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Article abstract

How legitimate is the use of numbers by linguistic operators zero, phase 1 and phase 2? It seems that these references to the philosophy of mathematics pose a problem that is inherently tied to the core of the science of linguistics. The Peircean categories of firstness, secondness and thirdness not only offer terminological solutions, but also corollary epistemological openings that allow for the substitution of linguistic's empiricism by a semiotic basis.

Elements For a Synergetic Approach to Peirce's Semiotics and Adamczewski's Linguistics

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Linguistics in general is fundamentally binary – and apparently Henri Adamczewski's is no exception. The late founder of the theory of phases (or metaoperational theory)¹ has nevertheless left us with an enlightening perspective on key language issues of striking and relevant simplicity. Yet his revolutionary vision still goes widely unnoticed. Indeed, his 1976 doctoral thesis on “BE + ING in the Grammar of Contemporary English”, along with his subsequent analyses of a number of other determining grammar points (in English mainly, but in French and other languages as well), has not yet gained the general recognition it fully deserves. It is however slowly but surely gaining ground, notably thanks to Jean-Pierre Gabilan's brilliant contributions² (2006).

To quickly set the scene, let us bear in mind that Adamczewski's

initial purpose was to try and find a fundamental meaning, a sort of semantic invariant that could account for all the occurrences of the BE + ING construction. What I wanted to elaborate was in fact a teachable and learnable explanation (which the traditional point of view was not). [...] What I did find was that a completely new approach was necessary, nothing less than an *epistemic revolution*³. (2002 : 20)

I would like to devote the present paper to showing that Adamczewski's insightful deduction of the invariant value (or what he calls the *invariant*) of BE + V -ING, and more generally his metaoperational linguistics, is fundamentally in keeping with Charles Peirce's triadic semiotics. Therefore, my point is that – even though Adamczewski himself conceived of his work as partaking of the dual essence of structuralism⁴, and developed his theoretical reflection on the basis of empiricism – metaoperation is actually of triadic essence, and is thereby deeply rooted in the science of signs and in the three phaneroscopic categories of firstness, secondness, and thirdness⁵ (CP 1.359 & 8.213). Further, there is a potential synergy between both

thinkers' systematic theories, approached here in the pedagogical perspective of an ESL⁶ professor and researcher.

It would no doubt be fascinating to study the history of the ideas of one, two, and three as philosophical principles used as bedrocks for theoretical approaches throughout thousands of years. It lies beyond the modest scope of this investigation, whose starting point is on the one hand, the prevailing duality that constitutes the setting for Adamczewski's groundbreaking research, and on the other hand, the deep triadic foundation of Peirce's seminal work.

To me, who have for forty years considered the matter from every point of view that I could discover, the inadequacy of Secondness to cover all that is in our minds is so evident that I scarce know how to begin to persuade any person of it who is not already convinced of it. Yet I see a great many thinkers who are trying to construct a system without putting any thirdness into it. (CP 8.331)

Although at first sight this might seem to apply to Adamczewski – especially since he claims the same thing himself – he eventually appears to have come up with a system in which thirdness turns out to play a key role, however much he disregarded or misinterpreted that dimension himself.

A large part of Adamczewski's investigation is devoted to BE + ING. His acute sense of observation (of both languages and linguistic explanations) led his critical mind to question the validity of the unanimously supported progressive form. Rigorous examination led him to show its inanity : conceiving of be + ing as the *progressive form* cannot adequately account for the value of that form, i.e. for its invariant. The professor was then left with no other choice than to conclude that the progressive form had died. That conclusion imposed itself upon him just as *Gott ist tot* (God is dead) imposed itself upon Friedrich Nietzsche. But then Nietzsche died, and so did Adamczewski, whereas God and the progressive form are only dead to the few who followed in their BE + ING.

Furthermore, having discovered and proven the deceptive character of the progressive form as explanatory hypothesis, Adamczewski took up the thorny challenge that stemmed from it⁷ : since the semantic value of BE + ING is not the idea of action in progress, of action being processed, of process under way, what is it? By dint of tirelessly studying contextualized instances, Adamczewski came to a brilliant abduction⁸ : BE + ING is a phase 2 operator. As opposed to the absence of BE + ING, also called zero ($\emptyset$), which is a phase 1 operator. Phase 1 and phase 2 therefore constitute the opposing entities of his unsurprisingly two-sided theory of phases, i.e. his revolutionizing logical axis, which simply demystifies many complex grammar points. Indeed, the theory of phases finally overcomes pairs such as *a* vs. *the*, *this* vs. *that*, *to* V vs. *V-ing*, *N preposition* N vs. *N's N*.⁹

But are these genuine pairs? The author is adamant :

Most, perhaps all, grammatical phenomena are organised in pairs based on the rhematic $\rightarrow$ thematic vector which corresponds to a binary opposition : open paradigm versus closed paradigm (that is to say non-presupposing item versus presupposing item).¹⁰

Now is this truly the case? Adamczewski himself rather deals with $\emptyset$, *a* and *the*, with $\emptyset$ V, to V and *V-ing*, with *N preposition* N, *N's N* and *N $\emptyset$ N* (1982). He also studies

quite a few other triads, among which are *V1 Ø V2*, *V1 TO V2* and *V1 V2-ING*; *no*, *no one*, and *none*; *each Ø*, *each one*, and *every one*; *two*, *the two*, and *both*. He attributes to “the morpheme –ING a triple role, which can be expressed by the following three words : scope, status, orientation” (2002 : 20). He discusses at length *this* vs. *that*, and *some* vs. *any*, but even in these cases, which he’s keen to present as pairs, he does mention that the full picture involves a third element : *the*, *this* and *that*; *zero*, *some*, and *any*¹¹ (1982 : 257). Moreover, he mentions that his two-phase theory is about two opposing but also complementary phases (*Ibid.* : 42).

This is an important point : not all the entities presented as pairs – presumably under the influence of structuralism, whose hallmark is duality – actually are pairs¹² (Compare with Peirce : CP 8.266). More convincingly, many of what Adamczewski presents as dyads appear indeed to be Peircean triads reduced to two of their three elements. Each item on the short list above comprises three different categories of operators, which linguistics refers to as Ø, 1, and 2. Zero is obviously the mathematical symbol used by linguists to name the non-existence of whatever operator they’re dealing with. And it goes without saying that *one* and *two* being numbers, they are of a mathematical nature too. Do linguists use them in a mathematical spirit though? Do they have in mind the mathematical philosophy inherent in zero, one, and two as they apply the concepts to their own field of study?

The arithmetical symbol zero, whose first known use dates back only to 1598, denotes the absence of all magnitude or quantity¹³. It might amount to the lowest possible level of something when employed in a figurative or metaphorical way, but more rigorously, its scientific meaning denotes nothing at all. No quantity. No quality. Nothing. Isn’t that only what we see if we limit ourselves to the surface level of languages? When somebody asks “Tea or coffee?”, there obviously isn’t any word used to determine the nouns, yet most linguists now agree that there is indeed an operation of determination performed on the nouns through the use of the so-called *determiner zero*. Zero, here, is something. It denotes a minimal operation of determination which is not nothing. Therefore, linguists do not seem to have been using zero in its proper mathematical sense. Because as soon as one acknowledges that there is some quality of being (which ‘Tea or coffee?’ for example rightly shows), one is dealing with what Peirce calls firstness¹⁴ (CP 1.25) – not zeroness –, i.e. the mode of being akin to figure *one*.

It then seems reasonable enough to suggest that the term zero (for instance in the noun determination series *zero*, *a* and *the*) might have been used with some degree of laxity as regards mathematical standards. If the science of language is to be called a science, shouldn’t it be more precise in its terminology? Since there definitely is some kind of noun determination in ‘Tea or coffee?’, it doesn’t seem appropriate to call zero something that is nothing on the surface level only. Because eventually, the entity named zero is not nothing. It therefore appears to be more appropriate to state that there is something that is not embodied in a verbal sign, namely – in Peircean terms – an operator of firstness.

Now let’s take the example of a manifestly genuine pair such as Ø (i.e. in this case the absence of BE+V-ING) vs. BE + V-ING, as in :

- a. He lived with his girlfriend and their six-month-old baby...

- b. He was living with his girlfriend and their six-month-old baby... (Gabilan 2006 : 19, 20)

In sentence *a* the past tense is associated to a phase 1 operator, whereas in sentence *b* the past tense is associated to a phase 2 operator. One may wonder on what grounds the figures 1 and 2 have been retained to qualify the respective phases. It is useful to stress the fact that the present phase 1 operator is none other than zero. Isn't using 1 to refer to $\emptyset$ somewhat confusing? Or even lacking in scientific rigor?

I'm not sure these questions actually ought to be posed directly as regards metaoperations. Indeed, Adamczewski does use zero to denote the absence of some morpheme (1982, 5th ed. 1998)¹⁵. But he doesn't seem to be using it to refer to the absence of BE+ING. The opposition $\emptyset$ / BE + -ING is to be found in other influential authors' writings such as Paul Larreya and Claude Rivière's (1991; 3rd ed. 2005 : 43). But Adamczewski goes for the dyads "without BE + ING" vs. "with BE + ING" (Adamczewski 1982 : 39), "-BE+ ING" vs. "+BE+ING", and "rhematic" vs. "thematic" on top of his phase 1 vs. phase 2 (*Ibid.* : 2002 : 29). Now what does BE + V-ING have to do with two (2)? And what does its absence – whatever one calls it – really have to do with one (1)? Is BE + V-ING a second as opposed to a first? Is BE + V-ING an operator of secondness and its absence an operator of firstness?

I'm afraid it seems likely that *zero*, *one*, and *two* in linguistics are empirical notions, not mathematical ones. The metaoperational system consists in a logical alternative where a speaker has to choose between one option (hence phase 1) or a second option (hence phase 2). But it can hardly be argued that phase 1 denotes something that exists in itself – which is the mode of being specific to *one* – because it wouldn't even be embodied in a material form. Indeed, the mere fact of uttering it grants it the status of a category 2 operator. It necessarily has the mode of being of secondness because for it to be, it has to be metaphorically written down, *i.e.* inscribed within the virtual space of communication that might be called the *sheet of assertion*. Inscribing "he lives with his girlfriend" on the assertion sheet is *per se* an operation of secondness, for the inscribing is an act. Producing that sentence is in itself not reducible to the mode of being of firstness since it consists in actually communicating a meaning for itself, for its informative value.

