address both language comprehension and production. Therefore, a search must be made for an integrated psycholinguistic model.

The proposal to be advanced is twofold. First, a broad integrated model must be delineated capable of comprising all linguistic phenomena as components of human behavior and human learning in their complexity. Second, the cognitive component must be complex and sufficiently articulated to include all characteristic processes of language use and acquisition at different learning stages.

To this effect we will examine a deep-structure theory underlying the so-called "holodynamic model" (Titone 1973, 1983) as a general ground-

ing framework, and then the "production systems" model representing complex cognitive skills (Anderson 1983, 1985). No doubt it would be interesting trying to adapt some of the principles expounded by Neisser (1987) with regard to the relations between the perceptual and the intellectual aspects of categorization, but this would entail a task never faced by students of language acquisition, although worth earnest scientific efforts.

1.2.2 – Two cognitive models in applied psycholinguistics

The "holodynamic model" (Titone 1973, 1983). Let me try to anticipate a general overview of it. The analysis of communication processes has led me to hypothesize a stratificational model positing a twofold layer: a deep structure related to the intra-psychic dynamism of encoding and de-coding as person-centered operations; and a surface structure onto which overt communicative behavior is projected. The former consists of three levels, namely the tactic level of external speech acts, actualizing the basic linguistic skills of listening, speaking, reading, and writing; the strategic level of strictly cognitive operations, like comprehending, analyzing, synthesizing, inducing, deducing, abstracting, generalizing, programming speech acts, constructing rules of grammar, lexicon, and verbal interaction; the ego-dynamic level of self-awareness, self-conceptualization, attitude-shaping, motivating, deciding, self-accounting, briefly, ego-centering of all language operations and acts. It goes without saying that the three levels are not encapsulated nor self contained: they are dynamically interrelated, constantly concomitant, and ecologically oriented (they are manifestations of the communicator's social personality).

The pivot of this structure is on one hand the *self*, as the ultimate reference source of personal activity, on the other *cognition*, as the determining mediator between the self and activity. It is of interest in the present context defining the role of cognitive strategy-making inasmuch as representing the central pivot of language activity and language learning. Briefly, I hypothesize that in learning cognitive (or strategic) operations unfold through three steps: Global Comprehension (GC) implies both perception of linguistic units of structures (through auditory and/or visual modalities) and intellectual understanding of their meanings as items of the linguistic code ("making sense of a word or sentence or discourse"). Operational Analysis (OA) is carried out through procedures of decontextualization, decomposition of structures into simpler elements, segmentation of verbal sequences. Operational Synthesis (OS) involves procedures of re-assembling, integrating, restructuring parts into wholes (phonemes into syllables, syllables into words, words into sentences, sentences into discourse).

All these operations can take place along two directions: either top-down, from associated and automatized wholes to secondary and primary constituents; or bottom-up, from single elements back to integrated structures. In other words, according to the "holodynamic model", the learner may proceed from the construction of tactic skills through strategic control to ego-dynamic awareness, or from ego-dynamic impulses through strategic planning to tactic performance.

This model needs further verification although its application to various areas of behavior and learning has confirmed its plausibility.

1.2.3 – The 'production systems' model (Anderson 1983, 1985)

According to O'Malley *et al.* (1987), Anderson's model presents five advantages: (a) it integrates numerous concepts from prevailing notions of cognitive processing that give the theory generality and currency with regard to existing views in the field; (b) theoretical developments in production systems cover a broader range of behavior, including comprehension and production of oral and written texts as well as problem solving and verbal learning; (c) the theory distinguishes between factual knowledge and procedural skills in both memory representation and learning; (d) the theory can be expanded to incorporate strategic processing as part of the description of how information is learned; and (e) the theory has been continually updated, expanded, and revised in a number of recent publications (O'Malley, Chamot & Walker 1987, p. 289).

Language as a cognitive skill

Anderson suggests that language can best be understood as a complex cognitive skill, and that mental processes involved in language parallel the processes used with other cognitive skills both in memory representation and in learning.

