The dialectic plan: an alternative to the paradigm

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In Franceschi (2002), I exposed a theory which aims to constitute an alternative to the classification proposed by Greimas in the field of paradigmatic analysis. In the present article, I proceed to draw the consequences of this latter theory by applying it to the technique of conception of a plan. Regarding the dialectic plan, the current paradigm is in effect a plan of the type *thesis-antithesis-synthesis*. This form of plan is very widespread and its use proves to be consensual. In what follows, I shall propose a novel type of dialectic plan as an alternative to the classical one. It consists of a type of plan which can be qualified as matrix-based, and which presents several advantages with regard to the classical dialectic plan.

The classical dialectic plan

The current paradigm regarding the dialectic plan is a plan of the thesis-antithesis-synthesis type[1]. This plan finds its origin in the *dialectical* approach[2] developed by Hegel. The association of the three concepts thesis-antithesis-synthesis, which is now associated with the dialectical line of reasoning, was elaborated by Hegel and Marx[3]. The dialectical approach constitutes thus a process of reasoning that proceeds by the statement of two contradictory theses and by their reconciliation at the stage of the synthesis. According to Hegel[4], every thesis presents then an inherently incomplete and partial nature, which gives then birth to its contrary, the antithesis. From Hegel's standpoint, the contraries present, beyond the contradiction underlying them, an indissociable nature. This last property allows thus to make their final union, at a thought level which places itself beyond the one where the contradiction manifests itself. The contraries present thus by essence a genuine unity, from which it is worth grasping the fecund principle, allowing thus to reach, at a higher level, a genuine knowledge. This latter phase constitutes the synthesis, which can thus be considered as the step of reasoning which reconciliates veritably, at a greater level, the contradiction observed between the thesis and the antithesis. The synthesis allows thus to go beyond the conflict raised between the thesis and the antithesis, by further unifying the part of truth simultaneously contained in both of them. However, the process is not limited to that. For the synthesis thus obtained constitutes in turn a novel thesis, which itself yields a novel antithesis

[1] One also finds the antithesis-thesis-synthesis variant.
[2] Platon envisaged dialectic under the form of a dialogue between two persons, based on alternate questions and responses. One also finds a dialectical approach in Kant, but also in Fichte and Schelling.
[3] In the context of dialectical materialism, the dialectic finds its expression on the social terrain, through the conflict or the struggle, which are viewed as the manifestation, at a material level, of the contradiction. Historical progress and social advances ensue once this conflict has been overcome. For Marx also, the dialectical objective situates itself veritably at the level of the reality, finding thus its expression in the facts and the phenomena. Conversely, the dialectical move observed at the level of human thought only constitutes the subjective reflect of the essential dialectic, a simple transposition of the latter at the level of the humain brain.
[4] Cf. Hegel (1812-1816) and (1817).

and then a novel synthesis, and so on... Within the current language, the dialectical approach designates now the general methodology which allows to go beyond and to solve the contradictions. It is in this dialectical approach that the classical plan of the thesis-antithesis-synthesis type finds its origin.

At this step, it is worth considering in turn each component of the thesis-antithesis-synthesis plan. Consider, to begin with, the *thesis*. This latter constitutes a standpoint expressed by a given author. It consists of the viewpoint on which the discussion is based, and toward which the structure of the plan is oriented. For simplicity, let us assimilate here the thesis to a given proposition. On the other hand, the *antithesis* is a standpoint which proves to be contrary to that of the thesis. Like the thesis, it is useful to reduce the antithesis, for the sake of simplicity, to a given proposition. At this step, the viewpoints expressed by the thesis and the antithesis are of an antinomical nature. Lastly, the *synthesis* constitutes the part of the discourse where the antagonist viewpoints developed in the thesis and the antithesis are overcome. The synthesis aims thus classically to go beyond the antinomy existing between the thesis and the antithesis and to encompass it.