On the other hand, communicating sheer information – *i.e.* inscribing a sign on an assertion sheet – is not all that's behind the statement "he's living with his girlfriend". In this case, the information itself is conceived of as having already been inscribed on the assertion sheet, or at any rate, the inscription of the information is not the purpose of that sentence, since the information is taken for granted : it is a presupposition; it has a presupposed status. BE+V-ING is presupposing. The point of the utterer here is to use that presupposed information as a way to relate to his intention of communication, which is logically to be identified as a third element. That third – the speaker's indirect meaning that lies not in the words themselves but in what they tell us about the subject – is really what matters here; consequently the idea of relating to a third is key to understanding the invariant of BE+V-ING, which thereby appears as an operator of thirdness – or category three operator¹⁶ (See Peirce : CP 8.331).

He's living with his girlfriend and their six-month-old baby is not a sentence produced to inscribe information on an assertion sheet, but a sentence that consists in using pre-existing information – pre-inscribed data – so as to focus on its relation to the subject, and that relation is a third from a logical point of view. For clarity's sake, the sheet of assertion could be represented by a circle like the one in diagram 1.

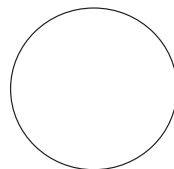


Diagram 1 - Representation of the assertion sheet

And with the same pedagogical aim in mind, it could be argued at first – even though it is a somewhat simplistic shortcut – that there is nothing on the assertion sheet regarding the subject, his girlfriend and their baby when a speaker says, “he lives with his girlfriend and their six-month-old baby”. A linguistic operator of secondness is chosen because what matters here is to convey information, to inscribe it on the assertion sheet, to share it with those present in the act of communication. This could be simply schematized as in diagram 2.

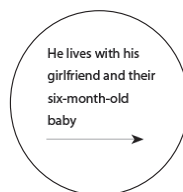


Diagram 2 - The simple present tense is an operator of 2ndness

In semiotic terms, the representamen (R) ‘he lives ...’ stands for a dynamical object (O) which consists in the actual fact that he lives with his girlfriend etc., and whose immediate object is to convey that information for a third, i.e. an interpretant (I), which mainly consists in the co-utterer interpreting the representamen as having for its object the inscription of the information on the assertion sheet. This could again be summarized in a very general manner – so much so that it actually corresponds to the inscription of any sign on an assertion sheet – as shown in diagram 3. A more detailed schematization is presented in diagram 4.

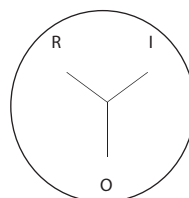


Diagram 3 - Representation of the inscription of a sign on an assertion sheet

Since a diagram is meant to offer a condensed view, it needs to resort to synthesizing options. What is written below the object in diagram 4 might be regarded as a comment on the object itself. The latter would be more appropriately represented by the same sentence as R with the verb underlined with an arrow pointed towards the right and symbolizing, in Adamczewski's work, the fact that the utterance is produced to convey an information for itself. That's the symbol for what he calls *phase 1 operators*, which I have suggested be renamed *secondness operators* in light of Peirce's understanding of mathematical philosophy, since the operation they perform

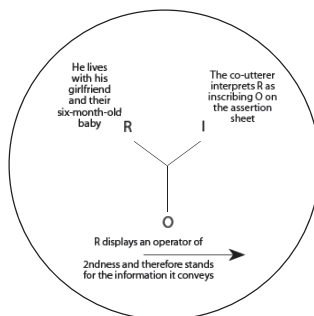


Diagram 4 - Example of the inscription of a sign on an assertion sheet

consists in inscribing a sign on an assertion sheet.

On the other hand, if the representamen is *He's living with his girlfriend and their six-month-old baby*, the object it stands for is referred to via an operator of thirdness – signalled by the symbol of the left-pointed arrow – whose interpretant is the recycling of presupposed information to convey some other meaning regarding the subject. In the present case, it might be, as Gabilan suggests, to explain why he can't make ends meet. This is synthesized in diagram 5.

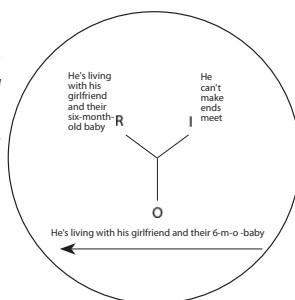


Diagram 5 - The present BE+V-ING tense is an operator of thirdness

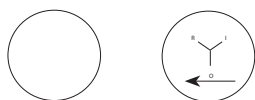


Diagram 6 - Inscribing an operator of 2ndness on an assertion sheet

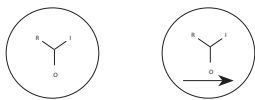


Diagram 7 - Inscribing an operator of 3rdness on an assertion sheet

To sum up, either there is nothing on the sheet of assertion common to the co-utterers, and a sign is then inscribed with an operator of secondness to communicate some information for its own sake (diagram 6); or the information is regarded as having been inscribed on the assertion sheet already, and the utterer indicates that it's being recycled for some other meaningful purpose through the use of a thirdness operator that connects the information to the subject as shown in diagram 7.

So the decision to use BE+V-ING or not means opting for either one of these two alternatives. Not using BE+V-ING equals resorting to an operator of secondness enabling the utterer to inscribe something (we might call X) in the common communication space, *i.e.* the assertion sheet; whereas using BE+V-ING is using an operator of thirdness allowing the speaker to employ presupposed data to point to some other meaning related to the subject.

In the light of Peircean semiotics, two-phase theory appears to be an extraordinary abduction – and I really mean Adamczewski had a brilliant intuition that turned out to be a linguistic revolution. But it is merely based on empirical research and so lacks the rational, deeply-rooted foundation inherent in the science of signs. One of the logical consequences of a semiotic perspective consists in associating the Adamczewskian pair to another, more common, linguistic concept, namely : zero. This is often used in actual relation with the two phases, but never quite presented as forming part of a conceptual whole. On the contrary, it is presented as an out-of-phase concept lying outside two-phase theory, whereas semiotics clearly reveals that it forms part of a homogeneous system : phase 1 and phase 2 are not a pair. They are the second and third elements in a triad whose first element is the zero of linguistics. A semiotic approach to metaoperations then leads on to building synergy tools. Instead of the empirical zero, phase 1 and phase 2, a synergetic move brings forth the semio-linguistic concept of a triad of operators corresponding to Peirce's three categories, namely operators of firstness, secondness, and thirdness respectively, as shown in table 1.

ADAMCZEWSKI'S LINGUISTICS	PEIRCE'S SEMIOTICS	A SYNERGETIC APPROACH ¹⁷
operator zero	category of firstness	operator of firstness
operator of phase 1	category of secondness	operator of secondness
operator of phase 2	category of thirdness	operator of thirdness

Table 1 - From an Empirical Pair to a Semiotic Triad of Linguistic Operators

Is this just about substituting one terminology for another? Is “operator of phase one” a representamen that stands for an object interpreted as being the same as the one that the representamen “operator of secondness” is interpreted as standing for? Let’s see how these conceptual tools work with, for example, noun determination. When the operation of determination is not embodied in a verbal sign because it partakes of the logic of vagueness – which is the logic emanating from the idea of one – it is rational enough to argue that what we have here is an operator of firstness, a mere quality of feeling with no visible sign on the sheet of assertion as yet. Inscription comes with the operator of secondness – in the present case ‘a’ – which brings X (or whatever the speaker is talking about) to the attention of the co-utterer. X is then something that they share, that becomes part of their common knowledge because it is inscribed on the sheet of assertion with ‘a’. As to the operator of thirdness ‘the’, it recycles a presupposed inscription, signalling that X has already been inscribed on the assertion sheet and is to be understood as data related to the state of the grammatical subject.

The whole picture of noun determination thereby receives a systematic treatment – with determiner zero as an operator of firstness, ‘a’ as an operator of secondness, and ‘the’ as an operator of thirdness. This systematicity – it might be argued – equally appears when the question is treated in metaoperational terms : ‘a’ is an operator of phase 1, and ‘the’ an operator of phase 2, and determiner zero is a notional reference that lies outside two-phase theory. This is summed up in table 2.

EXAMPLE	ADAMCZEWSKI'S LINGUISTICS	A SEMIOTIC APPROACH TO LINGUISTICS
Ø	notional reference (operator zero?)	operator of firstness
a(n)	operator of phase 1	operator of secondness
the	operator of phase 2	operator of thirdness

Table 2 - Example of Semio-Linguistic Synergy

It is precisely because zero is not seen as forming part of the system of phases that the system itself cannot constitute a systematic whole, a holistic system : there's no logical continuity between the three. It might be supposed though that if, according to Adamczewski, operator zero is not really a genuine operator – since it would otherwise be fully part of metaoperations – it might be because it remains vague (what linguists call 'notional'), *i.e.* marked by the logic of vagueness peculiar to firstness. Adamczewski interprets this as standing outside his theory, even though he is keen to take it into account. While he certainly wouldn't leave out determiner zero, which is an essential component of his comprehensive approach to noun determination, he still insists that it remains outside his theory : two-phase it shall be! Even though he cannot but deal with three elements, he is positively convinced that what he has discovered is not three-phase theory. Doesn't that appear to be some sort of inconsistency, if not outright a contradiction?

Displaying three operational tools appears to show that metaoperation is of triadic essence, even though its creator is too immersed in the prevailing structuralist dyadism to actually be aware of it. One is in fact justified in sensing Peirce's triadic conception of phaneroscopic categories beneath the so-called two-phase theory involving zero in a non-negligible role. Should we take for granted that there is some kind of correspondence between the two sets of three-operator denominations presented in table 2 above? Since they stem from different backgrounds, they cannot possibly refer to comparable realities. In particular, the scientific foundation of the semiotic-based series accounts for its triadic character, but it remains to be seen whether the linguistic series is more than a mere tripartition – *i.e.* three elements lacking the logical connection that makes them a triad. As for noun determination, Adamczewski's system does not seem holistic enough to encompass the whole issue, because he needs to resort to something that lies outside the scope of metaoperation. So it seems much more logical to resort to a pedagogical presentation of noun determination founded on a consistent, comprehensive triad that constitutes a stable basis on which to build a thorough understanding of the issue.