(A) Representation in memory.

Anderson distinguishes between what we know *about*, or *static information* in memory, and what we know *how to do*, or *dynamic information* in memory. The former constitutes *declarative knowledge*, the latter *procedural knowledge*.

Declarative knowledge is represented in long-term memory in terms of abstract meaning, consisting of nodes that are associated with other nodes through connecting associations or *links*. These make up propositions and schemas.

Procedural knowledge refers to various skills, like the ability to understand or generate language or apply our knowledge of rules to solve a problem. Procedural knowledge in language acquisition is acquired gradually and only with extensive opportunities for practice. The representation of procedural knowledge in memory is a key issue in cognitive theory and

is contained in what Anderson (1983, 1985) refers to as *production systems*.

Production systems are the basis for Anderson's argument for a unitary theory of mind or a common cognitive system for all higher-level mental processes. Anderson argues that all complex cognitive skills – like language – can be represented as production systems.

(B) Learning processes.

The question concerns the mental processes that accompany acquisition of complex skills, the stages involved in acquisition, and the accessibility of the stored procedural knowledge for later use.

Acquisition stages are three: (a) cognitive (instructions about the task), (b) associative (conversion of declarative knowledge into procedural form), and (c) autonomous (increasing fine-tuning of performance).

1.2.4 – Applications to second language acquisition

Let us consider the possible applications of these two models to language acquisition.

(A) – Language learning as a modular process

Chunks of learning materials, like language units (sentences and discourses), in order to be assimilated into the individual's verbal behavior and personality, or – in Anderson's paradigm – converted into autonomous skills (procedural knowledge), must pass through three stages:

A) COGNITIVE COMPREHENSION (CC). This stage includes a full transition into long-term memory by activating three main operations:
a) Global Comprehension (GC): i.e., an intuitive perception of the structure of the object (language) without yet discriminating its constituents;
b) Operational Analysis (OA): i.e., the neat discrimination of each single component of the object and its function within lhe whole structure;
c) Operational Synthesis (OS): i.e., the reassembling of all components into a living whole to be used as a vital tool of communication (living language).

At this point it can be presumed that rational cognition of the object has occurred and concepts and rules constituting procedural knowledge are mastered at an initial stage or degree.

But the autonomous stage, where skills are fully mastered and become operationally efficient, is reached only through a further process of

B) REINFORCEMENT (R). This is not to be understood in a Skinnerian sense, but rather as a general consolidation and strengthening process, to be carried out by means of repeated and motivated practice. Exercise and drills of all kinds, as employed in usual teaching practice, exert the function of reinforcing habits and attitudes, on the tactic level, on the strategic, as well as on the ego-dynamic levels.

C) CONTROL (C). This is a metacognitive stage (and accordingly a metalinguistic one) that enables the learner to grasp more fully the rationale of each linguistic task, and therefore the basic rules governing grammar and lexicon, as well as pragmatic use of the language. It is something higher than mere acoustic feed-back: it entails consciousness or increasing awareness of the structure and functioning of the language system and language use in varying communication situations.

The process is 'modular' because the three stages are cyclical and reversible: that is, they follow varied sequences and are recombined according to specific needs of the learner and the structural demands of the material to be learned.

The 'modular model" just explained is but a specification of the more general "holodynamic model" in that it embodies ego-dynamic demands by grafting all learning processes upon self-consciousness and motivation; it deploys strategies by developing cognitive programming and feed-back operations; finally, it turns ego-orientations and strategies into tactic skills that allow for procedural knowledge to be activated in language use (communicative competence).

(B) – Language as a complex cognitive skill

Anderson's (1980) three stages of skill acquisition have important implications both for understanding the process of second language acquisition (LA) and for developing an instructional approach that is congruent with this process.

