

# On the psychological meaning of bilinguality: psychological mechanisms of the bilingual person

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*Starting from a definition of the psychological meaning and significance of bilinguality, an analysis is submitted of second language competence from a personological viewpoint. Some recent models of applied psycholinguistics are discussed, and then a personological perspective of the bilingual personality is proposed. Subsequently some objects of current research on the bilingual person could be discussed: like code-switching as a symptom of the bilingual person as a metasystem, personality structuring in the young bilingual, some dimensions of personality in bilingual children, body perception in monolingual and bilingual subjects of different social class, metalinguistic development in bilinguals and finally bilingual vs. mixtilingual poetry. All these topics have been presented in my two books which I only refer to now: i.e.*

*TITONE, Renzo (1989) On the Bilingual Person. Ottawa: Legas Publications.*

*TITONE, Renzo (1995) La Personalità Bilingue. Milan: Bompiani.*

## I

### WHAT IS THE PSYCHOLOGICAL MEANING OF BILINGUALITY?

The definitions of bilingualism have been numerous, varied, and often contrasting. The point is that the bilingual phenomenon as state and process is of such complexity that it cannot be comprised by, and reduced into, one simple definition. Some authors (Baetens Beardsmore 1982) have preferred to try an operational solution by inventing typologies of states of bilingualism rather than attempting sweeping definitions. «Typologies, which are descriptive labels, have the advantage of allowing» the student to work within a clear frame of reference, which is adapted to the need in hand and avoids the dangers of over-generalization to cases that cannot be easily circumscribed» (1982, 4).

However, definitions as working tools cannot be avoided. Typologies are significant if they fall into pre-established frames of logical constructs. So, Baetens Beardsmore cannot help but to give his own definition based primarily on the thought of Overbeke (Baetens Beardsmore 1982, 31): «Bilingualism is a double necessary or optional means of effective communication between two or more different 'worlds' using two language systems».

Hamers (in Baetens Beardsmore 1981, 29; and Hamers & Blanc 1984, 21) is equally skeptical about the validity of definitions, but succumbs all the same to the temptation of giving her own definition, which proposes a useful distinction between 'bilinguality' and 'bilingualism'. While bilingualism is both an individual and societal condition, bilinguality corresponds to a psychological state which can be defined as «a state of the individual in which he or she has access to the use of more than one linguistic code; this accessibility includes a large number of non-linguistic factors[...]; the degree of access one has to each linguistic code can vary among bilinguals on a number of dimensions» (1981, 29).

Referring to bilingualism as a means of communication or as a state of access is again to fall into the trap of using extremely vague concepts which can, of course, meet all specifications as

may be needed, but which do not allow for either classification or measurement. In any case, I am convinced that we need to give and find some psychological definition or description of bilinguality so as to enable researchers to find their way through the multiple features and factors of the bilingual condition.

Let me then propose another definition that purports to give some direction in this regard:

Bilinguality implies a degree of communicative competence sufficient for effective communication in more than one language; effectiveness requires the ability to correctly understand the meaning of messages and/or the parallel ability to produce intelligible messages in more than one code.

Accordingly the essential characteristics of bilinguality would be:

- (a) adequacy of linguistic interaction in two or more languages;
- (b) a variety of possible forms like: balanced, receptive, active bilinguality; symmetrical, asymmetrical bilinguality, etc.

Several authors have already amply considered the various forms of bilinguality and bilingualism. But it may be more useful for the sake of theory to attempt an analysis of the essential constituents of the bilingual individual: is he/she a different person from the monolingual? Very little has been done, both from theoretical and empirical viewpoints about the structure of the bilingual's personality. And this is understandable, due to the plethora and vagueness of personality theories in psychology, and to the almost non-existent empirical research on this problem.

It is helpful now to clear up some aspects of the bilingual personality by way of introduction to the following chapters.

We must start from a definition of personality which both brings together the best of the theories in the field, and can be used to examine particular problems. I propose to define personality as:

the distinctive, unique, and coherent organization of strategic (cognitive) and tactical (behavioral) activities, dependent on, and governed by, the conscious Self (ego-dynamic control).

This definition is the reference frame for the application to linguistic personality as outlined in Ch. 2 of this book.

