4. THE TENSIVE MODEL

SUMMARY

The tensive model, an analytical tool used in post-Greimasian semiotics, was introduced by Fontanille and Zilberberg. In the tensive model, any given value is constituted by combining two "valencies" (dimensions): intensity and extent (range). Extent is the range over which intensity applies; it corresponds to quantity, variety, and the spatial or temporal range of phenomena. Intensity and extent are each subject to variation on a continuous scale from zero to the maximum (or even infinity). The tensive model is generally represented visually by a graph: intensity is placed on the ordinate, and extent on the abscissa. On this graph, any given phenomenon may occupy one or more positions. Two types of correlation exist between intensity and extent. The correlation is said to be converse, or direct, if (1) an increase in one of the two valencies is accompanied by an increase in the other and (2) a decrease in one valency leads to a decrease in the other. The correlation is said to be inverse if an increase in one of the two valencies is accompanied by a decrease in the other, and vice versa.

This model can be applied to knowledge. If intensity refers to the depth of knowledge and extent to the scope of the field of knowledge, and if one distinguishes high and low for both valencies, one obtains four different kinds of "knowers" or knowledge: (1) low intensity and extent (a little knowledge about a few things), (2) high intensity and low extent (a lot of knowledge about a few things), (3) low intensity and high extent (a little knowledge about many things), (4) high intensity and extent (a lot of knowledge about many things). It is generally accepted that the intensity of knowledge can only decrease if its extent is increased, and vice versa (an inverse correlation). A person going into medicine, for example, must choose between a specialty (2) and general practice (3). Note that the general practitioner's depth of knowledge is described as limited only as compared to the specialist's, not to the average person's, which is disastrously limited.

1. THEORY

1.1 THEORETICAL POSTULATES

The tensive model is an analytical tool used in post-Greimasian semiotics, introduced by Jacques Fontanille and Claude Zilberberg[1]. There is no need to discuss all of the theoretical postulates associated with the tensive model. What we are primarily interested in is its overall functionality, so to speak. However, for the record, we have listed the most important of these postulates:

1. Intensity and extent make up the content plane (the plane of signifieds) and the expression plane (the plane of signifiers), respectively (Fontanille, 2003, p. 72). Since any sign originates from the junction of these two planes, any sign is theoretically describable in tensive terms[2].
2. Intensity is a matter of perception (that is, perception and/or affective feeling, to be discussed later); extent is a matter of understanding (Zilberberg, 2002, p. 115; Fontanille, 2003, p. 110).
3. Intensity refers to states of mind (passions); extent to states of affairs (Zilberberg, 2002, p. 115)[3].
4. Intensity has to do with interoception (sensitivity to stimuli originating inside the organism); extent has to do with exteroception (sensitivity to stimuli originating outside the organism) (Fontanille, 2003, p. 72).
5. Intensity corresponds to *visée* [intentionality, aim, focus, sighting]; extent corresponds to *saisie* [capture, the act of seizing or grasping] (Fontanille, 2003, pp. 73 and 98). *Visée* and *saisie* are defined as follows: "this tension directed toward the world [...] is the concern of *visée intentionnelle*; in contrast, position, range and quantity characterize the boundaries and the properties of the field of relevance, that is, of *saisie*. Presence thus involves both elementary operations [...]: a *visée* of some level of intensity and a *saisie* of some extent" (Fontanille, 2003, p. 39).
6. Intensity corresponds to "feelings" (passions); extent to cognition (Fontanille, 2003, p. 110).
7. Intensity governs or controls extent (Zilberberg, 2002, pp. 114, 115 and 116).

[1] This chapter is loosely based on Fontanille, 2003, pp. 69-77 and 109-116 and Zilberberg, 2002.
[2] In Zilberberg's work, any sign – or at least any discursive sign – seems to be describable in tensive terms: "any discursive entity is characterized in terms of intensity and extent" (2002, p. 115).
[3] Zilberberg writes (2002, p. 115): "tensivity is the imaginary place where intensity (i.e., states of mind, the perceptible) and extent (i.e., states of affairs) are brought together".

8. Intensity and extent are each broken down into two sub-dimensions: tempo and tonicity for the first; temporality and spatiality for the second (Zilberberg, 2002, p. 116).
9. The two basic functions of intensity are increase and decrease; the basic functions of extent are sorting (which increases diversity and/or number) and blending (which decreases diversity and/or number) (Zilberberg, in press).
10. Implication derives from intensity and concession from extent (Zilberberg, in press).
11. The tensive model belongs to a semiotics of continuity (and is complementary to the semiotics of discontinuity) (Zilberberg, 2002, p. 112), a semiotics of intervals (complementary to a semiotics of relations between terms) (Zilberberg, 2002, p. 125), and a semiotics of events (complementary to a semiotics of states) (Zilberberg, 2002, pp. 139-141).

NOTE: HOMOLOGIES BETWEEN THE POSTULATES

Most of the postulates that we have just listed belong to a series of homologies, that is, relations in which the first and second terms of an opposition are correlated with the first and second terms of other oppositions within the homology. The following is a list of these homologized oppositions: signified/signifier, content plane/expression plane, perception/understanding, internal/external, *visée/saisie*, feeling/cognition, states of mind/states of affairs, and interoception/exteroception. Fontanille establishes several of these homologies in the following quotation (2003, p. 72): "*intensity* defines the *internal, interoceptive* realm, which becomes the *content* plane; *extent* defines the *external, exteroceptive* realm, which becomes the *expression* plane; the *correlation* between the two realms is the result of a *position taken* by the body proper; this body is the abode of the perceptible effect of presence; therefore, the correlation is *proprioceptive*".

With the postulate concerning perception/understanding [*sensible/intelligible*] a question arises concerning Zilberberg's and Fontanille's use of the French word "*sensible*" [perceptible or sensitive in English]. Are we to interpret it according to its usual meaning, "perceptible", which places it in the commonly used opposition between what is perceived or taken in by the senses and what is only conceived in the mind; or should we interpret it according to its passional meaning (e.g., we say that a person is "sensitive" or "feels" a particular emotion), thereby placing it in the opposition between the heart and the head[4]? In Fontanille's work, both acceptations of the word seem to coexist: "substance is perceptible [*sensible*] – perceived, felt, intuited –, form is intelligible – understood, signifying", he explains (2003, p. 40), and later, he associates "*sensible*" explicitly with affect (2003, p. 110).