Yet it still is likely that Adamczewski's conceptual investigation is fundamentally in keeping with Peirce's. Putting aside the reservations that have been expressed concerning operator zero, it seems that metaoperational concepts easily translate into semiotic ones – operators zero, of phase one and two respectively becoming operators of firstness, secondness, and thirdness – thereby acquiring the scientific foundation they deserve. Let's further investigate the matter by taking the example of complex nouns built via composition (as opposed to derivation). There are three main structures : *the beginning of the campaign*, *the campaign's beginning*, and *the campaign beginning*. The connection between the two nouns increases gradually as we go from the first structure – in which the creation of a link between two distinct, monadic nouns is embodied in a preposition, generally *of* – to the second one – in which the construction of the relation between the nouns is less patent because the link has already been made and there is just a subtle reminder of it – and finally to the third one, in which the link between the nouns is taken for granted and doesn't need to be either constructed or re-asserted, since it has already been fully lexicalized and is thus regarded as forming part of an institutionalized lexicon.

I believe this gradation is well-accounted for by the semiotic triad of operators of

firstness, secondness and thirdness. Indeed, N of N is an operator of firstness because it operates on monads whose relating is at first a mere qualitative possibility. N 's N is a dyad : the relation between the two entities is an actual, existent reality characteristic of the mode of being of secondness. And in $N \oslash N$, the two nouns are related by way of thirdness, *i.e.* institutionalized law. For their part, the linguistic tools of two-phase theory do not seem to be very efficient at showing the logic of that gradation, as is summarized in table 3 (Adamczewski 1982 : chap. 8.6).

EXAMPLE	ADAMCZEWSKI'S LINGUISTICS	A SEMIOTIC APPROACH TO LINGUISTICS
$N1$ of $N2$	operator of phase 1	operator of firstness
$N2$'s $N1$	operator of phase 2	operator of secondness
$N2 \oslash N1$	operator zero	operator of thirdness

Table 3 - Another Example of Semio-Linguistic Synergy

It is interesting that Adamczewski doesn't list these three operators in the same ascending order of complex noun cohesion. Had he presented them the other way around, it would have been equally logical. But listing $N \oslash N$ first, N preposition N second, and N 's N third does not help account for the gradual increase at the heart of that triad. It is like counting 3, 1, and 2. It looks as though metaoperational concepts induced that order of presentation : operator zero is first, and then come phases 1 and 2. I take it that this shows the limits of the theory of phases, especially its lack of rigorous underpinning, which its attachment to surface-level markers reveals. We may indeed legitimately wonder whether operator zero wouldn't simply be the name given to the patent absence of marker on the surface level of language, *i.e.* in the verbal linear chain.

Then, of course, as regards understanding the essentials of the relationship between the three structures, there is no fundamental difference between my semiotic approach and metaoperational conclusions. But the foundation on which these lie might not be adequate to give a satisfactory, comprehensive picture of the issue and basically show that the absence of marker between two nouns ($N2 \oslash N1$) is a sign that the creation of the relation between $N1$ and $N2$ is absent. This is because they needn't be related, as they are already connected by the strongest of ties : the law of lexicalization, which makes them a compound unit recognizable as such by any member of the English-language culture. It is thus clear that $N2 \oslash N1$ is an operator of thirdness, which itself can be further analyzed as comprising the triad illustrated by the three possible spellings (as in 'bed room', 'bed-room', and 'bedroom') which show the ascending gradation between (1) two words separated by a space, (2) two words joined by a hyphen, and (3) two words written as one.

As to $N2$'s $N1$, it is the medium-strength bonding structure that reactivates the linking power of an already created relation. It lies between total absence of creation (because of an already strong link) and full creation (because of the total absence of

a link). See a summary of these considerations in table 4.

Surface-level marker	Strenght of the link created by the noun structure	Strenght of the relation between the two nouns	Noun structure	Type of operator
Preposition	High	Inexistent	N1 of N2	Operator of firstness
's	Medium	Medium	N2 's N1	Operator of secondness
∅	Inexistent	High	N2 ∅ N1	Operator of thirdness

Table 4 - Factors Accounting for Phaneroscopic Classification of Compound Noun Structures

It therefore appears that Adamczewski's three elements are what Peirce would certainly have called a degenerate third, *i.e.* a dyad plus a monad, but in no way a triad: it is actually a tripartition (CP 5.469)¹⁸. Yet, it is the tools used by metaoperation that are tripartite. But fundamentally, it does draw on a triadic basis, and is consequently compatible with Peirce's logical perspective. Metaoperation is a dazzling abduction in need of scientific foundation¹⁹, and this is precisely what semiotics can bring to it, while itself learning from this challenging application of its philosophy. Enriching for both parties, then, as in any synergy worthy of the name.

As this synergy is only beginning to see the light, a lot of exciting work lies ahead. Two-phase theory draws some of its inspiration from structuralists like Ferdinand de Saussure, whose signifier and signified pair is held as the definition of what a sign is. But semiology doesn't play that big a part in the genesis of the theory of phases. Interestingly enough, it is to be noted that *theory of phases* is the term coined by Adamczewski's students – who, in all likelihood, focused on the recurrence of the pair *phase 1* vs. *phase 2* which plays a key role in the theory – whereas the linguist himself called it metaoperational grammar – a significant terminology choice.

The notion of operation is indeed central – and has been so in a number of noteworthy contributions from thinkers such as Noam Chomsky, Martin Joos, Gustave Guillaume and Antoine Culioli, to name a few of those who were part of the linguistic landscape within which Adamczewski found his food for thought. *Operation* is, again, a mathematical term imported to linguistics for the sake of the scientific study of language. Any language occurrence results from an operation (that might comprise several operations), the understanding of which is the key to formalizing grammar. Epistemology requires the difference – so dear to Adamczewski – between *operation* and *metaoperation*. The latter, I believe, arose in reaction to the first, which was mainly employed to indicate the use of language to talk about the world. Indeed, *operation* referred essentially to linguistic signs used to express non-linguistic, extra-linguistic or meta-linguistic facts – the three prefixes having more or less the same value²⁰. As

if there was the world on one hand, and the words to talk about it on the other. As if a linguistic operation were a dyadic correspondence consisting in using words to talk about the world.

With this kind of belief in mind, generations of grammarians thought that BE+V-ING was the language form designed to talk about continuous actions, *i.e.* a particular “content” in the world. The linguistic progressive form was needed to express unfinished actions, unaccomplished processes. We have here another dichotomy akin to many others, including Saussure’s signifier and signified, the former being the progressive tenses, and the latter the actions in progress. And it happens to be a persistent dichotomy at that²¹, criticized by specialists who gave different names to what was fundamentally the same approach. Still, even today, almost forty years after Adamczewski’s first lecture on BE+ING in 1973, the core of the argument is “the traditional viewpoint which always refers to *the action expressed by the verb*”²² (*my Italics*).

Now from a semiotic point of view, it just doesn’t make sense to imagine a direct link from actions to words, from the extra-linguistic world to the linguistic world. Such a dyad is tantamount to conceiving of the whole situation as only including objects merely connected to representamens. This is clearly a logical aberration since the third dimension is lacking. Yet, in the perspective of semiology, couldn’t the present progressive be the signifier, and the action in progress the signified? In the same vein, couldn’t the simple present be the signifier, and the usual action the signified? Many undergraduate students have let themselves be convinced of this, believing that “the simple present expresses a habitual action while the present continuous is used for unfinished, non-complete actions, actions with duration.” (Adamczewski 2002 : 18) .

This is an aberration for a simple reason : we have no access to the world in itself. What we have access to is our interpretation of the world of existential objects through the representation we have of it (*i.e.* the representamen). In other words, the world appears to us in a certain way, called a representamen, and that representation, which stands for the world itself – an object in semiotic terms – is then to be interpreted by us in interpretant signs. Likewise, we have no direct knowledge of actions themselves; what we know is how we conceive of them. This is one of the basic, fundamental principles developed in Peirce’s phaneroscopy, semiotics, and pragmatism. In the triadic perspective of the science of signs, what we’re dealing with (whether it be in linguistics or any other field) are representamina standing for objects to interpretants. So if I consider some action, what I’m considering is the representation through which this object (*i.e.* the actual entity named action) is presented to me, and which I have to interpret, that is to say for which I need to form some interpretant.

In other words, we’re bound to deal with nothing but signs in the realm of thirdness²³. As a consequence, language is designed not to talk about the world (or any object in the semiotic sense of the term), but to talk about the way we interpret our representation of it – *i.e.* to talk about our interpretation of the world as a semiotic object. Language signs can’t possibly be used to express actual actions. All they can express is actions as we see them, and that makes all the difference in the world! Language expresses our interpretation of our representation of objects. Language is a sign, and as any sign, it is a representamen that stands for an object

to an interpretant. That is in keeping with the Adamczewskian difference between *operation* and *metaoperation*: this dichotomy stemmed from the linguist's stepping back from traditional analyses and is what enabled him to denounce the existence of a direct connection between the extralinguistic world and the linguistic words²⁴. He insisted that language doesn't perform operations on the extralinguistic world. The operations that are performed in the field of linguistics are themselves linguistic. They're linguistic operations performed on linguistic material. Hence the term *metaoperation*.

Semiotics needs no such terminological point because it doesn't look at these phenomena from an empirical perspective. The point Adamczewski makes is already part of Peirce's approach. Both eventually are partaking of the same philosophical nature and are thereby prone to mutual synergetic enrichment. To further exemplify this hypothesis, a number of other important triads could be studied (*zero, some, and any*; *V1ØV2, V1 TO V2* and *V1 V2-ING*; etc.) but much remains to be said on the question of verb operators as analyzed by Adamczewski and contemplated in the light of Peircean semiotics.

I have been wondering if this mutually enriching synergy could benefit the students of ESL whom I teach at UPPA²⁵. Like most undergraduates, they tend first to regard verb forms as a complex universe inhabited by so many aliens – like the pluperfect and the past perfect²⁶ – and more often than not they end up with a chaotic idea of them, which is in keeping with the verb forms they spontaneously produce²⁷. It seems to me that by combining Peirce's and Adamczewski's quests for the essence of whatever is under investigation²⁸, it is possible to synthesize the essentials of how to give a form to a verb within the space of a one-page table. Such a table (which could also take the form of a tree diagram) would offer a synoptic overview of the three main keys to building any correct verb form.

Three steps are to be distinguished from a pedagogical point of view. Students first learn what forms exist and how to create them. They realize that there is a very limited number of parameters – operators, in fact – to take into account in order to come up with any possible verb form, *i.e.* an exhaustive list of English tenses whose production and manipulation is relatively easy to master. Once they have assimilated the list of operators and the technical rules to combine them, they need to discover the invariant of each of the operators. This second step enables them to know which form to choose depending on what they need to express (and, obviously, vice-versa : they understand the value of the verb forms they come across). The third and last step consists in confronting them with genuine language extracts, getting them to grasp the gist and do a lot of translating.