At least four issues in LA can be examined through the theory of cognitive skills acquisition: (a) the parallel between stages and language constructs; (b) the learner's awareness of learning processes; (c) the rate of language acquisition for selected learning tasks; and (d) the retention or loss of language over time (cf. O'Malley *et al.* 1987, p. 300-303).
(a) During the cognitive stage the language learner engages in conscious mental activity in order to find meaning in the language. In the associative stage, learners begin to develop sufficient familiarity with the knowledge acquired so that it can be used procedurally. It is an intermediate stage called *interlanguage* by psycholinguists. When language learners reach the third stage, they are able to process language autonomously and automatically. In other words, their performance in language use is that of a native speaker in L1 or very much like that of a native speaker in L2.
(b) The internal processing that takes place during these stages may explain the role of conscious learning effort in different language con-

texts. At the end of the learning process language awareness grows according to the ability or the cognitive level of development of the learner. Literate and learned adults, of course, are capable of in-depth comprehension of the ways language works and of its abstract nature.

(c) The rate and type of language skill acquired differ according to different learners and might depend on such factors as age, context of learning, learning style, affective considerations, prior declarative and procedural knowledge, and ability to deploy effective learning strategies.

(d) The retention or attrition of a language, after formal instruction ceases, can be predicted on the basis of the following principle derived from a cognitive theory of language skills acquisition: namely, aspects of the language that are at the first or cognitive stage of acquisition and are therefore represented by declarative knowledge would be forgotten first, whereas those aspects of the language that have become automatic or proceduralized would be retained. Psycholinguists will then determine which language skills are declarative and which skills are procedural. But this point might need a lengthier and more detailed analysis.

The conclusion imposed by the "holodynamic model" is, in general terms, that the strategic or cognitive level of behavior and learning operations cannot be separated from the other two levels. Thinking and acting, also, or rather most of all, in language processes are intrinsically determined and governed by the communicator's ego (not to be taken in the Freudian sense but in the traditional definition of "conscious self"), capable through language to set relations which another communicator's ego (his/her communicating partner).

This is the basic meaning of what I like to name an *integrated psycholinguistic theory of language behahvior and language learning* (Titone 1983).

2 – A PERSONOLOGICAL VIEW OF LANGUAGE AND SPEECH

The solution that I wish to submit to earnest examination is the development of a synthetic approach to language learning, the holodynamic model.

The starting point of the holodynamic model of language learning is the recognition that language behavior, far from being a linear series of onelevel operations, is basically a stratificational and hierarchical system of dynamic structures. Such a unified multiplicity implies the simultaneous and overlapping involvement of very different operational levels. I be-

lieve that language behavior is a very important specification of personality dynamics viewed in concrete contextual organization,[1] and, as such, it cannot be reduced to a mere system of verbal habits (Bloomfield) or even to a system of cognitive processes (Chomsky). Such a reduction would be tantamount to admitting the possibility of speaking without a speaker or of hearing without a hearer, in other words, acts of communication which lack a pertinent and competent Actor. Therefore, language behavior, like all behavior, postulates an adequate concept of personality as the ultimate root and source of incoming and outgoing processes. A comprehensive view of personality structure does not do away with but rather implies the intra-action and interaction of cognitions and habits.

This integrated view of language behavior and learning includes the coexistence and cooperation of three distinct levels, namely.

1. Personality structure and dynamics in a contextual perspective
2. Cognitive processes
3. Operant conditionings.

These three variables are in essence mutually dependent and integrated on a dynamic level (which means that integration is not a state but a continuous process, a dynamic equilibrium, never entirely achieved, as is typically evident in the case of individual bilingualism). The assembling of three different levels does not entail a mere juxtaposition of three theories; rather, all three levels are the essential constituents of one unified theory of language behavior and language learning.

At this point I should make it clear that the holodynamic model is consistently grafted on a humanistic approach to psychology as related to language. I quote from Floyd W. Matson (1971, p. 9):

> This recognition of man-in-person, as opposed to man-in-general, goes to the heart of the difference between humanistic psychology, in any of its forms or schools, and scientific psychologies such as behaviorism... This emphasis upon the human person, upon the individual in his wholeness and uniqueness, is a central feature of the 'psychology of humanism'."