Taking this idea a bit further, we observe that while perception is generally said to be a matter of intensity, one of its specific forms, exteroception, is related to extent. It is common practice to classify an element as a whole in one of the terms of an opposition, and to classify the subtypes of the same element in both terms of the opposition. For example, in another area of Greimasian semiotics, one finds the following structure: discursive signifieds, like all signifieds, derive from understanding, but certain ones, the figurative signifieds, suggest perceptions (e.g., the signified for the word "red"), while others, such as the thematic signifieds, do not (e.g., the signified for the word "glory"). However, in our opinion, the general correlation of perception with intensity and understanding with extent creates a problem of coherence within the homologies. For although the signifier and the signified are both mental constructs, we must allow that signifiers (e.g., phonemes, the subject of phonology) have direct correlates in the physical world (e.g., when phonemes take form as particular sounds, which is the subject of phonetics), and as such, are part of perception. One could simply counter that the distinction between signifier/signified is entirely relational: that an expression plane can become a content plane in another semiotics, and a content plane can become an expression plane in another semiotics. The fact remains that the typical signifier arises from perception. A few additional points follow: The opposition between states of mind/states of affairs appears to be naturally homologous with understanding/perception. The mind is traditionally associated with the imperceptible and is set in opposition with the body and with material things in general. And then, temporality and spatiality, presented as sub-dimensions of extent, are properties of perceptible elements, more so than of cognitive elements. Of course, one cannot ignore metaphorical usages: One can talk about the "extent" of knowledge, for example, even if it concerns only abstract objects; however, literal usage is what should determine the elements that are typical of extent.

1.2 VALUES AND VALENCIES

In the tensive model, any given value is constituted by combining two "valencies" (or dimensions): intensity and extent (range)[5]. Extent is the range over which intensity applies; it corresponds to quantity, variety, and the spatial or temporal range of phenomena[6]. Both valencies are quantitative in nature; the first has to do with the measurable, the second with the countable[7].

[4] Pascal uses this opposition when he writes: "There is internal war in man between reason and the passions" (*Thoughts*, 412, p. 133).

[5] In logic, a concept's intension or comprehension (i.e., the set of attributes that define it; for example, a human is a mammal, a biped, and so on) is opposed to its extension (the set of elements it covers, such as the set of humans). While extent has strong semantic similarities to extension, the same clearly does not apply for intensity and intension.

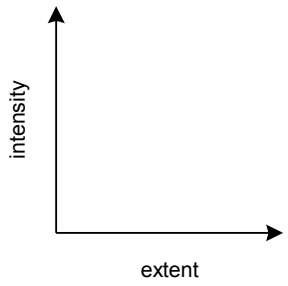
[6] According to Zilberberg (2002, p. 116), tempo and tonicity are the two sub-dimensions of intensity, whereas temporality and spatiality are the two sub-dimensions of extent; The functives, or constituent elements, of each dimension are weak/strong for intensity, and concentrated/diffuse for extent (Zilberberg, in press). In our opinion, temporality and spatiality neglect certain elements that should be covered by extent. In addition to spatial and temporal range, extent has to do with the quantity and variety of phenomena involved, and these things are not always reducible to spatial notions, unless the term is taken metaphorically, in which case it could include things such as concepts (this would apply to the "extent" of knowledge, for instance). Moreover, when we describe extent as diffuse or concentrated (see Fontanille 2003, p. 46), thereby implying density, we are implicitly combining two aspects of extent: the quantity of phenomena and their spatial or temporal range. Fontanille (2003, p. 110) gives intensity and affect, along with an "etc.", as elements that can be plotted on the axis of intensity. So the question arises: Can one put a composite valency on an axis? If so, then there is a distinction to be made between analytic and synthetic approaches to using the tensive model. A synthetic approach allows for the placement of a composite valency on one axis: in this way one can use the axis of intensity to plot the intensity of some element other than the one found on the axis of extent. For example, the intensity of a positive evaluation attributed to knowledge (a compound valency, whereas the intensity of the knowledge itself would be a simple valency) may increase relative to the scope of the knowledge (a simple valency).

1.3 THE STRENGTH OF THE VALENCIES

Intensity and extent are each subject to variation on a continuous scale from zero to the maximum (or even infinity).

As with other analytical tools (the semiotic square, the veridictory square, the actantial model, etc.), the tensive model is simultaneously a network, a conceptual structure and a visual representation of this structure[8]. If we place intensity on the ordinate of a graph and extent on its abscissa, then we obtain a visual representation with two axes.

The two axes of the tensive model



Any given phenomenon will occupy one or more positions on this graph, depending on the degree of intensity it exhibits and the extent over which it ranges[9]. The model may also be represented in table form (we will give an example later).

1.4 VALENCY SECTORS AND ZONES IN THE TENSIVE MODEL

The tensive scales can be divided into different sectors, which can vary in number.

1.4.1 DYADIC PARTITIONING

If we distinguish two sectors for each valency, a low sector (an inactive sector) and a high sector (or dynamic sector), then we obtain four possible combinations of valencies, which define four zones[10]:

Zone 1: Low intensity and low extent
Zone 2: High intensity and low extent
Zone 3: Low intensity and high extent
Zone 4: High intensity and high extent

This yields the following diagram:

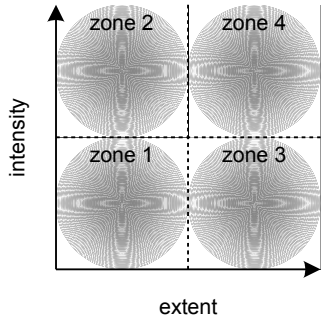
[7] Zilberberg (in press) says this about the tensive description of units: "the unit must be measurable and/or countable, measurable in intensity, countable in extent." Farther on, he states that tensive semiotics allows for "a reconciliation of quality and quantity, which is peculiar to the concept of measurement, allowing us to qualify quantity and to quantify quality at the least expense".