The implication of this definition is that human personality is a stratificational structure operating simultaneously on three levels, viz the tactic level of psycho-physical activities (e.g. encoding and decoding mechanisms), the strategic level of cognitive operations (e.g. grammatical and semantic control), and the ego-dynamic level of self-conscious and self-propelled activities (strictly personal experience, mentality, affective and emotional states, etc.)

Consequently:

the bilingual personality entails the ability to express ego-dynamic states through strategic and tactical activities encoded in more than one language.

A bilingual individual presents, therefore, the following traits:

- (1) he/she is endowed with the clear consciousness of possessing and using two or more languages, and occasionally of living in, or being identified with, two or more cultures;

- (2) he/she is, as a rule, capable of thinking in two or more different languages, of controlling and programming messages related to different codes and varying situations;
- (3) he/she is capable of producing messages in two or more codes with acceptable pronunciation, and of understanding messages in different codes without serious difficulty, or, in optimal cases, of speaking, writing, and reading with effectiveness and mastery.

These characteristics are formulated in a relativistic fashion; i.e. they can be placed on a continuum of degrees of proficiency levels. It must be added that the above definition of personality is embedded on the basic dynamic interrelationship between the Ego and the World. The individual's conscious Self interacts continuously with the environment in all its components (physical, psychological, social, cultural) and thereby builds a stable life structure that characterizes his/her distinct and unique behavior. This interaction between the Ego and the World is essential in language acquisition, both in the acquisition of the first language during infancy, and in the learning of second languages. This explains why one of the basic traits of the bilingual personality is cultural identity with all its social underpinnings. There is no such thing as a withdrawn, isolated, monadic personality, since language is the pivot of the 'articulate mammal', or, better, of the Human Speaker,

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## II

### KNOWING A SECOND LANGUAGE FROM A PERSONOLOGICAL STANDPOINT<sup>1</sup>

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 crossfertilization, with 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 the wont in the brave new world of psycholinguistics.

The chief objective of this chapter is certainly not a review of the multifarious and floating proposals of recent research and theory; such a task would require countless pages. My aim is to deal with what I consider to be the essential point at issue: namely, the path to a comprehensive or integrated theory of second language learning. Such a theory is viewed in terms of a holistic model of language behavior and language learning, capable of broad transfer potential-

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<sup>1</sup> This is an enlarged and updated version of a previous paper entitled «Second Language Learning: An Integrated Psycholinguistic Perspective», reprinted from B. Bain (ed.) *The Sociogenesis of Language and Human Conduct*. (New York: Plenum, 1983), as has been the wont in the brave new world of psycholinguistics.

ities. This model will, hopefully, allow for a more coherent theoretical discussion of learning, and provide a solid basis upon which to conduct research.

## 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, the succession of theories within such a short period of time (1954-1988) 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-empirical 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 domains of communicative behavior («communicative competence») (post Chomskians-Chafe/Hymes)
- Stage 4. The social (sociocentric) contextualization of language and the social functions of linguistic messages (Leontyev/SlamaCazacu/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 key positions in this scientific 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.

Recent work on cognitive science aims at explaining how information is stored in memory and particularly how new information is acquired. In the simplest form, the findings suggest 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 information 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 global language use in all four skills—listening, speaking, reading, and writing—and that addresses language acquisition from the earliest stages of learning to fully proficient use. Furthermore, the theory must be able to address both language comprehension and production. Therefore, an integrated psycholinguistic model is needed to account for all such phenomena.

The proposal to be advanced is twofold. First, a broad integrated model must be delineated capable of explaining all linguistic phenomena as components of human behavior and learning in all 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, I will look at a deep-structure theory underlying the so-called ‘holodynamic model’ (Titone 1973; 1983) as a general framework, and then the ‘production systems’ model representing complex cognitive skills (Anderson 1983; 1985).

No doubt it would be interesting to try to include 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 before faced by students of language acquisition, although worth serious consideration.

### **1.2.2. Two Cognitive Models in Applied Psycholinguistics**

*The holodynamic model* (Titone 1973; 1983). The analysis of communication processes has led me to hypothesize a stratificational model consisting of a twofold layer: a *deep structure* related to the intra-psychic dynamism of encoding and decoding 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, responsible for 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 messages, constructing rules of grammar, selecting words, and permitting verbal interaction; the *ego-dynamic* level of self-awareness, self-conceptualization, attitudes, motivation, decision-making, self-accounting, in short, an ego-centering of all language operations and acts. It goes without saying that the three levels are neither encapsulated nor self-contained: they are dynamically interrelated, constantly interactive, and ecologically oriented. They are manifestations of the communicator’s social personality.