But there is an important corollary without which this personalistic emphasis would be inadequate and distorted. That corollary is the recognition, to use Rank's (1936) phrase, that *"the self needs the other"*.

The names of the spokesmen of psychological humanism are well known: Martin Buber and his philosophy of dialogue, Ludwig Binswanger's, Viktor Frankl's, and Rollo May's existential psychology, Abraham Maslow, Gordon Allport, Carl Rogers, Erich Fromm, Henry A. Murray, Joseph Nuttin, and others.

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[1] I am in full accord with Slama-Cazacu's thesis about the importance of totality in language events (1961, p. 10, 15, 43).

Personality is the cornerstone of this psychological outlook. Personality as defined by Allport (1965), among others, is *"the dynamic organization within the individual of those psychological systems that determine his characteristic behavior and thought"* (p. 28). And further, *"the individuality of man, the future-pointed thrust of his living, and the systematic interlacing of his key qualities, are the central features of his personality"* (p. 21).

But personality is not reducible to mere individuality. Personality is an open system, that is, a relational system. For this emphasis on the relational nature of human personality I am especially indebted to the Belgian psychologist Nuttin for his idea of the structure of personality (Nuttin, 1953, 1968). The relational theory of personality starts from the assumption that the human being is not only internally structured but necessarily related externally, namely, ordered in accordance with, and dependent on, the world (physical, social, cultural). *"Personality"*, wrote Nuttin,

> "is a mode of functioning involving essentially two poles: the Ego and the World. The Ego is the total of the individual's functions and psychological potentialities; the World is the intrinsic object of the Ego. Indeed psychological functioning – i. e., perception and behavior in general, including motivation – necessarily implies an object as the intrinsic reference point of the process itself. This functioning, therefore, cannot but locate itself within a structure implying an intrinsic and active reference of the Ego to a World of objects. This world of people and objects is not only situated in front of the Ego but constitutes the very content of personalized psychological life. This amounts to saying that, from a functional point of view, a personality cannot exist but within the framework of a structure transcending the physical-psychological organism, in other terms, within an Ego-World structure" (1968, p. 205-206).

Personality is then conceived as an open system in Bertalanffy's sense (1950). In this perspective, the process of communication takes on a new meaning and significance: verbal behavior is first of all the fundamental expression of the individual and social personality of each human being.

This idea is the deepest core and the very source of language as communication and expression. Human communication is the very marrow of personality, and language as a species-specific power (the Sprachfähigkeit mentioned by von Humboldt) is essentially and operationally connected with human personality.

The holodynamic model of language behavior is but a logical application and development of a humanistic assumption about man and his relation to the world through language. It implies, furthermore, that first language acquisition and second language learning each represent a particular mode of existence, a definite way of self-assertion in front of the

world, a symbolic act of recognition of the Existent. This principle denies radically the possibility of language learning as mere rote (robot) learning; it involves, on the contrary, conscious and motivated action through the whole of the process of acquisition.

I will now discuss the basic constituent structures of language behavior according to the holodynamic model.

2.1 – The Deep Structure of Language Behavior

Communicating and the ability to communicate verbally are surface aspects rooted in profound layers of the individual's personality. The verified existence of such layers disproves the validity of the Chomskian dichotomy of competence and performance.[2] In other words, it is necessary to postulate a hierarchical structure of operational levels in human behavior and learning in order to account for all types and tokens of language events.[3]

The three following levels seem to have sufficient explanatory power for our purpose.

The Tactic Level.[4] This is the appropriate ordering of each single language act with respect to all verbal antecedents and consequents. Ordering is seen here as the actual result of language programming: the finished product of concrete verbal performance. Tactics are necessarily contextualized.[5] The following, therefore, can be considered as tactical operations:

1. Decoding and Encoding Performance. Obviously, listening and speaking, or reading and writing, presuppose the acquisition or for-

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[2] Chomsky (1965, p. 3 and passim).The Chomskian dichotomy shows numerous faults among which are (1) a sterilely abstract and generic view of language devoid of its physical, psychological, social, and cultural constraints and correlates and of its evolutionary features; (2) an overrationalistic concept of language which ignores its motivational, imaginational, and emotional functions (a theory of language as a code, not of speech as behavior; (3) an undue reduction of linguistic and psycholinguistic study to the analysis of competence as heterogeneous to performance; (4) an unjustified reduction of linguistic competence to the sphere of grammar to the oblivion of semantic processes as intrinsic to verbal symbolization (cf. Chafe, 1970); (5) ignorance of the complex hierarchical articulation of the processes intrinsic to competence, the latter to be seen as linguistic "strategy".