Now the three keys to English tenses are the following questions, which students need to answer in order to give the appropriate form to the verb they want to use to make a sentence :

- 1) Do I use V-S or V-ED (*i.e.* the present or the past tense)?
- 2) Do I use HAVE + V-EN (*i.e.* the perfect) or not?
- 3) Do I use BE + V-ING or not?

These parameters have to be systematically tackled in this order, and each question needs to be answered before going on to the next one. So we first have to choose between the present (V-s) and the past (V-ed), as shown in table 5a :

1	V - S	V - ED
---	-------	--------

Table 5a - The First Step in the English Tense Table

Then we have to decide whether we combine our first choice (*i.e.* either the present or the past, but both options appear in the table since it is an exhaustive one) with the perfect²⁹, or not (in which latter case we use zero) :

1	V - S	V - ED
2	∅	HAVE + V- EN

Table 5b - The Second Step in the English Tense Table

After our first two choices, we are in one of the four squares above on line 2. To these we finally add the result of our third choice, which is the answer to the third question : do I use BE+V-ING, or not? And that last decision leads us to opt for one of the eight squares (on line 3 in table 5c) that now result from combining the answers to the three key questions.

1	V - S	V - ED
2	∅	HAVE + V- EN
3	∅	BE + V- ING

Table 5c - The Third Step in the English Tense Table

We can then see all the possible resulting combinations that logically stem from answering these three questions. They are summed up in the English Tense Table (see tables 6 and especially 10), which offers a synoptic, exhaustive overview of all the basic verb forms, and clearly shows the systematic structure leading to the eight tenses. Though these are presented in any good grammar book, I feel the table of English tenses shown here is particularly simple and systematic.

Let the students name them now. This gives us the opportunity to clear up a few doubts –yes, the pluperfect and the past perfect are one and the same tense! Terminology is essential to clarity of thought, which in turn plays an important part in both teaching and researching (not to mention in our everyday lives...).

So we have to start by mentioning traditional tense names (see table 5), noting that ‘continuous’ may be replaced by ‘progressive’³⁰, and that not all traditional tenses are mentioned in the table. Indeed, both the future and the conditional are combined with the simple, continuous, perfect simple and perfect continuous forms, and account for eight additional tenses³¹. Adamczewski rejected that tradition, pointing out that “Nowadays, all grammarians agree that English has TWO tenses” (2002 : 29) : *shall*, *will* and their respective past forms *should* and *would*, are modals, not tenses. In keeping with his metaoperational approach, he opted for his own terminology (see table 5), thereby eliminating any ambiguity.

He used the dichotomy *rhematic* and *thematic* prior to coining his own labels *phase 1* and *phase 2*³².

Interestingly, Gabilan, one of Adamczewski's brightest students, who is now one of the most enthusiastic developers of the theory of phases (even though he chose not to mention this in his excellent grammar book (2005), which is somewhat surprising), preferred not to retain its founder's metalinguistic vocabulary (see table 5), presumably for the sake of clarity in view of pedagogical applications. Indeed, 'present BE+ING' is more transparent than 'phase 2 present', especially to undergraduate students. But on the other hand, his using the term 'simple present' doesn't account for the difference between his conception and the traditional one, a shortcoming Adamczewski was eager to overcome, as the following shows :

We have definitely dropped not only the traditional labels but also the meaning that tradition has attributed to them, especially habitual meaning for the Simple Present and progressive action for both Present Continuous and Past Continuous (*Ibid.* : 2002 : 29).

Gabilan naturally wouldn't use the terms *continuous* or *progressive*—except in a critical way—but his using the “present simple” denomination might be misleading. I personally think that it's important to keep it simple for the students, and I do tend to use mainly descriptive names in my classes. I regard clear terminology to be essential. I need my terms to say what I mean, to reflect my own semiotic approach to English linguistics. Therefore, in a synergetic effort to associate the logic of signs to that of metaoperation, I shall — as I have already suggested — substitute Peirce's terminology — along with the scientific philosophy attached to it — for Adamczewski's (table 6).

1	Present (V -S)				Past (V -ED)			
2	Ø		Perfect (HAVE + V -EN)		Ø		Perfect (HAVE + V -EN)	
3	(Ø)	(BE+ V -ING)	(Ø)	(BE+ V -ING)	(Ø)	(BE+ V -ING)	(Ø)	(BE+ V -ING)
Traditional tense denominations	simple present	present continuous	present perfect simple	present perfect continuous	simple past	past continuous	past perfect simple	past perfect continuous
Adamczewski's tense denominations	phase 1 present	phase 2 present	phase 1 present perfect	phase 2 present perfect	phase 1 past	phase 2 past	phase 1 past perfect	phase 2 past perfect
Gabilan's tense denominations	simple present	present BE + ING	present perfect simple	present perfect BE + ING	simple past	past BE + ING	past perfect simple	past perfect BE + ING
Semiotics tense denominations ³³	present of 2ndness	present of 3rdness	present perfect of 2ndness	present perfect of 3rdness	past of 2ndness	past of 3rdness	past perfect of 2ndness	past perfect of 3rdness

Table 6 - Tense Denominations

The terminology issue is fundamental but I hardly have time to allude to it in my classes since they focus on the actual verb forms. Important rules as to the combination of operators still remain to be specified :

- 1) operators always appear in the same order : (V-S) or (V-ED) + [HAVE + V-EN] + [BE + V-ING] + [BE + V-EN];³⁴
- 2) the verb is always situated in the last V-place;
- 3) the other V-places are filled with the operator that follows in the formula.

When a modal is to be added, it is always the first element in the verb group. But of course, modal operators are not mentioned in the table of tenses, for the latter deals with elementary verb forms, a prerequisite to the study of modals that is tackled afterwards. Students now hold the keys to a clear overall picture of the technical production of all the tenses that exist in English. Examples are then given (see table 10) and it is noted that the box in the synoptic table only offers enough room for one type of sentence – the basic one, sometimes called affirmative sentence. It is obviously necessary to help the students make their ideas clear on all the various types of sentences, which again can be summed up in a synoptic table to highlight the essentials of the fundamental logic presiding over sentence types.

It seems to me that whenever I (the pronoun here symbolically refers to any utterer) utter an utterance, I either (1) declare something (and my sentence ends with a period, and is called a declarative sentence), or (2) ask³⁵ something (and my sentence ends with a question mark, and is called an interrogative sentence), or (3) exclaim something (and my sentence ends with an exclamation point, and is called an exclamative sentence). Now what I declare, ask, or exclaim is either (1') something positive – let's call it x – or (2') something negative, *i.e.* the negation of a positive first – let's call it $\neg x$ (read non- x) – or (3') something that contradicts a negative statement, thereby confirming a positive assertion that was contradicted – let's call it $\underline{x}$,³⁶ and use the symbol $\underline{x}$ to denote it. Note that $\neg x$ (non- x) is the opposite of x , and that $\underline{x}$ (so- x) is the opposite of $\neg x$ but isn't equivalent to a mere positive x since it is not a mere statement but a confirmation following a negation. In other words, $\underline{x}$ is distinct from x since it arises to contradict $\neg x$ as well as to confirm x . I don't regard $\underline{x}$ as a double negative, because a double negation generally holds the negation of a negation to amount to an assertion, and is therefore a degenerate third that can be represented as in diagram 8. $\underline{x}$, however, is a genuine triad : it is a third that links a second to a first, as schematized in diagram 9.

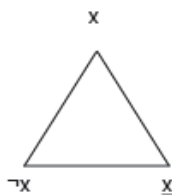


Diagram 8 - Double Negation
Is a Degenerate Triad

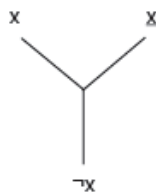


Diagram 9 - X, Non-x, and So-x
Form a Genuine Triad

Both triads (1 [declarative] 2 [interrogative], 3 [exclamative] and 1' [x], 2' [¬x], 3' [x]) then combine to form nine basic types of sentences as shown in table 7 below where only the logical structure of each of them is mentioned.

	x	¬x	<u>x</u>
.	x.	¬x.	<u>x</u> .
?	x?	¬x?	<u>x</u> ?
!	x!	¬x!	<u>x</u> !

Table 7 - The Logical Foundation of the Nine Basic Types of Sentences

Of course, there is an obvious link between the triad of uttering modes (symbolized by the period, the question mark, and the exclamation point in the left-hand column in table 7) and the phaneroscopic modes of being of firstness, secondness, and thirdness respectively. Indeed, the declarative sentence exists in itself, regardless of everything else. The interrogative sentence exists only as a response to something else, i.e. to question the existence of x. And the exclamative sentence appears in relation to something being questioned.

Likewise, the triad x, ¬x, and x exemplifies the same Peircean logic of monadic, dyadic, and triadic structures respectively found in positive, negative, and emphatic utterances. Again, there might be a terminology problem with the term *emphatic*, which is to be understood here as meaning x. It is not synonymous with insistence, even though the latter is often the only patent marker of emphasis. Having mentioned this reservation, let us translate the formulas in table 6 into the linguistic labels that are commonly used to refer to these concepts (table 8 on next page).

The systematicity of the perspective is striking. The system is as simple as it is fundamentally logical and is a clear, stable building block for students to rely on in their quest for comprehensive, efficient linguistic knowledge. It is all the more so as we go on completing the table with examples, shedding light on the special status of the positive declarative, which appears to be the elementary sentence that is the basis for all other types of sentences. It has the non-presupposing status characteristic of Adamczewski's phase 1 and Peirce's second phaneroscopic category. To make a sentence, the utterer necessarily starts from lexical notions akin to firstness (<she>, <sing>, and <song> for instance), which are brought together via linguistic operators (say V-S, and A for the nominal determination). The actual bringing together of selected notions amounts to inscribing the resulting sentence (e.g. "She sings a song") on the sheet of assertion – an unequivocal act of secondness.

	positive (x)	negative ($\neg$ x)	emphatic (<u>x</u>)
declarative (.)	positive declarative (x.)	negative declarative ($\neg$ x.)	emphatic declarative (<u>x</u> .)
interrogative (?)	positive interrogative (x?)	negative interrogative ($\neg$ x?)	emphatic interroga- tive (<u>x?</u>)
exclamative (!)	positive exclamative (x!)	negative exclamative ($\neg$ x!)	emphatic exclamative (<u>x!</u>)

Table 8 - Linguistic Labels for the Nine Basic Types of Sentence

All the other types of sentences presuppose the first two steps and can only be conceived of in relation to this presupposed inscription. That they belong to the third category of phenomena (Adamczewski's phase 2) is clear, because the operator of thirdness *do* is needed, showing that the predicative relation has already been inscribed on the assertion sheet, and is being recycled for some other linguistic purpose (e.g. turned into one of the other types of sentences.) See table 9³⁷, where the top left-hand box with the basic sentence type has been highlighted in bold type, contrary to the other boxes that all show the same *do* pattern, except the positive exclamative which is in italics because it is neither the basic sentence type, nor a sentence type that relates to the basic one through the use of *do*. Also, the subject had to be put between square brackets because it is not always mentioned. I must admit I don't quite know yet how to account for that apparent incongruity, but I trust further research can resolve it.