[8] Although the tensive model is known as the "*schéma* [diagram, model] *tensif*" in French, this term does not allude so much to its visual representation as a diagram as it does the technical meaning of "schematism", a term that "in the Kantian tradition refers to the mediation between concept and image, and more generally, between the categories of understanding and perceptible phenomena" (Fontanille, 2003, p. 110). In fact, one of the theoretical postulates of the tensive model deals with how mediation occurs between understanding (intensity) and perception (extent).

[9] Certain phenomena, like the curve of a French tragedy, to be discussed later, must be represented by combining several diagrams.

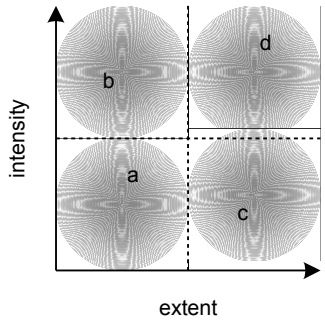
[10] Zilberberg (in press) opts for a partitioning into two areas separated by the bisector of the graph. Above the bisector is the area of absolute values, and below it is the area of universal values: "As one begins to focus on discourse, what matters is not what each order signifies in isolation, but what each one represents "in the view" of the other: (1) From the perspective of universal values, which are influenced by valencies of extent, the absolute values are certainly intense, but they have a serious flaw in that they are concentrated [narrow in extent]; the universal values themselves are weak [in intensity], but have the superior advantage (from their perspective) of being diffuse [broad in extent]; (2) from the perspective of absolute values, which are strongly influenced by valencies of intensity, the universal values are diffuse, but weak; the absolute values themselves are certainly concentrated, but their brilliance [strong intensity] compensates overwhelmingly for this flaw. Thus, each order of values necessarily disqualifies its counterpart by following its own valency preferences." Note that typically, the areas occupied by absolute values and universal values are zones two and three, respectively.

The four zones of the tensive model



Let us analyze a group of emotions associated with attachment to other beings. We will distinguish the emotions in this group solely in quantitative terms, although we are aware that a qualitative approach might conclude, for example, that between love and friendship, there is a difference in quality and not (just) quantity. The axis of intensity indicates the intensity of the emotion, and the axis of extent the number of beings toward which a given subject feels this emotion. By partitioning the graph into four zones, we will distinguish four fundamental kinds of emotions. In zone one, we have (a) love (ordinary love); (b) in zone two, "true love", or "the love of a lifetime"; (c) in zone three, we have friendship; and (d) in zone four, "universal love" or compassion. To refine our analysis, if we distinguish in terms of extent, true love generally applies to fewer beings than ordinary love, and conversely, universal love, as the name indicates, generally applies to more beings than friendship. Then if we distinguish in terms of intensity, friendship is generally a less intense feeling than love, and we consider universal love to be absolute compared to true love, not just in terms of extent but also intensity. This more exact analysis can be represented as follows:

The tensive configuration of feelings of attachment



Other fine distinctions could be drawn, for instance, between Christian compassion and Buddhist compassion, which is greater in extent. It radiates not just toward humans, but other living creatures as well (so much for rocks and other inanimate "beings"!).

1.4.2 OTHER WAYS OF PARTITIONING

We have given an example of dyadic partitioning, which, when mapped onto both axes simultaneously, generates four zones. However, other methods of partitioning can be used. For example, triadic partitioning might distinguish low, medium and high on one or both axes; and pentadic partitioning would distinguish five levels, for example: zero, low, medium, high and maximum (or even infinite). Tetradic partitioning on two axes would allow us to attribute a specific zone to each of the four emotions we examined; some of the other twelve zones created by this partitioning might be appropriate for describing other feelings of attachment. In the application given below, we address the issue of "translating" a diagram partitioned in one way into a diagram partitioned in another way.

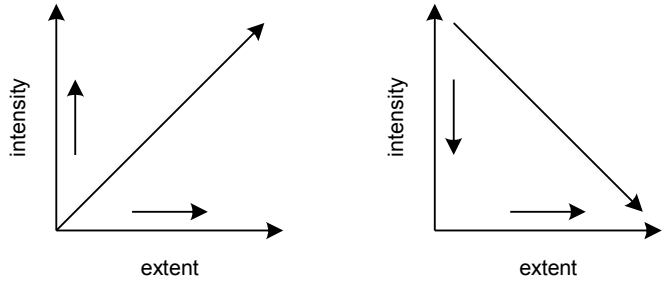
1.5 DYNAMIC ASPECTS OF THE TENSIVE MODEL

In this section we discuss the dynamic aspects of the tensive model.

1.5.1 DIRECT AND INVERSE CORRELATIONS

Two types of correlation exist between intensity and extent. The correlation is said to be converse, or direct, if (1) an increase in one of the two valencies is accompanied by an increase in the other and (2) a decrease in one valency leads to a decrease in the other. This could be described as "the more... the more..." or "the less... the less...". The correlation is said to be inverse if an increase in one of the two valencies is accompanied by a decrease in the other, and vice versa. This would be described as "the more... the less..." or "the less... the more...".

Examples of direct and inverse correlations

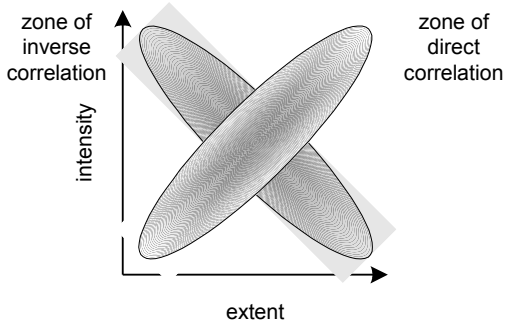


Example of direct correlation

Example of inverse correlation

The two kinds of correlation are used to define zones of correlation, which can be approximately represented as follows:

Zones of correlation



NOTE: THE RELEVANCE OF THE FOUR ZONES

All of the points on the graph may correspond to values for the same phenomenon. However, two organizing principles can be identified: firstly, the difference between direct and inverse correlation produces two basic directions of variation; secondly, "the end zones are determined by combining the strongest and weakest degrees on both axes. All of the points inside the space are relevant; but the zones at the two ends of each correlation are the most typical zones in the category being examined. By combining these two principles, we can identify four main zones that are typical for that category" (Fontanille, 2003, p. 74). Dyadic partitioning is admittedly an obvious choice; but in our opinion, while other ways of partitioning are less probable, they should not be dismissed out of hand (especially triadic partitioning) – only if they are not relevant to the phenomenon being described.