[3] The present model should not be confused with the "cybernetic model", which shows a seeming resemblance to mine as laid down in Miller, Galanter, & Pribram (1960).

[4] The terms strategy and tactics are used here in analogy with military parlance. "In military usage, a distinction is made between strategy and tactics. Strategy is the utilization, during both peace and war, of all of a nation's forces, through large-scale, long-range planning and development, to ensure security and victory. Tactics deals with the use and deployment of troops in actual combat" ("The Random House Dictionary of the English Language").

[5] The idea of context as basic to language as communication has been thoroughly developed by Slama-Cazacu (1961, p. 209-216). Context is much more than linguistic environment or the communicative situation. Contexts are all the surrounding elements which make speech acts understandable.

mation of sets of specific verbal habits, habits related to (1) auditory/visual input (perceptual habits) and (2) articulatory/graphic output (motor habits).

2. Neural Cortical/peripheral Coordination and Integration. Outward language performance presupposes the correct and satisfactory functioning of neural endings and cerebral centers presiding over both perception and articulation.

3. Verbal Feedback. Language behavior as a self-regulatory system is endowed with self-control devices and mechanisms which connect input and output flows uninterruptedly. Feedback is the very basis of tactical coordination.

The Strategic Level. The ordered nature of single language performance requires the action of ordering or programming mechanisms which are not directly observable, but strictly mental in their nature. The mind of the speaker/hearer is responsible for the meaningfulness and grammaticality of each speech act and for its connection with the communication situation (pragmatic framework). Tactics, therefore, presuppose strategy. Strategic operations would include:

1. Rule-making (Nomothetic) Processes. The impact of cognition on empirical language data takes the form of inductive generalization and categorization. Phonological, morphological, syntactic, and lexicosemantic rules are not the result of mere induction from sets of language instances; they are the internal elaboration of language data as raw material on the basis of mental schemata and categories. This explanation goes counter both to the empiricist view (Skinner) and the rationalist-innatist hypothesis (Chomsky); it is basically a dualistic concept which synthesizes experience and conceptualization.

2. Selective Processes. The verbal act implies a selection of distinct molecular elements (sememes + morphemes + phrases + sentences) which go to make up discourse. They are the building blocks of speech constructs.

3. Programming Processes. The ordering of molecular elements into molar structures requires definite programming mechanisms capable of building larger units of speech. This discourse construction, the choice of stylistic variants, and more particularly, adjustment of each speech act to specific types of situation (contextualization) are typical programming operations designed to give order, unity, and purpose (significance) to verbal encoding and decoding in actual instances of communication between humans.

4. Conscious Self-regulatory Processes (Cognitive Feedback). Proprioceptive and control mechanism are reflected principally on a conscious level in the human communicator. Here the speaker/hearer becomes aware (or is at least virtually aware) of what goes on in the

flow of speech and how language works. S/He is, therefore, also capable of self-correction and self-criticism.

The Ego-dynamic Level. All psychological and linguistic activities ultimately stem from and flow back to the self of the communicating person. The subject of responsibility, the center of accountability in human behavior, is the individual self or the ego (not in the psychoarlalytic sense only).

To think that a behavioral model can be complete by simply restricting itself to a cybernetic structure (tactics + strategy) is to posit an acephalous organism, a beheaded body. In human communication, the cybernetic concept must be subsumed under a personological concept. It is indispensable, therefore, to admit a conscious, directing, and unifying agent: the individual speaker's self operating on a higher level and controlling all subordinate activities (tactics and strategy).