It is now fairly easy for the students to actually see, understand, and therefore memorize the invariant of the operator *do* : it takes up a predicative relation from the assertion sheet where it has already been inscribed, and can be used again in a modified way (denied, confirmed, questioned, exclaimed, ordered, advised, etc.) to express something relative to the presupposed relationship. Indeed, any negation can only be conceived of relative to an assertion (i.e. $\neg$ x is only conceivable relative to x), and any confirmation is necessarily relative to some negation (i.e. x logically is a response to $\neg$ x, whose existence is itself connected to x). Any time *do* is required, it is because the basic sentence is being re-used to elaborate other types of sentences. *Do* is the operator that turns a sentence into another type of sentence. It is basically the same phenomenon that can be observed in question tags (e.g. 'don't you?'), short answers (such as 'I do'), when one associates oneself to some presupposition (as in 'so does she', or 'neither does he'), or again in cases such as "Only when the loved person is out of reach does love become complete." (Adamczewski 1982 : 86, example 14). *Do* is systematically used to recycle a presupposed predicative relation and create a new predicative relation relative to the one it is built from.

Students then need to fill in more of these tables of sentence types with different verbs (they realize the same pattern characterizes the tables with *have* and *do*, where-
as *be* needs the operator *do* in the last two boxes – as in the negative exclamative

‘don’t be fair!’; and the emphatic exclamative ‘do be fair!’). Just as the table starting with “she sings a song” shows the role of *do* as the operator for both the present of secondness and – by extension – the past of secondness, the table starting with “she’s singing a song” shows the role of *be* as the operator for both the present of thirdness and – by extension – the past of thirdness, and the table starting with “she has sung a song” shows the role of *have* as the operator for any of the four perfect tenses.

	POSITIVE (X)	NEGATIVE (¬X)	EMPHATIC (X̂)
DECLARATIVE (.)	POSITIVE DECLARATIVE (X.) <she> <sing> <song> S – V-S – O She sings a song.	NEGATIVE DECLARATIVE (¬X) She • sing a song S ↑ P DO NOT. She does not sing a song.	EMPHATIC DECLARATIVE (X̂.) She • sing a song S ↑ P DO. She does sing a song.
INTERROGATIVE (?)	POSITIVE INTERROGATIVE (X?) She • sing a song S ↑ P DO? Does she sing a song? Who sings a song?	NEGATIVE INTERROGATIVE (¬X?) She • sing a song S ↑ P DO NOT? Does she not sing a song?	EMPHATIC INTERROGATIVE (X̂?) She • sing a song S ↑ P DO? Does she sing a song? Who does sing a song?
EXCLAMATIVE (!)	POSITIVE EXCLAMATIVE (X!) [She] • sing a song [S] ↑ P Ø ! She sings a song! Sing a song!	NEGATIVE EXCLAMATIVE (¬X!) She • sing a song S ↑ P DO NOT! She does not sing a song! Don't sing a song!	EMPHATIC EXCLAMATIVE (X̂?) She • sing a song S ↑ P DO! She does sing a song! Do sing a song!

Table 9 - Sentence Types Table

The students are now looking forward to discovering the invariant of each of the four operators that make up the eight tenses, since this is the only way to answer each of the three basic questions³⁸ leading to the determination of verb syntagms. This

discovery phase is conducted in a way that is as deductive as possible, through the study of contextualized examples, most of which are taken from Gabilan's *Grammaire expliquée de l'anglais*. His book – which is based on Adamczewski's influential work – offers long-overdue, first-rate treatment of the question of verb tenses. I refer readers to it – as well as to Adamczewski's *Grammaire linguistique de l'anglais*³⁹. Due to lack of space, I'll just briefly mention the key-words for the respective invariants of verb operators.

A few nuances need to be pointed out, one of the most important being the fact that Gabilan (and Adamczewski before him) doesn't distinguish very clearly the invariant of the present from the invariant of phase 1⁴⁰, which he calls non-presupposing status⁴¹ and which I call operator of secondness, whereas I regard the distinction as necessary. This is because both have to be identified before one can explain that the operator of secondness is associated (a) to the present operator V-S in the present of secondness, (b) to the past operator V-ED in the past of secondness, (c) to both the present operator V-S and the perfect operator HAVE + V-EN in the present perfect of secondness, and (d) to both the past operator V-ED and the perfect operator HAVE + V-EN in the past perfect of secondness (see table 10, which makes it clear). The same factorization remarks naturally apply to the operator of thirdness BE + V-ING, whose invariant – contrary to that of the operator of secondness – has been extensively isolated for detailed study from the standpoint of metaoperation.

Preliminary remarks should also address the question of tense and time, which used to be confused, but most grammarians now insist on this important distinction. Since fundamental issues evolve very slowly, it might not yet be as clear as it could be that the grammatical tense called present is not an operator used to refer to the chronological time also called present. That – again – would be a dyadic interpretation, with tense as signifier and time as signified in Saussure's structuralist view. But in its semiotic acception, tense is indeed a representamen that stands for an object (*i.e.* the reality that is pointed at) to an interpretant – the interpretation that is formed in the co-utterer's mind when the representamen is understood as referring to the object.

Now it seems to me that the interpretant that arises in our minds as we relate the representamen *present tense* (or rather the operator V-S in any of the forms in which it might be presented to us) to the object it stands for, is not the present time. Otherwise, we would have to consider as exceptions all the occurrences where the present tense is associated to some past or future time reference⁴² (Gabilan 2006 : 33). And both Peirce and Adamczewski regard exceptions as a sign that a rule is not satisfactory.

The invariant of the present tense – as pointed out by Adamczewski and possibly Joos before him⁴³ – is the validity of the predication, *i.e.* the truth-value of the utterance in the utterer's mind at the time of its inscription on the sheet of assertion. Whenever a speaker resorts to V-s, the object that representamen stands for is the fact that the speaker conceives of what is said (namely X, capital X symbolizing any type of X, *i.e.* any of the nine combinations mentioned in table 9) as a valid predication (a relation between a subject and a verb or a predicate that is held for true when it is asserted) whether X takes place in the present, the past or the future. The chronological reference of the present tense to the present time is therefore contingent, as is the

link between the operator of secondness and habitual actions, and the association of the operator of thirdness to actions in progress. It may occur, but it is not certain to occur, and in no way is it logically necessary for it to occur. Contingencies have long been mistaken for invariants, and unfortunately, often still are.

Regardless of what chronological time it refers to, the present tense is interpreted as referring to something that is currently true in our minds when we inscribe it on a sheet of assertion: its invariant is that it is valid now to assert that X is the case now, was the case in the past, or will be in the future. In other words, the main characteristic common to all present tense occurrences is the fact that they all are interpreted as indicating that X is valid – *i.e.* true – at the time of the utterance of X, whether X happens now, happened before, or will happen afterwards. So that what is systematic – and not contingent – is the interpretation of the present tense as a sign of the validity of the predication: any time a speaker assigns the present tense to X, it may refer to present, past or future time, and in any of these three cases, V-S is always interpreted as indicating that X is held to be true in the utterer's mind. V-S is a sign of X's truth value to the speaker at the time of its inscription on the assertion sheet. The invariant of V-S is: X is a valid predication now. Note that 'now' doesn't apply to X but to its predication. The chronological reference to the present doesn't affect what is predicated but its predication (or predicating) itself. So that the reference to the present time is not only linguistic but metalinguistic. The key words the students keep in mind are: 'valid now', meaning that I (the speaker⁴⁴) choose to use V-S if I conceive of X as being valid now, at the time of the utterance, whether X occurs in the present, past, or future.

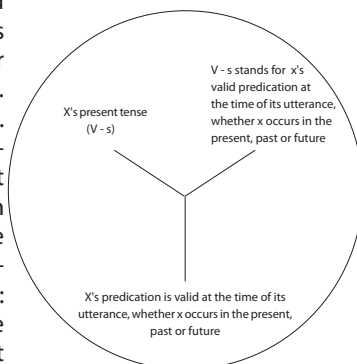


Diagram 10 - Present tense invariant

Now this invariant is metalinguistic because it holds the linguistic operator V -S to stand for another language reality, *i.e.* the validity of X's predication, contrary to what many grammarians used to think when they claimed that the present tense was a linguistic marker referring to an extra-linguistic reality, namely time. Hence Adamczewski's rightful insistence on the metaoperational character of his personal approach to linguistics, and the logical compatibility of the latter with Peirce's perspective.

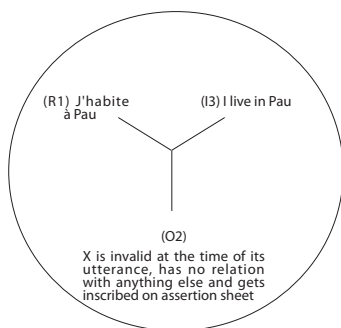


Diagram 11 - Example of Category two present

The present tense invariant opposes that of the past tense, and both are in fact complementary. To answer the first question in the three-step verb determination process, the student needs to find out whether the speaker conceives of X as being

valid at the time of its utterance, or not. If it is, V-S is to be chosen; if it is not, V-ED is the right choice, as summed up in the final English tense table (see table 10). V-ED can be described either as invalid (or not true, having no present truth value) at the time of its inscription, or as valid at a time that is not that of its inscription. In other words, V-ED's invariant is that the truth value of X lies either in the past or in unreality.

Answering the second question – Do I use HAVE + V-EN or not? – implies knowing if the speaker considers that there is a relationship between X and something else, or not. If there is, HAVE + V-EN will express it. But when there is no situational or verbal marker of such a connection, the operator won't be necessary. Last but not least, the third question – Do I use BE + V-ING or not? – will lead one to wonder whether the speaker's intention is to make an inscription on the assertion sheet, or to recycle some presupposition in order to focus on its relation to the grammatical subject.