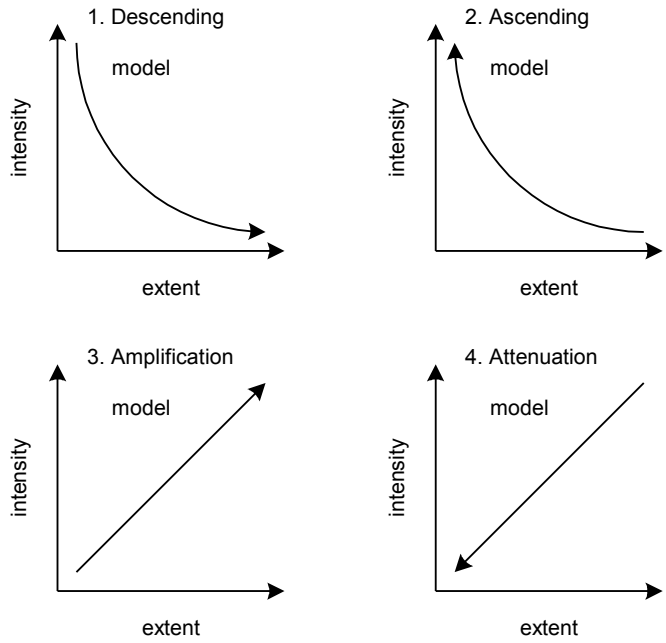
To return to our example of feelings of attachment, the average person is generally subject to an inverse correlation in which the more intense an emotion, the fewer the number of beings to which it applies. For him, universal love is unknown territory.

1.6 ELEMENTARY TENSIVE MODELS

By plotting the converse or inverse nature of tensive correlation as a function of time, we obtain four elementary tensive models[11]:

[11] As we can see, even when time is not on the abscissa, tensive graphs are not limited strictly to atemporal analysis. The typology of the four tensive models is in fact based on having a succession of tensive positions (with any succession occurring, at least theoretically, over time). Thus, tensive models include three variables: intensity, extent and temporal position.

Elementary tensive models



NOTE: THE TENSIVE MODEL AND GEOMETRY

The representations of the tensive model are inspired by geometry, but not derived from it. This explains certain graphical liberties and variations. For example, in representing direct and inverse correlation, Zilberberg uses modified ellipses that meet the zero points on the ordinate and the abscissa (2002, p. 118); however, Fontanille uses elliptical curves for inverse correlation and a straight line for direct correlation. Technically, Fontanille's ellipses (2003, p. 74) should be modified, which he does point out: "In a case of direct correlation, the variations in position generally follow the direction of the bisector; in a case of inverse correlation, the variations in position follow a path perpendicular to this bisector, a path that can also be represented by an arc whose two ends meet the two main axes". Most likely because it makes the diagrams easier to read, his graphs of inverse relations in his declining and ascending models do not show the curve going all the way to the axes (Fontanille, 2003, p. 111). As for our graphs, in order to keep them readable and consistent, we have not drawn them with the curves or the straight lines touching the axes, as they should.

NOTE: EFFECTS OF THE ELEMENTARY TENSIVE MODELS

According to Fontanille (2003, p. 110), the elementary tensive models are defined as variations in the balance between perception (intensity, affect, etc.) and understanding (dispersion over a range, measurability, comprehension). These variations lead "either to an increase in affective tension, or a decrease in cognitive tension. An increase in intensity brings tension; an increase in extent eases tension" (Fontanille, 2003, p. 110). As a result, (1) the declining model produces cognitive relaxation; (2) the ascending model produces affective tension; (3) the amplification model produces affective and cognitive tension; (4) the attenuation model produces overall relaxation, both affective and cognitive (Fontanille, 2003, pp. 111-112).

1.6.1 THE DECLINING MODEL

An example of the declining model (or descending model) may be found in the transition between what advertisers call the "hook" (which is strongly affective, but often limited in extent) and the rest of the ad (Fontanille, 2003, p. 112).

1.6.2 THE ASCENDING MODEL

An example of the ascending model may be found in literature in the transition between the body of a short story and its ending (the climax), which is more limited in extent, but has a higher intensity). The same phenomenon occurs between the body of a sonnet and its ending (or resolution) (Fontanille, 2003, p. 113).

1.6.3 THE AMPLIFICATION MODEL

The amplification model is exemplified in the majority of symphonic structures, which lead from the barely audible line played by one or just a few instruments into repetitions of growing intensity with more and more instruments (Fontanille, 2003, p. 113). Ravel's *Bolero* is an example of this.

1.6.4 THE ATTENUATION MODEL

An example of the attenuation model is a drama with a happy ending or a comedy, where the number and intensity of problems decreases at the end, although they may not disappear entirely.

1.7 COMBINATIONS OF ELEMENTARY TENSIVE MODELS

Two or more tensive models may appear in succession in a semiotic act. When the sequence is a stereotyped one, we use the term "canonical tensive model" (Fontanille, 2003, p. 110). For example, from the fourth to the fifth act of a classical French tragedy there is an attenuation model (conflicts decrease in number and subside) followed by an amplification model (catastrophe arrives and becomes widespread).

> NOTE: CANONICAL TENSIVE MODELS
>
> Fontanille defines "canonical tensive models" as compound tensive models "that arrange several tensive models in a sequence according to a set configuration that is immediately recognizable in a given culture" (2003, p. 110). "Since they are characteristic of a type or a genre, they direct the interpretation of the discourse *a priori*, which gives them the status of cultural models, set by convention or inherited through tradition: this is why we call them *canonical models*" (Fontanille, 2003, p. 116). Our combinations of tensive models are more general, in that they do not have to be fixed or stereotyped, at least in theory, and when they are, it can be at the individual level and not necessarily at the level of an entire culture.