The channels of the ego's dynamics are manifold. The following list is only a tentative scheme that certainly needs further articulation and development.

1. The Existential Experience of the Speaker/Hearer. Personal experience is the very stuff and marrow of expression, whether verbal, iconic, or other. The whats. the hows, and wherefores of life are reflected, although in diverse fashion, in the content and form of human language. This is true of the poet no less than of the man in the street.

2. World-Perception (*Weltansicht*). The individual's immediate outlook on reality and his ultimate view of life and the world – his philosophy of life – determine to varying extents his style of expression. There is a language or speaking policy, flexibly adjusted to the varying circumstances of life situations, which characterizes each individual. To speak or not to speak, to speak thus or not thus, to listen or not to listen are parts of a behavioral policy dependent on the way of life and each life instance are concretely envisaged.

3. Attitudes. Personal, sociocultural, linguistic attitudes – as cognitive-affective sets – may be related to both the substantial content of expression and the reaction or standing of the receiver. A message is chiefly a stimulus and a response conditioned by the affective tones of its cognitive content. Perhaps only in scientific or technical expertise may attitudes be kept aside or paraded.

4. Affective Components. Feelings and Emotions are rarely absent from verbal expression, although sometimes they are seemingly so. At times, they are primary connoters, as in poetry. In many cases, if latent, they can be rather easily detected. In particular instances, language sounds can carry a symbolic value or emotional appeal; of which Rimbaud among others was a great master.

5. Unconscious/Conscious Sources of Verbal Messages. Depth psychology can bring powerful illustrations to this point. From Freudian psychoanalysis to existential analysis, there is abundant evidence of how far and how deeply speech can mirror the buried ghosts of the human soul, no matter how dark such a mirror sometimes can be.

6. Communicative Intentions, Volitions, and Decisions. Communication takes place only when awareness of speech conditions is followed by the intention to speak (intentio loquendi) and this, finally, by the decision to speak. Conative or decisional processes affect the all-or-none, the why, the what, and the how of actual communication. This is the final step, as internal antecedent of the speech act, before the incarnation of thought into words. Unfortunately, decisional procedures have been underrated in contemporary psychology; they represent, however, an extremely important factor antecedent to all human behavior, including communication and expression (cf. Thomae, 1960). But above all these processes hovers one distinctly human state.

7. Linguistic Self-awareness. The human speaker/hearer is conscious of his/her self as a communicating agent. Linguistic competence to the highest degree is equal to the ability of total self-perception and self-control of the verbal actor. This is the summit of ego dynamics. But it should be clearly pointed out in this respect that linguistic self-awareness is not to be identified with self-centered or narcissistic monologism. Soliloquy and monologue are not the norm of human speech. Since communicating implies interpersonal contact, linguistic self-awareness is essentially dyadic consciousness, that is, the perception of one's verbal interactions affecting people and the world.

This last remark brings me to the necessity of underlining the point that my personological concept pivots on the idea of an open personality, which is ready for and capable of vital exchanges, giving and taking, and is communicative and interactive. Accordingly, all the states and processes belonging on the ego-dynamic level are both centripetal and centrifugal, afferent and efferent, finalized to a constant search for equilibrium between the ego and the world. The communicating ego is not an insulated monad; it is rather a concretely contextualized agent.

2.2 – The Surface Structure of Language Behavior and Language Learning

If we visualize the deep sources of linguistic behavior as stratified from bottom to surface, we can lay ego-dynamics on the lowest (deepest) layer, next would come strategy; and last, close to the surface, tactics. The performance of communication as a surface process stems immedialely from the tactical level; it is, in fact, the actualization or prolongation of the total of tactical operations. Let us define a few concepts relative to the surface aspects of language behavior.

Language Mastery. Mastery can be defined as the acquired ability to symbolize, to express, and to communicate experience by means of a system of verbal symbols. Obviously, we start here from the assumption that speech is characterized by three intrinsic and overlapping functions: symbolization, expression, and communication. These are not separate functions but rather mutual implications; all three are constantly actualized in every act of speech, although with varying emphasis. Indeed symbolization is a class of functions including, as a rule, expression and communication. On the other hand, communication (objective transmission of information) includes expression (subjective manifestation of individual states of mind).