Hence the French representamen (R1)⁴⁵ “*j'habite à Pau*” will correspond to the English interpretant (I3) “I live in Pau” insofar as the object (O2) that interconnects them (*i.e.* the reality referred to as “*j'habite à Pau*”) is valid at the time of its inscription, has no relation with anything else that would change the way of looking at it, and is inscribed on the assertion sheet for its own sake (diagram 11). If it is not the information contained in the very words of the source sign that matters, but its being presupposed as a way to relate to the subject, then the same R1 will have as an equivalent I3 “I'm living in Pau” because the speaker's intention (O2) is really to convey some other meaning regarding the subject – *e.g.* the idea that it should be easy for the grammatical subject ‘I’ to go and spend the weekend in the Pyrenees.

Now O2 is different if my living in Pau is not considered for itself but contemplated with respect to something else, like how long this has been the case. Then R1 “*j'habite à Pau depuis plus de dix ans*” will correspond to I3 “I have lived in Pau for over ten years” if the focus is on the information itself. On the other hand, if R1 is meant to explain why I know that the boulevard of the Pyrenees is close to Henry IV's castle, that O2 will require to combine V-S and HAVE + V-EN with BE + V-ING since the latter will indicate that X has a presupposing status : it has already been inscribed on the assertion sheet and the speaker uses this presupposition (or pre-inscription) to carry out some other communication function that is subject-oriented. Consequently I3 will be : “I have been living in Pau for over ten years”.

If the notions <I>, <live> and <in Perpignan> are used as a basis for an utterance that is not valid now in the mind of its utterer, not connected to anything else, and inscribed on the assertion sheet for its own informative value, they will make up the sentence “I lived in Perpignan”. But if the center of interest is not the information itself but what it tells us about the grammatical subject, then “I was living in Perpignan” will be asserted since in that case the speaker is actually talking about the subject – *e.g.* the latter's unsuspected attendance at Gérard Deledalle's seminars.

But when the act of living in Perpignan is envisioned in relation to something else, like meeting the Deledalles for instance, then the speaker resorts to HAVE + V-EN to relate X to some other event : “I had lived in Perpignan for a few months when I met the Deledalles”. Now if X is produced to express the idea that the grammatical subject had had time to discover the basics of semiotics necessary to understanding Deledalle's lectures, X might then be “I had been living in Perpignan for a few months

when I attended Deledalle’s seminar”⁴⁶.

The eight tenses appear at first glance in table 10 – a potential revolution in itself if one considers that it may finally put an end to generations of students having a totally confused understanding of English tenses. Examples are given for both the so-called active and passive voices, which make up the fourth question relative to verbal determination, namely : do I use BE + V-EN or not? The labels ‘active’ and ‘passive’ have been rightly criticized because not all active sentences have an active subject, just as not all passive sentences have a passive subject; so that it doesn’t make sense to tell the students to use the passive voice when the subject is the object of the action expressed by the verb. One actually chooses the appropriate voice by focusing on the subject that constitutes one’s main theme. Thus one thematizes it, as is required in both written and oral discourse to create “internal cohesion” (as Gabilan puts it to broaden Adamczewski’s “syntactic cohesion”), i.e. the logic inherent in coherent, homogeneous language (Adamczewski 1982-1993 : 182, 187; Gabilan 2006 : 178).

ENGLISH TENSE TABLE								
1	present (V -s) <i>valid in the speaker's mind at the time of inscription</i>				past (V -ED) <i>non-valid in the speaker's mind at the time of inscription</i>			
2	Ø <i>non- reacting to a second</i>		perfect (HAVE + V -EN) <i>reacting to a second</i>		Ø <i>non- reacting to a second</i>		perfect (HAVE + V -EN) <i>reacting to a second</i>	
3	2ndness (Ø) <i>non-presupposing</i>	3rdness (BE + V -ING) <i>presupposing</i>	2ndness (Ø) <i>non-presupposing</i>	3rdness (BE + V -ING) <i>presupposing</i>	2ndness (Ø) <i>non-presupposing</i>	3rdness (BE + V -ING) <i>presupposing</i>	2ndness (Ø) <i>non-presupposing</i>	3rdness (BE + V -ING) <i>presupposing</i>
Tense domination ⁴⁷	present of 2ndness	present of 3rdness	present perfect of 2ndness	present perfect of 3rdness	past of 2ndness	past of 3rdness	past perfect of 2ndness	past perfect of 3rdness
active voice (Ø)	He sees her.	He is seeing her.	He has seen her.	He has been seeing her.	He saw her.	He was seeing her.	He had seen her.	He has been seeing her.
passive voice (BE + V -EN)	She is seen (by him).	She is being seen.	She has been seen.	She has been being seen.	She was seen (by him).	She was being seen	She had been seen.	She had been being seen.

Table 10 - Semio-Linguistic Table of English Tenses (With Invariants in Italics)

Adamczewski draws his comprehensive view on the question of voices from Tesnière’s study (1959) of the four kinds of relations a verb can have to actants (i.e. subjects and objects around it), namely active, passive, reflexive and reciprocal voices. To which Gabilan adds the “voix moyenne” (the in-between voice – *my translation*) to refer to a voice that’s in between the active and passive voices, namely the ability of all English transitive verbs to use the object (for instance *door* in *I open the door*) as the subject (as in *the door opens*) (Adamczewski 1982-1993 : 185; Gabilan 2006 : 184).

The fifth question regarding verb syntagm determination (Do I use a modal or not?) concerns how the speaker sees the utterance : if it is regarded as not depending on the utterer's viewpoint, no modal is required, whereas if the utterer is keen to express a personal interpretation, it will require modalization, *i.e.* the use of a modal operator, namely *may, can, shall, will, must, need, and dare*. The order in which they are listed here is significant, or even emblematic of the whole logical system they constitute. The gist of the latter could again be summarized in the form of a synoptic table, the presentation of which could be the subject for another article.

I should just like to point out here that in table 10 the numbers 1, 2, and 3 could respectively be replaced by tense, aspect and category (or phase in Adamczewski's terminology, or status in Gabilan's), but I refrained from doing so because I believe it poses problems of terminology, which are inevitably linked to both epistemology and deontology or ethics. For when I use the label *present tense*, most people understand that I'm talking about the marker of the present time, which I am not. As a matter of fact, even the term *present* is ambiguous since it has both a grammatical and a chronological meaning. It might be wiser to consider that V-S is the truth-value operator, or the validity operator. The term *aspect* is equally fraught with considerations that are irrelevant to [my] understanding [of] HAVE + V-EN, and I would like to use it only as a synonym for HAVE + V-EN, though I know it has other implications.

Consequently, I chose to opt for more down-to-earth, descriptive labels which account for the first three steps in verb determination. To the students, the three basic questions that lead to verb syntagm determination are crystal clear :

- 1) Do I use V-S or V-ED ?
- 2) Do I use HAVE + V-EN or not?
- 3) Do I use BE + V-ING or not?

To me, it is increasingly clear that 1, 2, and 3 above are in keeping with Peirce's firstness, secondness, and thirdness, and that their order in the verbal group is no accident. The truth-value of a linguistic object is the mode of being of V-S and V-ED. It is a qualitative possibility that exists in itself. It is a first which then might be contemplated from the point of view of a second, and that's what HAVE + V-EN does : it incarnates the dyadic mode of being of secondness. Finally, BE + V-ING – as has been discussed in this article – is the operator that relates (and relation is the mode of being of thirdness, just as opposition is that of secondness) a presupposed predicative relation to its interpretation relatively to a grammatical subject. So that so-called tenses – or rather truth-value operators – are of the nature of a first, HAVE + V-EN has the mode of being of a second, and BE + V-ING is undoubtedly an operator of thirdness.

This three-step, triadic processing of verb forms should be distinguished from the resulting verb forms themselves, which should be either inscribed on the assertion sheet, or removed from it – since they had already been inscribed – so as to be recycled relative to the grammatical subject. So the V-S in the first verb determination question is different from the V-S that results from the whole process of asking the three questions. In the latter case of V-S without HAVE + V-EN and without BE + V-ING, we have an operator of secondness whose function is to inscribe some form of X on

the assertion sheet. So we might be under the impression that we are facing a dyadic choice whenever we have to choose between using BE + V-ING and not using it, but it might be quite reasonably argued that each of these choices results from a triadic process involving the three semiotic modes of being.

Now triads have at all times recommended themselves to all minds. There are psychological attractions for other number than three. Two is the number of hard common sense, of the stern moralist, of the practical man. "Yes or no? Answer me categorically," says such a man. Heaven and hell, right and wrong, truth and fiction, gain and loss, agent and patient, living or dead, — on such distinctions our practical life turns. The philosophy of two comes within my scheme. (Peirce, MS 907 : 2)

To paraphrase Charles Peirce, we might say that the question is "BE + V-ING or not BE + V-ING? Answer categorically! say the linguists". The same critical⁴⁸ remarks equally apply to the other two dyadic questions, namely "HAVE + V-EN or not HAVE + V-EN?", and "V-S or V-ED?". Nevertheless, as we take a step back to look at the whole picture, it becomes clear that each of the three dyadic alternatives cannot be fully assessed except as forming part of a whole, triadic system through which the verb evolves from firstness, to secondness and then thirdness. And, obviously, understanding the whole process is the key to mastering it. So if we remain at the level of secondness, we take too simplistic a view of the situation to be able to grasp the essential logic of it. Secondness, though, naturally comes within the scheme of Peirce's triadic theory. It is an indispensable part of it, which thirdness necessarily transcends.

Now there are a fourth and a fifth step in verb syntagm determination, but the basic eight tenses of the English language are nevertheless accounted for in the three-step methodology that draws on both triadic logic and metaoperational grammar, as summed up in the English tense table — table 10. Both this and the table of sentence types are presented here as elements for a synergetic approach to Peirce's semiotics and Adamczewski's linguistics. This synergy has undoubtedly a huge potential which could be further exemplified by drawing on Peirce's study of the valency of indecomposable concepts, *i.e.* phanerons. The American mathematician showed that there exists "a remarkable analogy" (CP 5.469)⁴⁹ between phanerons and chemical elements : "Just as the valency of chemistry is an atomic character, so indecomposable concepts may be bivalent or trivalent [...] every concept having a strict valency." (CP 5.469)⁵⁰. I summed up the monadic, dyadic, and triadic valency of signs in my doctoral dissertation⁵¹ by using a dot to symbolize the monad, two dots connected by a line to symbolize the dyad, and three dots connected by three related lines to symbolize the triad, as shown in table 11, which is limited to Peirce's three major trichotomies. The three modes of being (*i.e.* the firstness, secondness, and thirdness) of the representamen in itself (R) are presented in diagram form in the first column; those of the object for which the representamen stands (O (-R)) are in the second column, and those of the interpretant (I (R - O)) in the third.