In terms of scale, there seem to be two ways of interpreting the elementary tensive models. The first approach takes the view that strictly speaking, elementary tensive models must cover all existing positions on at least one of the axes. To return to the French tragedy, if intensity is viewed as going from high to medium during the appeasement phase, then the graph that represents this appeasement is not the whole curve of the attenuation model, but only part of it. The second approach, which we have adopted, simply views this as a variation of scale within one integral elementary tensive model. Thus, the pointed figure known as a "cusp[12]", regardless of its size, is regarded as a combination of two elementary tensive models, such as the amplification model followed by the declining model.

1.8 ORTHOGONAL MODELS

None of the elementary tensive models allows for one valency to remain constant while the other changes; this would result in graphs with horizontal or vertical orthogonal straight lines. But deductively one can predict the existence of phenomena that would need to be described by plotting a line with one constant. (If need be, we could say that the existence of such a phenomenon is attested simply by raising the possibility.) What's more, we will see an example of this sort of phenomenon in our analysis of Pascal's theory of knowledge, below. How many of these orthogonal straight lines might we expect? In dyadic partitioning, we find: two vertical lines, one where extent is at a constant low and the other where it is at a constant high, and two horizontal lines, one of constant low intensity and the other of constant high intensity. Since each of these straight lines may be followed in two different directions (for a constant intensity, extent may be on the increase or the decrease, for instance), this gives us eight new trajectories, for a grand total of 12 kinds.

In our opinion, these lines with one constant are necessary, if not proven, and it is essential to integrate them into the description in one way or another. There are several possible ways of doing this. We have identified the two main ones as follows:

1. We can distinguish between elementary tensive models and elementary tensive movements[13]. This is a solution similar to the one we proposed in dealing with the succession of positions on a semiotic square (see the corresponding chapter). We recognize that the constraints generally placed on the sequencing of these positions on a semiotic square (i.e., the requirement that entails moving from one term through its negation to get to the contrary term) may be useful in producing a model to describe how this category (two elements related by contrariety) is generated. However, we maintain that a semiotic act can arrange these positions in any sequence it cares to (e.g., going directly from a term to its contrary, say, from beautiful to ugly, without going through not-beautiful). In short, the elementary tensive models represent ways of generating elementary values and movements, and their sequencing in a given semiotic act. Four of the twelve types of movement correspond to an elementary tensive model.

2. With dyadic partitioning, we have four elementary tensive models and eight elementary non-tensive models with which to structure a new analytical tool that is separate from the tensive model, although it is derived in the same way, using two axes. This tool can account for all kinds of combinations, tensive or not, between two intensive or quantitative variables. We can use it to represent variations in the intensities of two distinct phenomena, such as ambition (on the abscissa) and love (on the ordinate), to which Julien Sorel is prey in *The Red and the Black* by Stendhal. We can also represent variations in the range of two distinct phenomena, such

[12] For another example of a cusp, see Fontanille, 1999, p. 155.
[13] We prefer the term "movement" to "trajectory", since the latter is associated with a succession of more or less obligatory stages in Greimasian semiotics, such as the "generative trajectory of meaning".

as Eugénie Grandet's (Balzac) cash money (money in liquid form) and scriptural money (such as fixed-term credit notes)[14]. This new tool places all of the following *a priori* on equal footing: non-tensive relations (with a constant), tensive relations and "semi-tensive" relations, that is, non-symmetrical ones. In fact, converse and inverse relations are not always symmetrical in the kind of variation they exhibit (increase/decrease) and/or the factor that varies (element X or element Y). We can conceive of a relation that is converse from X to Y, but not from Y to X, where an increase in X leads to an increase in Y, but an increase in Y does not lead to an increase in X (or it leads to a decrease in X). Of course, the typical converse and inverse relations are symmetrical[15].

1.9 THE TENSIVE MODEL AND THE CURVES OF AESTHETIC EUPHORIA

The curves of aesthetic euphoria, which we have presented in detail elsewhere (Hébert, in press[16]), constitute a (1) cognitive and (as their name indicates) visual representation of (2) the variations (3) over time in the (4) intensity of the euphoric aesthetic effects that a (5) semiotic act (or semiotized event, such as a sunset seen as entertainment) generates (or could have/should have generated) (6) in one or more agents of reception (such as the empirical reader or spectator). (For more details on agents of production and reception, see the chapter on thymic analysis.)

The curves of aesthetic euphoria can account for the variations in aesthetic intensity for any aesthetic phenomenon occurring or made to occur over time: semiotic acts in which the succession of units to interpret is strongly constrained (as in a written text) or absolutely constrained (as in performance art); but also semiotic acts that are regarded (wrongly or rightly) as having little or no temporality (such as a painting), which we then temporalize by inserting or recognizing some succession of units (e.g., by organizing an interpretive trajectory that arranges the figures of the painting into a series).

> NOTE: AESTHETIC CURVES AND OTHER CURVES
>
> If we drop the adjective "aesthetic" or use some other adjective, the same curves can also be used (*a priori*, at least) to describe non-aesthetic phenomena which involve (1) the passing of time, (2) a measurement of some type of intensity, and (3) the progression to which they apply. In this way, we could have a thymic curve (non-aesthetic), a dramatic curve, an orgasmic curve, a curve for an artisan at work hammering, and many others.

By using triadic partitioning (low, medium and high intensities; initial, midway and final temporal positions) and using irreversible time, we have produced a typology of 27 aesthetic curves. For example, while Ravel's *Bolero* is intended to produce an ascending straight line effect for the listener, and in fact it succeeds, other semiotic acts with the same aspirations only succeed in generating the effect of a dull straight horizontal line for the receiver, at the lowest level of intensity.