The pivot of this structure is, on the one hand, the *self*, as the ultimate reference point of personal activity, and on the other, *cognition*, as the determining mediator between the self and all activity. It is useful in the present context to define the role of cognitive strategymaking as representing the central pivot of language activity and language learning. Briefly, I hypothesize that cognitive (or strategic) operations unfold in stages: *Global Comprehension* (GC), which implies both perception of linguistic units or structures (through auditory and/or visual modali-

ties), and intellectual understanding of their meanings as items of the linguistic code (making sense of a word or sentence of discourse); *Operational Analysis* (OA) which is carried out through procedures of decontextualization, decomposition of structures into simpler elements, and segmentation of verbal sequences; *Operational Synthesis* (OS) which involves procedures of reassembling, integrating, restructuring parts into wholes (phonemes into syllables, syllables into words, words into sentences, sentences into discourse).

All these operations take place along two dimensions: 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-strategic planning to tactic performance.

This model clearly needs some empirical justification. Its application to various areas of behavior and learning has, however, already confirmed its plausibility.

### 1.2.3. The 'Production Systems' Model (Anderson 1983, 1985).

According to O'Malley et al. (1987), Anderson's model offers 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 can 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, 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 in other cognitive skills (e.g. 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 the form 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 to apply our knowledge of rules to solve a problem. Procedural knowledge in language acquisition is acquired gradually and only through 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.**

These refer to the mental processes that include the acquisition of complex skills, the stages involved in acquisition, and the access to the stored procedural knowledge for later use.

There are three acquisition stages: (a) cognitive (instructions about the task), (b) associative (conversion of declarative knowledge into procedural form), and (c) autonomous (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 items to be learned, like language units (sentences and discourses), are assimilated into the individual's verbal behavior and personality, or—in Anderson's paradigm—converted into autonomous skills (procedural knowledge), 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 being able to discriminate its constituents;
  - b) *Operational Analysis* (OA): i.e., the discrimination of each single component of the object and of its function within the whole structure;
  - c) *Operational Synthesis* (OS): i.e., the reassembling of all components into a whole to be used as a vital tool for 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, strategic, and 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 more than mere acoustic feedback: it entails consciousness or increasing awareness of the structure and functioning of the language system and its use in various communication situations.

The process is 'modular' because the three stages are cyclical and reversible: that is, they follow varied sequences and are assembled according to the specific needs of the learner and the specific 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 parameters by grafting all learning processes upon self-consciousness and motivation; it deploys strategies that develop 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, 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 approaches that of a native speaker in L1 or L2, as the case may be.
- (b) The internal processing that takes place during these stages may explain the role of conscious learning effort in different language contexts. 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 vary according to different learners and depends on such factors as age, context of learning, learning style, affective modalities, prior declarative and procedural knowledge, and the 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: those aspects of the language that are at the first or cognitive stage of acquisition, and are therefore represented by declarative knowledge, will be forgotten first, whereas those aspects of the language that have become automatic or proceduralized



will be retained. Psycholinguists will then have to determine which language skills are declarative and which skills are procedural. But this point needs a lengthier and more detailed analysis.

The main implication of the 'holodynamic model' is, in general terms, that the strategic or cognitive levels of behavior and learning operations cannot be separated from the other two levels. Thinking and acting, also, 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'), which unfolds through language to establish relations with another communicator's ego (his/her communication partner).

This is the basic meaning of what I call an integrated psycholinguistic theory of language behavior and language learning (Titone 1983).

## **2. A PERSONOLOGICAL VIEW OF LANGUAGE AND SPEECH**

The concept that I wish to submit as a target for discussion is the development of a synthetic or holodynamic approach to language learning.

The starting point of the holodynamic model of language learning is the recognition that language behavior, far from being a linear series of one-level 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 believe that language behavior is a very important specification of personality dynamics embedded in concrete contextual organization<sup>2</sup>, 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, of 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 source for handling incoming and outgoing processes. A comprehensive view of personality structure does not do away with, but rather implies, the intra-action and interaction of cognition 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 on a dynamic level (which means that integration is not a state but a continuous process, a dynamic equilibrium, never entirely achieved, as is 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 point out that the holodynamic model is compatible with a humanistic approach to psychology. I quote from Floyd W. Matson (1971, 9):

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<sup>2</sup> I am in full accord with Slama-Cazaecu's thesis about the importance of totality in language events (1961:10, 15, 43).