	R	O (R)	I (R - O)
3			
2			
1			

Table 11 - Monad, Dyad, and Triad as Logical ElementsConstitutive of Sign Valency ⁵²

Now in an effort to work out something of the essence of verb determination operators, we could suggest a parallel with sign valencies in which the valency of V-S is one monad because V-S is a mere quality in itself, as opposed to V-ED, whose valency is represented by two monads because this opposition remains the first step in verb determination and doesn't quite reach the full status of a true dyad. The same representation (two monads) also accounts for the valency of BE + V-EN, whose opposition to the active voice doesn't have a genuine dyadic nature either. Both partake of the mode of being characteristic of firstness, and so do HAVE + V-EN and BE + V-ING, the last two being represented by three monads because they attain the third degree of firstness, which in itself encompasses three elements that are independent qualitative possibilities to be regarded as potential bases for actual bivalent or trivalent operations.

The left-hand column and the bottom line of table 12 below comprise the five operators of verbal determination as considered in themselves. At last, all the pieces in the puzzle seem to fall neatly into place, finally turning out to be consistent parts of a logical system. They are mere potentialities that are to be combined with one another in order to constitute the sixteen tenses (in the broadest sense of the word) displayed in table 10 above. Note that such combining requires one to substitute V-S for V-ED whenever the latter is not retained – *i.e.* when the answer to the first verb determination question is V-S. Likewise, BE + V-EN should be replaced by the active voice whenever the latter is required. From a logical point of view, the sixteen tenses are rather four sets of four tenses, which appear to fit perfectly well in the four boxes left. The second line in the table is that of secondness, and therefore quite appropriate for the present and the past of secondness – whose valency is the dyad – as well as for the present and the past perfect of secondness – whose valency is a dyad and a monad. The upper line, which is that of thirdness, looks equally suitable for the present and the past of thirdness – whose valency is a dyad and a monad – as well as for the present and the past perfect of thirdness – whose valency is a triad. Each of these four tenses can be associated either with the active or the passive voice, which amounts to a total of sixteen verb forms, as displayed in table 12.

	R	O (R)	I (R - O)
3	 BE + V-ING	 present of 3rdness past of 3rdness	 present perfect of 3rdness past perfect of 3rdness
2	 V-ED	 present of 2ndness past of 2ndness	 present perfect of 2ndness past perfect of 2ndness
1	 V-S	 BE + V-EN	 HAVE + V-EN

Table 12 - Monad, Dyad, and Triad as Logical Elements Constitutive of the Valency of Verb Determination Operators

Now, the operators involved in the process of verb determination do not appear to lead to a series of five empirical questions by accident. They turn out to be the cornerstones of a system whose logic is fundamentally of triadic essence. This obviously sheds quite a different light on metaoperational linguistics. It goes without saying that the present synergetic elements call for further investigation, which should definitely take into account Peirce's nine main types of signs – I will just briefly recall them in table 13 (next page).

Another of the research points that will merely be alluded to as the present paper nears its conclusion, is that of terminology. Does the above table not irresistibly make one want to inquire what – if at all – Peirce's and Adamczewski's *rhemes* have in common? Similarly, the terminology in the English tense table (table 10) probably needs to be reviewed in order for it to serve as an adequate tool in the study of language knowledge – and satisfactory terminology is a *sine qua non* for both research and teaching. It is the basic tool we need to study language and language theory, *i.e.* to examine “the nature and grounds of our knowledge especially with reference to its limits and validity”⁵³. Thus terminology and epistemology are intrinsically connected to each other, and to deontology as well, since it is a moral obligation, an ethical duty to investigate the relevance of a theory and the adequacy of a terminology.

This happens to be precisely what Adamczewski did when he stumbled upon the progressive form – a unanimously undisputed theory he thoroughly invalidated. The term *progressive* has almost completely disappeared from linguists' vocabulary – though it can still be heard, surprisingly enough, presumably because the history of ideas evolves rather slowly. As for Peirce, he is the author of unequivocal writings on the ethics of terminology. To him, “[...] the woof and warp of all thought and all research is symbols, and the life of thought and science is the life inherent in symbols;

so that it is wrong to say that a good language is *important* to good thought, merely; for it is of the essence of it.” (CP 2.220).

	R	O (R)	I (R - O)
3	legisign	symbol	argument
2	sinsign	index	dicisign
1	qualisign	icon	rheme

Table 13 - Nine Main Types of Signs

Consequently, the importance of terminology is another point on which their perspectives converge. And in a sort of final homage to both researchers, in keeping with a synergy mutually beneficial to both Peircean and Adamczewskian research, I will conclude this paper by wondering out loud whether the science of signs I have been dealing with really ought to be called semiotics or rather semeiotics, since Peirce himself used the latter more than the former. In the same vein, I believe a semeio-linguistic synergy should lead us to wonder whether linguistics really is the science of language, since it studies only the verbal part of language. Last but not least, and contrary to what can generally be observed⁵⁴, since linguistics studies only verbal signs, whereas semeiotics studies any kind of signs, would it not be wise to regard semeiotics as the science within which linguistics ought to be founded?

Unfortunately, these questions are far from new, but they still need to be asked, and possibly even more forcefully, because the research community is lagging behind, not having assimilated these fundamental issues. A fortiori, this is even more the case of our students who enter university convinced that the continuous form is used for actions in progress. So Adamczewski is right to say that we need “nothing less than an epistemic revolution” (2002 : 20), which in my opinion will necessarily be built upon the triadic logic founded on the three phaneroscopic categories of firstness, secondness, and thirdness. Calling these “an outgrowth from formal logic”, Peirce insisted that they are of the utmost importance :

[...] the little that I have contributed to pragmatism (or, for that matter, to any other department of philosophy) has been entirely the fruit of this outgrowth from formal logic, and is worth much more than the small sum total of the rest of my work, as time will show. (CP 5.469)

Are Peirce's categories bound to play a central part in Adamczewski's epistemic revolution? And will Adamczewski's linguistics become a telltale sign of the essential character of Peirce's logical philosophy of the triad? Time will show – to those who can

see. Hopefully, we can evolve in that direction by working on the synergy between the two researchers that is contained in embryonic form in their writings. The present paper has endeavored to reflect on aspects of such a synergetic approach – a work in progress aspiring to open up promising perspectives.

Notes

1. See bibliographical references and <http://henriadamczewski.perso.libertysurf.fr/>
2. See bibliographical references and <http://cle.ens-lyon.fr/38386335/0/fichepagelibre/>
3. The end of the sentence is: “- an interesting case of *serendipity* (when you find something that you were not looking for!).”
4. “First and second, agent and patient, yes and no, are categories which enable us roughly to describe the facts of experience, and they satisfy the mind for a very long time. But at last they are found inadequate, and the third is the conception which is then called for. The third is that which bridges over the chasm between the absolute first and last, and brings them into relationship.”
5. “[...] My three categories are nothing but Hegel's three grades of thinking. [...] I believe in inventing new philosophical words in order to avoid the ambiguities of the familiar words. I use the word *phaneron* to mean all that is present to the mind in any sense or in any way whatsoever, regardless of whether it be fact or figment. I examine the *phaneron* and I endeavor to sort out its elements according to the complexity of their structure. I thus reach my three categories.”
6. English as a Second Language.
7. “After a six-year research, I reached the conclusion that my quest was hopeless, in other words that there was no invariant meaning to be discovered!” (Adamczewski 2002 : 20).
8. See <http://henriadamczewski.perso.libertysurf.fr/page8.html>: “I must confess that the theoretical importance of the two phases, which emerged in my research on BE+ING and DO nearly twenty-five years ago [in the early 1970s], has so to speak taken me completely unawares. I had absolutely not anticipated that I could ever be confronted with a principle of that kind. Frankly, nothing in the linguistic literature I had been exposed to had prepared me to this masterpiece of symmetry and systematicity (perhaps Gustave Guillaume, indirectly ?).” (Accessed March 2009).
9. These pairs are listed at <http://henriadamczewski.perso.libertysurf.fr/page4.html>. (Accessed March 2009).
10. See <http://henriadamczewski.perso.libertysurf.fr/page8.html> where Adamczewski even talks about the double keyboard of English (and French) to refer to a non-exhaustive list of pairs of opposites resulting from the systematic reiteration of the phase 1 → phase 2 vector. (Accessed March 2009).
11. “En fait, *some et any* sont des traces d'opérations effectuées plus ou moins directement à partir de la notion.” (Adamczewski 1982 : 257).
12. “The practical exigencies of life render Secondness the most prominent of the three [categories]. This is not a conception, nor is it a peculiar quality. It is an experience. It comes out most fully in the shock of reaction between ego and non-ego. It is there the double consciousness of effort and resistance. That is something which cannot properly be conceived. For to conceive it is to generalize it; and to generalize it is to miss altogether the hereness and nowness which is its essence. [...]” (CP 8.266).
13. See <http://www.merriam-webster.com/dictionary/zero>
14. “Firstness is the mode of being which consists in its subject's being positively such as it is regardless of aught else. That can only be a possibility. For as long as things do not act upon one another there is no sense or meaning in saying that they have any being, unless it be that they are such in themselves that they may perhaps come into relation with others. The mode of being a redness, before anything in the universe was yet red, was nevertheless a positive qualitative possibility. And redness in itself, even if it be embodied, is something positive and *sui generis*. That I call Firstness.” (CP 1.25).
15. That is the case for instance when he deals with the present and past markers Ø/-s and -ed (GLA42).