> NOTE: TENSIVITY AND THE CURVES OF EUPHORIA
>
> A question arises as to whether our curves of aesthetic euphoria are based on the tensive model. The tensive model correlates elements belonging to two specific classes: on the ordinate we have intensity, and on the abscissa we have extent or range. It is evident that the ordinate of our curves does correspond to what tensive semiotics means by "intensity". What we have is not just intensity, but the intensity of a phenomenon that truly typifies the axis of intensities: axiology. As for our abscissa, it can be reduced to a form of temporal extent. However, we should distinguish cumulative time from successive time, or more accurately, time as duration from locative time (just as in grammar we distinguish cardinal from ordinal). Our curves are based on locative time, which allows us to define the boundaries of a duration. Tensive curves can obviously be based on time as duration, but, in the minds of those who designed them, can they be based on locative time? Is this still a matter of range, of extent? Even when time is not on the abscissa, tensive curves are not limited strictly to atemporal analyses. The typology of the four tensive models is in fact based on having a succession of tensive positions (with any succession occurring, at least theoretically, over time). Thus, tensive models – like tensive movements – combine three variables: intensity, extent and temporal position. Can we say that our curves are restricted to two variables, or must we say that the bidirectional movement that is possible *a priori* is not being used because it does not apply to the type of temporal substrate involved?

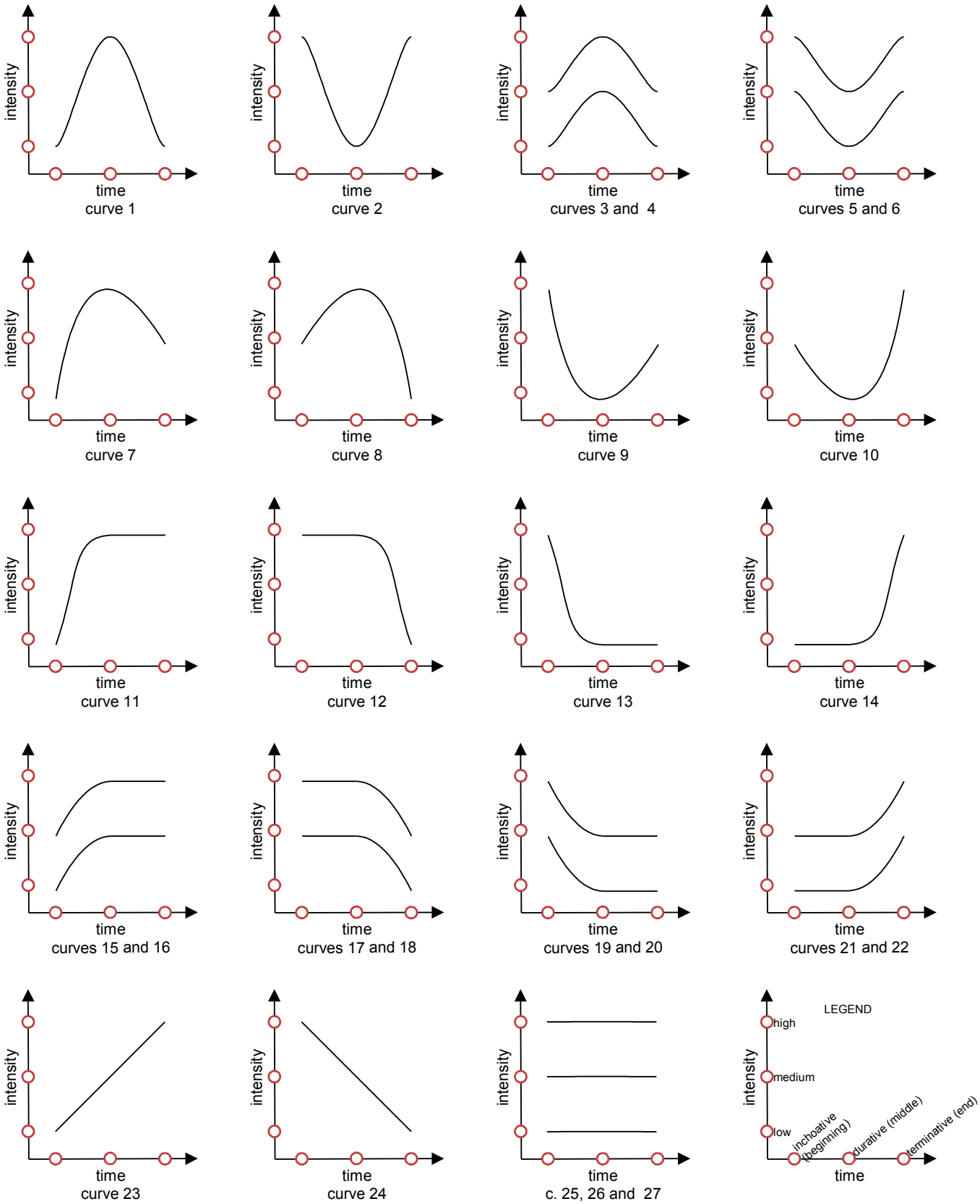
At the very least, our typology can serve as a point of departure for a typology of tensive models and movements using triadic partitioning. To round it out, we would have to add three "curves" that would be vertical straight lines (located at low, medium and high extent), and allow for bidirectionality on all of the curves: for example, curves 7 and 8 are identical, but with opposite temporal orientations; curves 25, 26, and 27 and the three vertical straight lines are each bidirectional. This typology would allow us to distinguish between ascending models with different temporal curves, such as 11, 15, 16 and 23.

[14] Zilberberg sometimes creates tensive models in which a type of element placed on one axis belongs *a priori* to the other axis. For instance, while he defines speed and slowness as part of tempo, and thus belonging on the axis of intensity, Zilberberg (in press) has a diagram with speed on the axis of intensity and slowness on the axis of extent. Does slowness necessarily have more extent than speed? Is this still a tensive model? In another case, Zilberberg also equates the minimum and maximum points on the tensive axes with the absence (represented by zero) and presence (represented by one), respectively, of the variable placed on either axis. The same question arises: Is this still a tensive model?

[15] If there is a correlation, it is not necessarily a strict one: "We do not require a strict correlation to be strict, since it cannot be. In fact, correlation actualizes a trend, whose realization is impeded by resistance, obstructions, and as a consequence, delays" (Zilberberg, in press). For the sake of symmetry, we are tempted to add that anticipatory effects may arise as well.

[16] We have made our conclusions about the non-tensive nature of the curves of aesthetic euphoria noticeably less definitive here as compared with the previous publication.