«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 founders 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.

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 psychophysical 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 concept of 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 adapted externally: i.e. 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, 205-206).

Personality is, then, conceived as an open system in Bertalanffy's sense (1950). In this sense, 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 core and source of language as communication and expression. Human communication is the marrow of personality and of language as a species-specific trait (the Sprachfähigkeit mentioned by von Humboldt). It is essentially and operationally connected with human personality.

The holodynamic model of language behavior is but a logical application and extension 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 mode of self-assertion vis-a-vis the world, a symbolic act

of recognition of reality. This principle denies the possibility of language learning as mere rote (robot) learning; it proposes, on the contrary, conscious and motivated action throughout 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 existence of such layers disproves the Chomskyan dichotomy of competence and performance<sup>3</sup>. 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<sup>4</sup>.

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

The Tactic Level<sup>5</sup>. 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 or concrete verbal performance. Tactics are necessarily contextualized<sup>6</sup>. 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 formation of sets of specific verbal habits related to (1) auditory/visual input (perceptual habits) and (2) articulatory/graphic output (motor habits).
2. Neural Conical/peripheral Coordination and Integration. Outward language performance presupposes the correct and satisfactory functioning of neural endings and cerebral centers responsible for 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

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<sup>3</sup> Chomsky (1965:3 and passim). The Chomskyan dichotomy shows numerous faults among which are (1) abstract and generic view of language devoid of its physical, psychological, social, cultural constraints, and correlates, and of its evolutionary features; (2) an overrationalistic concept of language which ignores its motivational, imagination, 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 more relevant than performance; (4) a reduction of linguistic competence to the sphere of grammar, to the detriment of semantic processes (cf. Chafe 1970); (5) ignorance of the complex hierarchical articulation of the processes intrinsic to competence, the latter viewed as linguistic «strategy».

<sup>4</sup> The present model should not be confused with the «cybernetic model», which reveals a resemblance to mine as laid down in Miller, Galanter, & Pribram (1960).

<sup>5</sup> 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*).

<sup>6</sup> The idea of context as basic to language has been thoroughly developed by Slama-Cazacu (1961, pp. 209-216). Context is much more than linguistic environment or the communicative situation. Contexts are all the surrounding elements which make speech acts understandable.

in their nature. The mind of the speaker/hearer is responsible for the meaningfulness and grammatically 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 forms of generalization and of 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 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 make up discourse. They are the building blocks of speech.
3. **Programming Processes.** The ordering of molecular elements into molar structures requires definite programming mechanisms capable of building up larger units of speech. 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 mechanisms 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. He/she 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 and (not in the psychoanalytic 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 acephalus organism, a beheaded body. In human communication, the cybernetic concept must be subsumed under a personological concept. It is indispensable, therefore, to posit 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 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 how each life situation is 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 parlance may attitudes be attenuated.
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 shed valuable light on this point. From Freudian psychoanalysis to existential analysis, there is abundant evidence that speech can mirror the buried ghosts of the human soul, no matter how dark such a mirror sometimes may 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 embodiment of thought into words. Unfortunately, decisional procedures have been underrated in contemporary psychology; they represent, however, an extremely important factor in human behavior (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 is nothing but total self-perception and self-control. This is the pivot of ego dynamics. But it should be clearly pointed out in this respect that linguistic self-awareness is not to be identified with self-centeredness or narcissism. 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 in communicative settings. Accordingly, all the states and processes belonging on the ego-dynamic level are both centripetal and centrifugal, afferent and efferent, geared to a constant search for equilibrium between the ego and the world. The communicating ego is not an insulated monad; it is 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. Communication as a surface process stems immediately from the tactical level; it is, in fact, the actualization of the 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 present in every act of speech, although to varying degrees.

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 to 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 contemporary view of verbal communication would also emphasize situation and feedback.