16. "If you take any ordinary triadic relation, you will always find a *mental* element in it. Brute action is secondness, any mentality involves thirdness. Analyze for instance the relation involved in 'A gives B to C.' Now what is giving? It does not consist [in] A's putting B away from him and C's subsequently taking B up. It is not necessary that any material transfers should take place. It consists in A's making C the possessor according to *Law*. There must be some kind of law before there can be any kind of giving, – be it but the law of the strongest. But now suppose that giving *did* consist merely in A's laying down the B which C subsequently picks up. That would be a degenerate form of Thirdness in which the thirdness is externally appended. In A's putting away B, there is no thirdness. In C's taking B, there is no thirdness. But if you say that these two acts constitute a single operation by virtue of the identity of the B, you transcend the mere brute fact, you introduce a mental element." (CP 8.331).
17. Other possible labels are : firstness operator, operator of category one, category one operator. The same with the other category labels (just substitute *secondness* or *thirdness* for *firstness*, and two or three for one).
18. "[...] it will be seen to be a truism to assert that no compound of univalent and bivalent concepts alone can be trivalent [...]". (CP 5.469).
19. In Adamczewski's own words : "The quality, that is the adequacy of a grammatical model depends on the strength and rigor of the tools of analysis." <http://henriadamczewski.perso.libertysurf.fr/page9.html> (Accessed March 2009).
20. Adamczewski is probably influenced by Culioli's use of the term "metalanguage".
21. See <http://henriadamczewski.perso.libertysurf.fr/page5.html> where Adamczewski notes that even Joos finds it hard to distance himself from the established theory; quoting Joos : "the only remaining difficulty is offered by a minor idiomatic phenomenon : the fact that we can say 'she's always bothering me', where always, forever, eternally, etc. seem to contradict the meaning of 'limitation'." But Joos sweeps this objection aside and gives the following gloss of the annoying always-utterance : "At any epoch it is for a limited time true that she bothers me". (Visited on March 15, 2009).
22. <http://henriadamczewski.perso.libertysurf.fr/page5.html> (*My italics* for Adamczewski's quotation marks). (Accessed March 2009).
23. Of course, actions in themselves do exist, and when I hurt myself I get a sense of the brute force of secondness. Similarly, redness in itself does exist, but its mode of being – firstness – is hardly accessible to the rational beings most of us are.
24. See <http://henriadamczewski.perso.libertysurf.fr/page4.html> : "morphemes such as *a/the, this/that, to/-ing, do, un/le, à/de, bien*, etc.) are the surface tokens of the ciphering operations executed by the utterer-architect. The result of this complex processing (Humboldt's *ergon*) represents an algebra which mirrors in a revealing way the encoding of the utterance (and not the extralinguistic world, hence the impossibility of a direct assignment of the meaning)." (Accessed November 2009).
25. Université de Pau et des Pays de l'Adour (University of Pau and Adour Countries, France)
26. They usually think those two labels refer to two different tenses, which they do not.
27. I clearly remember having the impression, when I was a student, that some professors were like magicians always pulling another rabbit out of their hats : they kept using new labels apparently from nowhere, instead of helping us get all the pieces in the language puzzle to fall neatly into place.
28. It should be pointed out that "algebra" and "geometry" are amongst Adamczewski's key words in his linguistic investigations.
29. A lot of critical comments have been made on the perfect, and more could be added as it might not be the right term to denote HAVE + V-EN.
30. See for ex. Quirk and Greenbaum 1973, thirteenth impression 1984. It should also be noted that contrary to traditional views, the authors consider that "there is no obvious future tense in English corresponding to the time/tense relation for present and past. Instead there are several possibilities for denoting future time. [...]" (p. 47).
31. See for instance Thomson and Martinet, first published 1960, third ed. 1980, ninth impression 1985.

32. See Adamczewski 1982 (especially chapter 2.3 p. 42 : “On se souvient que l’opposition *phase 1/phase 2* reproduit la dichotomie *rhématique/thématique*.” which could be translated as “One remembers that the opposition *phase 1/phase 2* reproduces the dichotomy *rhematic/thematic*.”) and his *Secret Architecture of English Grammar* p. 29. It would be all the more interesting to study the history of the term *rheme* and *theme* as Peirce also uses the term *rheme* – obviously with a different meaning.
33. Tenses can also be labeled : secondness present [perfect], thirdness present [perfect], and the same for past tenses. *Category two* and *category three* may also be used (as in *past of category two*, or in *category three past perfect*).
34. We obviously recognize the order whose logic is highlighted in the English tense table. (Note that square brackets are used for optional elements.)
35. *Interrogate* has a different meaning but basically refers to the same kind of utterance.
36. I am actually trying to translate here a concept I first thought of in French as *x*, non-*x* and “*si-x*”, on the basis of the obvious logical triad “oui, non, si” as symbols to assert something, deny it, and confirm it (i.e. deny non-*x* to confirm *x* with *si-x*). But the translation is not easy since English only has a binary “yes/no” system (like the Spanish “sí/no”), contrary to French (and German *ja, nein, doch*). I am not sure that the “*si-x*” concept has already been dealt with and am looking for its name in English. Benjamin Udell on the internet Peirce Discussion Forum (owned/managed/moderated by Joseph Ransdell) kindly pointed out that children use “so” in the following type of exchange : “– There is a horse. – There is not a horse. – There is so a horse”. I am not absolutely convinced though that the childish connotation that might be attached to “so-*x*” does not make the loan-translation “*si-x*” a better option. See <http://comments.gmane.org/gmane.science.philosophy.peirce/6667>. (Accessed November 2009).
37. Note that symbols have been further symbolized : -*x* reads non-*x*, and *x* reads *si-x* (-*x* is not exactly the symbol I would like to use but it is meant to represent an *x* with an overbar).
38. The three basic questions are, as mentioned earlier, are (1) Do I use V-S or V-ED? (2) Do I use HAVE + V-EN or not? (3) Do I use BE + V-ING or not? To be more complete, two more questions would need to be asked : (4) Do I use the BE + V-EN (i.e. the passive voice) or not? (5) Do I use a modal (i.e. may/can, shall/will, must/need, and dare) or not?
39. Gabilan’s textbook, published in 2006, was sorely needed. A must for all linguists, it is more accessible to undergraduates than Adamczewski’s book, which was intended more for graduate students, though the former can also benefit from it.
40. Paragraph 2.2.1. page 32 presents the invariant of the present, and paragraph 2.2.2. presents the invariant of phase 1, but this distinction is not clearly specified as the two combine to make up the present simple and are mainly introduced as two characteristics common to any present simple occurrence.
41. He uses the label “*statut posé*”, as opposed to “*statut repris*”, which corresponds to phase 2.
42. “Blair waves to well wishers last week” and p. 32 : “The Princess of Wales leaves for a working tour of Argentina next week”.
43. According to Adamczewski –see <http://henriadamczewski.perso.libertysurf.fr/page5.html>– Joos deals rather with the “duration of the validity of the predication”. (Accessed June 2009)
44. The student needs to be in the speaker’s shoes to grasp all the aspects of the reality that are obvious to the speaker, which is why I (Cécile M. Cosculluela, as a professor and researcher) use a symbolic I (with which anyone can identify) to refer to the speaker. This is also motivated by the fact that in French, one has to choose between ‘*l’énonceateur*’ and ‘*l’énonciatrice*’, which poses gender-related problems.
45. Representamen, object and interpretant respectively appear in contracted form as R1, O2 and I3. These symbols are easily assimilated by students as the source text to be translated (R1), which stands for some reality (O2) that they need to understand through deverbilization a term I borrow from Daniça Seleskovitch and Marianne Lederer’s interpretative theory of translation before they can reverbilize it in the target language via carefully selected lexical notions that they associate to one another through equally carefully chosen operators leading to the production of a translation (I3).
46. Depending on the situation of utterance, “I had been living” can also be equivalent to “*j’avais*

- vécu".
47. Tenses can also be labeled : secondness present [perfect], thirdness present [perfect], and the same for past tenses. Category two and category three may also be used (as in past of category two, or in category three past perfect).
 48. To avoid any misunderstanding, I mean no disrespect : my aim is to keep on thinking, to pursue in my own way my predecessors' and their predecessors' research. Criticism is key to the continuity of evolution, and I have the highest respect for Adamczewski's work.
 49. It is specified that "Careful analysis shows that to the three grades of valency of indecomposable concepts correspond three classes of characters or predicates. Firstly come 'firstnesses', or positive internal characters of the subject in itself; secondly come 'secondnesses', or brute actions of one subject or substance on another, regardless of law or of any third subject; thirdly comes 'thirdnesses', or the mental or quasi-mental influence of one subject on another relatively to a third." (CP 5.469).
 50. Peirce (*ibid.*) adds examples : "Thus, the predicate 'is blue' is univalent, the predicate 'kills' is bivalent (for the direct and indirect objects are, grammar aside, as much subjects as is the subject nominative); the predicate 'gives' is trivalent, since A gives B to C, etc."
 51. My doctoral dissertation is available online at <http://www.mshs.univ-poitiers.fr/Forell/CC/00Sommaire.html> (Accessed June 2009)
 52. See chapter 9, p. 369 at <http://www.mshs.univ-poitiers.fr/Forell/CC/00Sommaire.html> (Accessed June 2009)
 53. <http://www.merriam-webster.com/dictionary/epistemology> (Visited on June 5, 2009).
 54. See <http://www.benjamins.com> and browse subjects on the editor's website : you will find semiotics under linguistics... (Accessed June 2009).

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Abstract

How legitimate is the use of numbers by linguistic operators zero, phase 1 and phase 2? It seems that these references to the philosophy of mathematics pose a problem that is inherently tied to the core of the science of linguistics. The Peircean categories of firstness, secondness and thirdness not only offer terminological solutions, but also corollary epistemological openings that allow for the substitution of linguistic's empiricism by a semiotic basis.

Résumé

Quelle légitimité ont les opérateurs linguistiques zéro, phase 1 et phase 2 dans l'emploi qu'ils font des chiffres? Il semble que ces références à la philosophie mathématique posent un problème de terminologie, inéluctablement lié au fondement même de la science du langage. Les catégories peirciennes de priméité, secondéité et tiercéité offrent non seulement des solutions terminologiques mais aussi, puisque c'en est le corollaire, des ouvertures épistémologiques permettant de remplacer l'empirisme sur lequel repose la linguistique par un fondement sémiotique.

CÉCILE M. COSCULLUELA obtained her doctorate in English studies from Université de Bordeaux in 1996, after having studied the semiotics of Charles S. Peirce at the Institut de Recherche en Sémiotique created by Gérard Deledalle at Université de Perpignan. Her thesis dealt with the emergence of an inter-disciplinarity between peircean semiotics and translation studies. It is freely available at <http://www.mshs.univ-poitiers.fr/Forell/CC/00Sommaire.html#TDM>. Since 1998 she has been teaching at UPPA where she continues her research on the synergy between Peircean semiotics, interpretative translation studies from the École Supérieure d'interprètes et de traducteurs of the Sorbonne, and Henri Adamczewski's meta-operational linguistics.