Typology of curves of aesthetic euphoria



2. APPLICATION: PASCAL'S THEORY OF KNOWLEDGE

Consider the following thought by Pascal on knowledge (*Thoughts*, 37, p. 20): "Since we cannot be universal and know all that is to be known of everything, we ought to know a little about everything. For it is far better to know something about everything than to know all about one thing. This universality is the best. If we can have

both, still better; but if we must choose, we ought to choose the former. And the world feels this and does so; for the world is often a good judge."

The words "all" and "everything" in this reflection should not always be understood literally or absolutely, but sometimes in the sense of "a lot". For Pascal, man is caught between the Infinite and Nothing (*Thoughts*, 72, p. 28), and cannot reach either one, as this second thought illustrates:

> "For in fact what is man in nature? A Nothing in comparison with the Infinite, an All in comparison with the Nothing, a mean between nothing and everything. Since he is infinitely removed from comprehending the extremes, the end of things and their beginning are hopelessly hidden from him in an impenetrable secret; he is equally incapable of seeing the Nothing from which he was made, and the Infinite in which he is swallowed up. [...] These extremes [the Nothing and the Infinite] meet and reunite by force of distance, and find each other in God, and in God alone. Let us then take our compass; we are something, and we are not everything. The nature of our existence hides from us the knowledge of first beginnings which are born of the Nothing; and the littleness of our being conceals from us the sight of the Infinite. [...] This is our true state; this is what makes us incapable of certain knowledge and of absolute ignorance."

If intensity applies to the depth of knowledge and extent to the scope of the field of this knowledge, we can establish four different kinds of "knowers" and knowledge.

Tensive model of knowledge

EXTENT INTENSITY	LOW	HIGH
HIGH	2. A lot of knowledge about a few things	4. A lot of knowledge about many things
LOW	1. A little knowledge about a few things	3. A little knowledge about many things

Pascal makes use of these four zones and ranks them. Since the best zone – the fourth – is inaccessible to men, we must choose the third over the second; the first zone, which is implicit, is held to be of little value; it depicts man's initial state, which he must leave ("we *ought to* know a little about everything"). A person whose knowledge is at the junction of high extent and low intensity (but above the average person's) corresponds to the classical ideal in which Pascal believed. In contrast to the enlightened man, whose ideal is universal knowledge (for example, the extremely learned Pico della Mirandola), the classical "gentleman" should know, and can only know, a little about everything[17]. The classical conception is based on cognitive pessimism; the humanist conception on cognitive optimism, in which man must somehow compete with a God who knows all about everything.

On another level, two conceptions of knowledge seem to work together in Pascal's philosophy. The first conception, which relates to man's cognitive potential, postulates a constant level of cognitive energy, as it were, and establishes an inverse correlation between the two axes: Just as the pressure of a gas decreases if one increases the volume of space it occupies, so does the intensity of knowledge decrease if one increases the number of objects it encompasses. A converse correlation, in which cognitive energy would vary, is theoretically possible, but is implicitly assumed to be impossible in practice. The second conception, which relates to knowledge capital, postulates a possible increase in knowledge by increasing one of the two valencies at a time, either intensity or extent. (A loss of knowledge is not even considered.)

None of the elementary tensive models anticipates a situation where one valency remains constant while the other varies. We could argue that the line going from zone one to zone three is sloped: that the limited intensity of the latter is higher than the limited intensity of the former; in other words, that the apparently horizontal line turns out to be diagonal if we increase the precision of the analysis by allowing for the possibility of multiple positions within one zone. Whatever the case, it is more difficult to make this objection about the line going from zone one to zone two. Increasing the depth of one's knowledge cannot bring about an increase in extent if the increase applies to something already included in the limited initial knowledge. To return to our initial question: How do we integrate a description of these orthogonal straight lines into the tensive model? To present just one of many conceivable solutions, let us make a distinction – here and elsewhere, and perhaps even in all tensive descriptions – between elementary tensive models, which necessarily imply a converse or inverse relation, and elementary tensive movements, which cannot exhibit this sort of relation. Pascal uses only two of these non-converse, non-inverse movements; more specifically, he does not anticipate a transition from zone two to zone one, or from zone three to zone one.

We have chosen not to give any lexical labels, or names, for the zones in our table. In most of the tensive models, problems arise when selecting lexical labels for the zones: firstly, valid names do not always exist for a given zone, and secondly, several names and categories may be appropriate for the same zone, primarily because of the recursivity of tensive relations.

[17] Fontanille believes that today's "cultivated man" is bound by the same obligation: he is supposed "to know a little about everything, to have breadth of knowledge but without being too high-minded or making himself a specialist" (2003, p. 186).

For example, in the pair ignoramus/average man, the first term belongs to the first zone and the second term belongs to the third zone; but in the pair average man/cultivated man, the first term belongs to the first zone and the second term belongs to the third zone. What happens if we want to account for the entire triad? If we are still opting for a model with four zones, we will classify two elements in the same zone, but in slightly different positions on one of the two axes, and the third element will be in a zone by itself. Then we would have (1) the ignoramus and the average man in the first zone, with the cultivated man in the third zone, or (2) the ignoramus in the first zone and the average man and the cultivated man in the third zone.

Now we will use a model with more than four zones. We will set up low, medium and high divisions on both axes. In this case, the ignoramus would be located at the junction of low intensity and low extent; the enlightened man would be at the junction of high intensity and extent. As for the other "knowers" we identified in the previous model, several alternate classifications are possible, and we propose the following: The cultivated man can be placed at the junction of medium intensity and high extent; the average man at the junction of medium intensity and medium extent; and the specialist at the junction of high intensity and medium extent. Our guideline in classifying these three "knowers" is that it would not be right to say that the specialist's knowledge is less extensive than the average man's, nor would it be right to say that the cultivated man's knowledge is of lower intensity than the average man's. Out of the nine zones in this model, there are four left for classifying other kinds of "knowers" and knowledge, if need be. The appropriate number of zones depends on what is being described. For example, two of the zones delineated in a dyadic partitioning are adequate to describe the kinds of doctors: the specialist (specialized doctor) resides in zone two, and the general practitioner (generalist) is in zone three. This inter-definition does not take into account non-medical knowledge and it excludes non-doctors. While the general practitioner knows "a little" about each field of medicine, this is relative to the specialist, not the man on the street, who knows "very little".

