03. Commonplaces in Clinical Linguistics

03.03. The language code and language use: semiotic skills.

The literature on language disorders frequently resorts to another commonplace: the isolated consideration of the various semiotic skills, both in terms of description and evaluation. For example, Borregón and González (2000: 243) speak about several "modules or functional systems" that interact with each other and that correspond to the following skills:

1) visual, copy, drawing;
2) calculation;
3) auditory comprehension;
4) reading comprehension;
5) non-verbal tasks;
6) repetition;
7) dictation;
8) reading expression;
9) oral expression;
10) written expression.

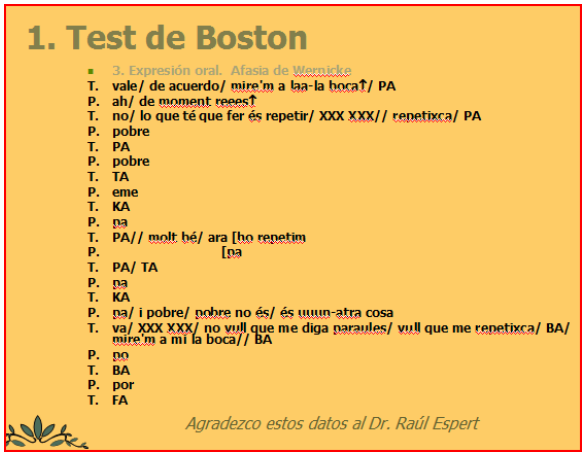
We believe these 10 skills (which are effectively inter-dependent) enable a semiotic re-ordering as:

- calculating skills (2),
- expression skills: reading, oral and written (8, 9 and 10)
- comprehension skills: oral and reading (3, 4 and 5)
- repetition skills: iconographic, oral and dictation (1, 6 and 7)

The classic Boston Test[1] uses the separation between skills and semiotic abilities, with the following subtests:

1. Conversational and expositional speech
Identifies the subject's level of severity from their description of the so-called "cookie theft scene"

2. Auditory comprehension
2.1. Word discrimination (cards 2 and 3: "Point to the key", "Point to number 7"). 2 points if they do it in less than 5 seconds, 0.5 points if they get the category right but not the item.
2.2. Identifying parts of the body ("point to your nose"). 1 point if they do it in less than 5 seconds, 0.5 if they take longer.



[1] Harold Goodglass and Edith Kaplan: *Test de Boston: Evaluación de la afasia y de trastornos relacionados (The Boston Naming Test: the assessment of aphasia and related disorders)* ; Translated by C. Wernicke, 1996. Ed. Médica Panamericana

2.3. Orders ("make a fist", "point to the ceiling"). 1 point for each one they get right.
2.4. Complex ideas material: pairs of yes/no questions, some relating to a previously read text.

3. Oral expression
3.1. Oral agility: non-verbal (praxis repetition in 5 seconds), verbal (word repetition)
3.2. Automated sequences (days of the week, months of the year, count to 21, alphabet)
3.3. Reciting, singing and rhythm
3.4. Word repetition
3.5. Repetition of sentences and statements
3.6. Reading words
3.7. Naming response
3.8. Naming by visual confrontation
3.9. Naming parts of the body
3.10. Naming animals
3.11. Reading sentences aloud

4. Written language comprehension

* * *

It is easy to relate this practice to the origins of neurolinguistics; it is well known that the identification of the two basic aphasic disorders, Broca's aphasia and Wernicke's aphasia, linked the two main aphasic symptoms to the distinction between emission and comprehension:

- In 1861, Paul Broca, a French anatomist, described the brain of a patient whom he had treated in La Salpêtrière (Mr. Tan) and whose expressive motor capacity was severely affected. Analysis of the brain revealed that a specific area of the left cerebral hemisphere (ventroposterior region of the frontal lobes: "Broca's area) was practically destroyed.


PAUL BROCA

THE BRAIN OF MR. 'TAN'

- In 1873, Carl Wernicke, a German psychiatrist, described brain lesions in another part of the left cerebral hemisphere that caused behavioural disorders opposite to those described by Broca: whilst motor and expressive ability was basically preserved, comprehension and sensory ability was affected. The so-called "Wernicke's area" was located in more posterior region of the left hemisphere, in the superior temporal lobe.

This association has sometimes been radicalised, leading to a complete separation and independence between the processes of emission and reception; they are frequently considered to be separate and separable facts occurring in linear succession. Tradition has led to language assessments treating semiotic skills (e.g. The Boston Naming Test) and language skills (e.g. induced phonological register, TSA, BLOC, etc.) separately from each other. This separation is merely a methodological artifice that enables the analysis to be refined and should be taken in context. The literature insists (Manochiopining, Sheard and Redd 1992: 519 ; Vanhalle, Lemieux, Ska and Joanette, 2000) on the discrepancies that show excessively limited assessments in respect of patients' real communicative competence, and this is because such assessments lose sight of the systemic and global concept of language.