Consequently, this specific set of abilities should be the target of language learning. However, communication remains the dominant (concretely inclusive) function of language behavior. Therefore, a consideration of the nature of this function boils down essentially to the analysis of the constituent elements of language behavior as communication and language learning as learning to communicate. The elements of the communication process are well known: source, transmitter, situation, code/message, channel, receiver, destination, feedback, noise. A more modern view of verbal communication rightly emphasizes two oft-neglected elements, namely, situation and feedback.

Situation. Linguistic output is subject to certain contraints: context perception (the type of message construction is defined by the structure of a particular situational context), verbal pertinency (the choice of words and structures must conform to the demands of a concrete situation).

Feedback. The destination's perception of the source gives rise to a basic control mechanism which operates on the tactical level (acoustic feedback), on the strategic level (cognitive feedback), and on the egodynamic level (linguistic consciousness).

The act of communication takes the form of an automatic chain of events because the total process results from the coordination and integration of all intermediate steps and centers into a compact, unified behavioral system, that is, a linguistically operating structure. External coordination of vocal elements on the tactics level issues from the internal coordination of programming rules on the strategic level, and finally both levels are unified into vertical control exerted by the Ego.

Language learning, therefore, implies the acquisition of psycholinguistic abilities of reception and production on all three levels, but especially the ability to coordinate all three levels effectively so as to generate

a well-integrated verbal behavior, different from schizophrenic verbal acts, which typically lack basic consistency and unity.

Figure 1 summarizes in simpler terms the essentials of the holodynamic model from the point of view of second language learning and teaching.

FIGURE 1
The holodynamic model

STEP 1 EGO	STEP 2 STRATEGY	STEP 3 TATICS
The will (motivation) to learn communicative competence.	The knowledge of how to communicate	The ability to decode and encode effective messages in relation to particular communication situation

2.3 – Important Factors In Second Language Learning

The dearth of longitudinal studies on success in language studies does not allow for universally valid conclusions on the factors underlying achievement. However, a few safe statements can be made about what appear to be the most important factors in successful language learning, especially in the classroom environment. These factors can be easily located on the three levels of the Holodynamic Model.

(1). **Motivation**. The primary factor according to various investigations (summarized by Burstall, 1975) is motivation. Specific motivational factors would be:

Integrative versus Instrumental Motivation. The combination of the results of different research data leads to the conclusion that both the utilitarian value of the achievement of proficiency in the foreign language and the tendency to self-identification with the members of the foreign linguistic community are – together or separately – a key to success in foreign language learning.

Contact with the Foreign Culture. It seems that those individuals endowed with empathic capacity develop a greater desire to study a foreign language, particularly as a foreign code, if they are brought into contact with the foreign country through visits.

Socioeconomic Factors. Positive attitudes toward the foreign language and culture seem to be correlated with higher socioeconomic status, perhaps due to greater parental support and encouragement in approaching new school experiences.

Sex Differences. Sex differences in achievement favoring girls have been evident in several studies, although these may be limited to children of lower socioeconomic status; results may be different and favor boys, particularly on the secondary school level, once language proficiency is perceived as having a pay-off value.

Classroom Situation. The small school seems to foster achievement, due to an atmophere characterized by cooperative behavior among pupils and closer contact between teacher and pupils.

Teacher-Pupil Interaction. Teachers' high expectations and positive attitude toward the foreign language and culture, no less than their enthusiasm for the project, seem to be clearly correlated with pupils' success.

The Presentation of Material. Methods of presenting language learning material should vary according to the stage of learning reached, the nature of the material itself, and the ability, maturity, and modality preferences of the learner. Multisensory modalities and devices inducing active pupil participation have a positive effect as well.