**Situation.** Linguistic output is subject to certain constraints: context perception (the type of message construction defined by the structure of a particular situational context), verbal pertinency (the choice of words and structures conforming to the demands of a concrete situation). **Feedback.** The 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 ego-dynamic level (linguistic consciousness).

The act of communication takes the form of an automatic chain of events resulting from the coordination and integration of all intermediate steps into a compact, unified behavioral system; that is, a linguistically operating structure. External coordination of the tactic vocal elements emerges from the internal coordination of programming rules on the strategic level; and, finally, both levels are unified into the vertical control of the Ego.

Language learning, therefore, implies the acquisition of psycholinguistic abilities of reception and production on all three levels; and especially the ability to coordinate all three levels effectively so as to generate a well-integrated verbal totality.

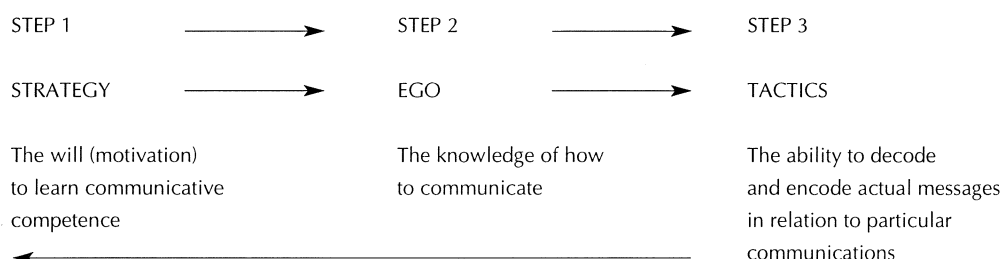
Figure 1 summarizes in simpler terms the essentials of the holodynamic model from the point of view of second language learning and teaching.

The ability to decode and encode actual messages in relation to particular communication situations

## **2.3. «Important Factors in Second Language Learning»**

The lack of longitudinal studies on successful language learning does not allow for conclu-

**Figure 1. The holodynamic model.**



sions vis-a-vis 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 within the Holodynamic Model.

(1). Motivation. The primary factor (e.g. Burstall 1975) is motivation. Specific motivational factors are:

*Integrative versus Instrumental Motivation.* A comparison 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 need for self-identification with the members of the foreign linguistic community are – together or separately – keys 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 spoken code, if they are brought into contact with the foreign culture.

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

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

*Classroom Situation.* Smaller schools seem to foster achievement, probably due to an atmosphere characterized by cooperative behavior among pupils and closer contact between teacher and pupils.

*Teacher-Pupil Interaction.* Teachers' high expectations and positive attitudes toward the foreign language and culture, no less than their enthusiasm for their class, correlate positively 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 cognitive 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 some experimental data is linguistic aptitude. Carroll (1960:13-14) has repeatedly emphasized the role of linguistic 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 ability*: the ability to infer linguistic forms, rules, and patterns from a new linguistic content 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 in 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 for this 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. 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 that while children will benefit from a more extended period of time in order to be able to acquire language skills, adults will also be able to profit from more intensive courses.

## **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 incorporates 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 suggesting a set of well-defined activities aimed at specific skills development.

Learning guided by teaching is a typical requirement of adult learners. 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, & Harnett 1976). Systematic instruction should not be confused with formal instruction: the former implies careful planning of situations, materials and procedures; while the latter restricts teaching to abstract transfers of information; e.g. the traditional teaching of formal grammar. A great deal of confusion has arisen in methodological debates because of 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 synonymous with programming.

Programming effective learning can be carried out in a variety of ways. What is required by the holodynamic model, however, is a teaching-learning process consisting of flexible units leading to the gradual assimilation (internalization) 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 the task at hand. It may be useful or necessary, accordingly, to go back and forth to the basic stages of learning in order to clarify, reorganize, strengthen, and expand the essential constituents of language competence.

Teaching is also modular when instructional roles are reversible. The teacher provides initiating stimuli to the learner's responsiveness, but in turn becomes a receiver when utilizing the learner's participation. Both the teacher and the student are alternately stimulators and reactors.

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

The cyclical nature of modular teaching is an overall characteristic of this process, because phases and roles are not assembled in sequence, but unfold, one out of the other. Each phase is more like a molecule pushing toward greater 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 resides on a biological continuum; it is not a mere accumulation of disjointed building blocks (the parts of speech and rules of traditional grammar books).

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