[Suggested additional reading: "Evaluación de la comprensión y expresión de relaciones en un paciente con afasia semántica", Víctor Alcaraz Romero, Concepción Cedillo Jiménez, Fernando Leal Carretero and Rubén Bañuelos, 2006]

However, it should be noted that these are two simultaneous realities that maintain an interdependent relationship ("subsumption" vs. sequentiality). Carlos Hernández Sacristán (1983: 44-45) refers to sequential relation as

> *"the view according to which, between two related terms A and B, one of them completely precedes the other, in the sense that it does not need it to be configured as an entity, which leads to uni-directional diagrams of the type:*
>
> *A → B*
>
> *B ← A*
>
> *and in the specific example*
>
> *Articulation → Perception*
>
> *In contrast, we consider that a relationship of subsumption exists between two terms A and B when we cannot speak in terms of absolute origin of one of them, instead we have to suppose that any dominant directional sense in the relationship corresponds with a recessively inverse sense".*

That is, that there is no room for Speech without Listening (even though it may be that of the speaker talking to themselves) as there is similarly no Comprehension without Emission. In this respect the well-known Motor reception theory, formulated by Liberman et al.[2] in the 60s, is relevant.

Walter Ong (1982): Orality and writing, page 171
"Human communication is never unilateral. It will always require not just a reaction but its content will also be configured and obtained by a previous response. This does not mean that I am sure of how the other person will respond to what I say. However, I must be able to conjecture, at least tentatively, a possible range of replies. In some way, I have to put myself beforehand in the other person's mind to get my message across, and he or she must be in mine. In order to formulate anything I must first have another person or other people 'in mind'. That is the paradox of human communication. communication is reciprocally intersubjective".

[2] Liberman, A.M.; Cooper, F.S.; Shakweiler, D.P.; Studdert Kennedy, M. (1967): "Perception of Speech Code", *Psychological Review* 74, pp. 431-461.

According to this theory, speech decoding is done by reproducing the articulatory movements carried out in production; in the words of J. Llisterri, "decoding the message is done by comparing the acoustic signal with the neuromotor commands that would be activated in production".

[Suggested additional reading: Fonética perceptiva, Victoria Marrero, 2001]

The actual description of aphasic syndromes normally avoids making categorical statements on the conservation or loss of the various skills, as in every case it is more realistic to speak of situations in which both loss and preservation are relative.

[Suggested additional reading:

"Las Afasias. Parte 1", Alfredo Ardila, 2006

"Las Afasias. Parte 2", Alfredo Ardila, 2006]

When considering language disorders, it should be remembered that semiotic skills are activated simultaneously, and that the obvious predominance of one results in the recessive activation of the other: reading/writing, speech/listening.
The fifth major semiotic skill in the field of clinical linguistics is repetition, which is used for identifying transcortical aphasias. The following table (Güell and Olivé, 2001: 147) shows traditionally grouped syndromes, combining the localisationist and the semiotic view:

	GLOBAL	WERNICKE	TRANSCORTICAL SENSORY	CONDUCTION	BROCA	ANOMIC	TRANSCORTICAL MOTOR
SPONTANEOUS LANGUAGE	not fluent	fluent	fluent	fluent	not fluent	fluent	not fluent
ORAL COMPREHENSION	very impaired	impaired	impaired	relatively preserved	relatively preserved	relatively preserved	relatively preserved
REPETITION	very impaired	relatively preserved	relatively preserved	impaired	impaired	preserved	relatively preserved
NAMING	very impaired	very impaired	very impaired	impaired	very impaired	very impaired	impaired
READING ALOUD	impaired	impaired	impaired	impaired	impaired	relatively preserved	relatively preserved
READING COMPREHENSION	very impaired	impaired	impaired	relatively impaired	relatively impaired	relatively preserved	relatively impaired
WRITING	very impaired	impaired	impaired	impaired	impaired	relatively preserved	impaired

Finally, alongside the classification according to semiotic skills, and particularly in the field of child linguistic pathologies, it is easy to find classifications of speakers according to whether they show (theoretically) expression impairment, comprehension impairment or processing impairment. These practices should be avoided, as they are lacking in coherence; this triad (expression, reception, processing) would only be of theoretical value if it referred to phonation, auditory and language disorders:

Expression	Reception	Processing
Phonation	Audition	Language