This next thought about knowledge by Pascal (*Thoughts*, 327, p. 113) brings another level of complexity to our analysis:

> "The world is a good judge of things, for it is in natural ignorance, which is man's true state. The sciences have two extremes which meet. The first is the pure natural ignorance in which all men find themselves at birth. The other extreme is that reached by great intellects, who, having run through all that man can know, find they know nothing, and come back again to that same ignorance from which they set out; but this is a learned ignorance which is conscious of itself. Those between the two, who have departed from natural ignorance and not been able to reach the other, have some smattering of this vain knowledge, and pretend to be wise. These trouble the world, and are bad judges of everything. The people and the wise constitute the world; these despise it, and are despised. They judge badly of everything, and the world judges rightly of them."

In contrast to the first excerpt, this third thought by Pascal attributes a certain value to zone one, at least the part of zone one (located in the lower left corner) that corresponds to the absolute natural ignorance in which men are born. As in the second thought, we notice that the two extremes are valued, while the person in the intermediate position, the half-learned man, is devalued, having left natural ignorance forever, and never able to attain learned ignorance[18].

Let us suppose that the transition from vast knowledge to natural ignorance is categorial rather than incremental[19] (with no transition when moving from one to the other), and that the knowledge leading one degree further to natural ignorance is located in zone three in the upper right corner. That leaves us with one position to identify: learned ignorance. As the name implies, learned ignorance is not a return to natural ignorance; it does not trace a circular path, but a spiral. What distinguishes it from ignorance, in addition to the high level of accumulated knowledge, is the paradoxical awareness of knowing that it does not know. Pascal attaches great importance to reflective consciousness, the knowing that is aware of its own self, the thinking subject. He writes (*Thoughts*, 347, p. 118): "Man is but a reed, the most feeble thing in nature, but he is a thinking reed. The entire universe need not arm itself to crush him. A vapour, a drop of water suffices to kill him. But, if the universe were to crush him, man would still be more noble than that which kills him, because he knows that he dies and the advantage which the universe has over him; the universe knows nothing of this." To paraphrase Pascal, we would say that man's greatness lies in knowing (or having the capacity to know) that he does not know.

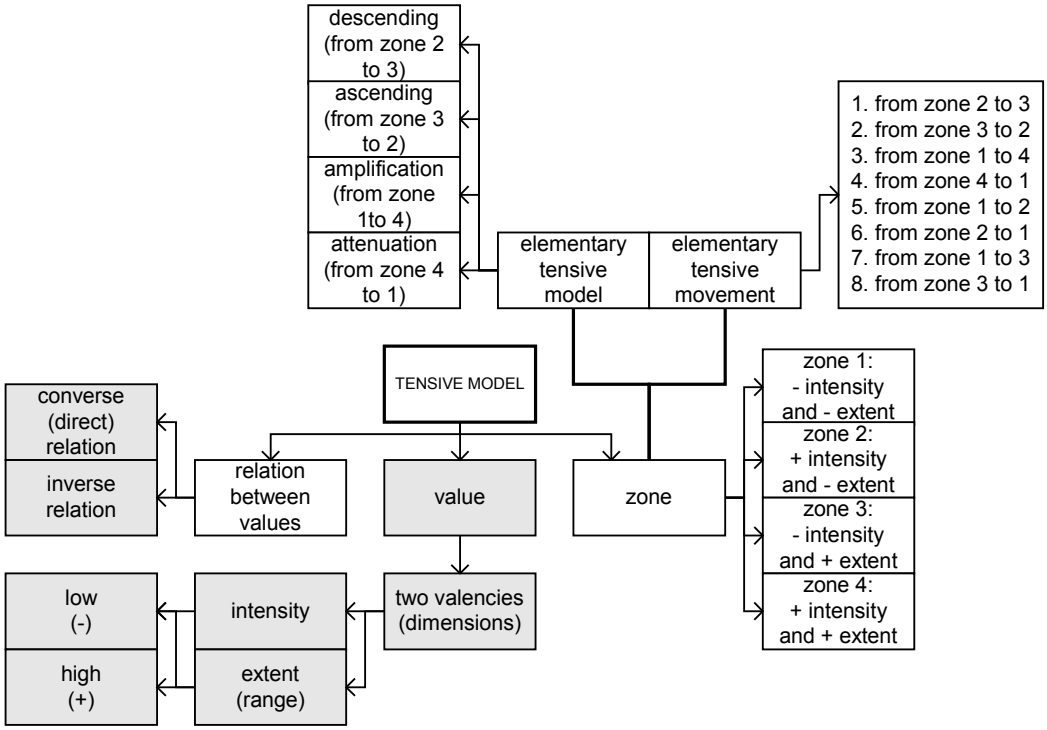
One possible response to our question is that the transition from vast knowledge to learned ignorance occurs not by jumping from zone three to zone one, but by transforming the knower's awareness of the map on which he finds himself: rather than remaining stable, the axes lengthen (like a horizon that is always at the same distance, or like a horizon that becomes more and more distant?) so that the knower finds himself in a relative position of natural ignorance. The learned ignorant man has truly taken the measure of what he does not know.

[18] Pascal also values the intermediate position in this passage (*Thoughts*, 378, p. 125): "To leave the mean is to abandon humanity. The greatness of the human soul consists in knowing how to preserve the mean."
[19] If the transition from vast knowledge to learned ignorance is incremental, then we must ask when it starts (that is, where on the chart), and whether it happens in equal increments or with an acceleration at the end.

This is a reminder that any classification is done in the estimation of an observer. Thus, a naturally ignorant person believes himself to be at the junction of a higher intensity and extent than he really is, because he is unaware of the extent of what he could know, but does not.

3. SUMMARY DIAGRAM

Summary diagram of the canonical tensive model



LEGEND
1. Vertical arrows : components (for ex., the tensive model is composed of values, relations between values and zones)
2. Horizontal arrows: classifications (for ex., intensity and extent are classified as low and high)
3. Bold-face link with no arrow: other relation

The results of the analysis depend on the time of observation and the observer (subject) whose point of view is being reported.