(2). **Linguistic Aptitude**. The second major factor for success in language learning, according to – albeit limited – experimental data is linguistic aptitude. Carroll (1960, p. 13-14) has repeatedly emphasized the role of linguislic aptitude. He has found that it consists of at least four identifiable variables (1961, Chapter 4):

1) Phonetic coding: the ability to code auditory phonetic material in such a way that this material can be recognized, identified, and remembered over a period longer than a few seconds

2) Grammatical sensitivity: the ability to recognize the grammatical functions of words in sentence contexts

3) Rote memorization ability: the ability to learn a large number of associations in a relatively short time

4) Inductive language learning abilily: the ability to infer linguistic forms, rules, and patterns from new linguistic content itself with a minimum of supervision or guidance.

Linguistic aptitude, as defined by Carroll, characteristically operates on the strategic and tactic levels, while motivational variables belong to the sphere of the ego.

(3). **Time**. Another important variable is the total amount of time spent actively in the learning situation (Carroll, 1963). The reason is that language learning is basically a developmental process very similar to maturation: the entire organism is deeply involved in a process of transformation and organization of communication abilities at various layers of the human personality, as indicated by the holodynamic model. This explains why a longer period of time devoted to language instruction, when started at as early an age as possible, will bring better results. However, it may be suggested, according to the present writer's speculations, that while children will benefit from a more extended period of time in order

to be able to digest new behavioral materials like language skills, adults will be able to profit from more intensive courses due to their higher degree of transfer ability, as experience has proven.

2.4 – An Integrated Perspective on Second Language Learning Strategies: A Modular Model

The integration of ego-strategy-tactics is dependent on a process of assimilation which tends to incorporate a language behavioral system into the communicator's personality. This assimilation process – common to both first language acquisition and second language learning – can be described as a series of phases or learning units, each consisting of a set of well-defined activities aimed at the fixation of specific verbal habits or rules.

Learning as guided by teaching takes on in the case of adult learners a characteristic cohesion. The belief that adults cannot learn a second language without systematic instruction is now supported by several interesting studies on adult learning (Krashen & Seliger, 1976; Krashen, Seliger, & Hartnett, 1976). Systematic instruction should not be confused with formal instruction: the former implies careful planning of situations, materials and procedures, and the latter restricts work to the rational or notional level, as in the case of traditional teaching of formal grammar. A great deal of confusion has arisen in methodological debates from the lack of a precise distinction between the two types of approach. The teacher ought to keep in mind that systematicity goes hand in hand with concreteness and practicality. Systematicity is a principle of intellectual economy: it makes for fast and effective learning without wasting an excessive amount of time and energy; it is synonimous with programming.

Now, programming effective learning can be carried out in a variety of modes. What seems to be recommended on the basis of a three level model (the holodynamic model) is a teaching-learning process consisting of flexible modules ensuring the gradual assimilation (internalization) of coordinated levels of verbal skills and capacities.

We can define modular teaching-learning as any instructional process characterized by cyclical reversibility and spiral development.

Teaching is modular when it is characterized by reversibility and interchangeability of instructional roles and phases. This means that the position of each phase can be changed or reversed according to particular needs. It may be useful or necessary accordingly to go back and forth along the basic stages of learning in order to clarify, reorganize, strengthen, and expand the essential constituents of language competence.

Teaching is modular if instructional roles are reversible. The teacher offers initiating stimuli to the learner's responsiveness, but he in turn becomes a respondent by contingently taking up the role of the learner, and so forth. Both the teacher and the student are alternately stimulators and reactors.

Teaching is modular if each phase is present while each of the others is being developed. Development of each phase takes place in a spiral manner and is virtually endless (open-ended learning).

The cyclical nature of modular teaching is an overall characteristic of this process, inasmuch as phases and roles are not linearly assembled but unfold, one out of the other, after some sort of generative process. Each phase is more like a germinal molecule pushing toward great development, not like a fenced-in monad or a completely self-contained unit. Learning is therefore a developmental process working through differentiation and integration; it is in a profound sense a biological continuum; it is no mere accumulation of disjointed building blocks as the parts of speech and paradigms of traditional grammar books.

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