In a general way, the advantage of the dialectic plan of the type thesis-antithesis-synthesis is to allow to apprehend the double aspect of a given problem or reality. By placing oneself alternatively from one side and from the other, by considering successively the thesis and then the antithesis, this type of plan allows to avoid a partial or truncated vision of the particular problem raised by the thesis. The aim of the classical dialectic plan is thus to apprehend the two-faceted nature of a given reality and to go beyond the contradiction which results from a preliminary study.

Matrices of concepts

In Franceschi (2002), I described the structure of a *matrix* of concepts, the scope of which extends to many concepts. For the sake of the present discussion, it is not necessary to describe in a detailed way the structure of concepts put forth in this article. Nevertheless, the type of dialectic plan which will be proposed later derives directly from the notion of a matrix of concepts. It proves then necessary to present the main lines of the basic structure of a matrix of concepts.

Consider first a given *duality*. Let us denote it by $A/\bar{A}$. At this step, A and $\bar{A}$ constitute *dual* concepts. One can then consider that A and $\bar{A}$ are concepts which characterize themselves by a *contrary component* $c \in \{-1, 1\}$ at the level of a given duality $A/\bar{A}$, such that $c[A] = -1$ and $c[\bar{A}] = 1$. One can also consider that A and $\bar{A}$ are neutral concepts which can thus be denoted by A^0 and $\bar{A}^0$.

At this step, we are in a position to define the class of the *canonical poles*. It suffices to consider an extension of the preceding class $\{A^0, \bar{A}^0\}$, such that A^0 and $\bar{A}^0$ respectively admit of both a positive and a negative concept which are correlative. Such concepts possess a certain intuitive support. Let us denote them respectively by $\{A^+, A^-\}$ and $\{\bar{A}^+, \bar{A}^-\}$. At this step, for a given duality $A/\bar{A}$, we get the following concepts: $\{A^+, A^0, A^-, \bar{A}^+, \bar{A}^0, \bar{A}^-\}$, which constitute the *canonical poles*. It is worth mentioning here that the notation $\alpha(A/\bar{A}, c, p)$ could be used alternatively, for a given *canonical pole*[5]. In all cases, the components of a canonical pole are: a *duality* $A/\bar{A}$, a *contrary component* $c \in \{-1, 1\}$ and a *canonical polarity* $p \in \{-1, 0, 1\}$. This definition of the canonical poles leads to distinguish between the *positive* (A^+, $\bar{A}^+$), *neutral* (A^0, $\bar{A}^0$) and *negative* (A^-, $\bar{A}^-$) canonical poles. Lastly, the class made up of the six canonical poles of a same matrix can be dubbed the *canonical matrix*: $\{A^+, A^0, A^-, \bar{A}^+, \bar{A}^0, \bar{A}^-\}$.

Let us focus now on the nature of the relationships existing between the canonical poles of a given matrix. Among the combinations of relationships existing between the six canonical

[5] With this last notation, the matrix of the canonical poles is rendered as follows: $\{\alpha(A/\bar{A}, -1, 1), \alpha(A/\bar{A}, -1, 0), \alpha(A/\bar{A}, -1, -1), \alpha(A/\bar{A}, 1, 1), \alpha(A/\bar{A}, 1, 0), \alpha(A/\bar{A}, 1, -1)\}$.

poles (A^+, A^0, A^-, $\bar{A}^+$, $\bar{A}^0$, $\bar{A}^-$) of a same duality A/$\bar{A}$, one will retain the following relations: *duality, antinomy*, *complementarity*, *corollarity*, *connexity*, *anti-connexity*. Thus, two canonical poles α_1(A/$\bar{A}$, c_1, p_1) and α_2(A/$\bar{A}$, c_2, p_2) of a same matrix are:

(a) *dual* if their contrary components are opposite and their polarities are neutral[6]
(b) *contrary* (or *antinomical*) if their components are opposite and their polarities are non-neutral and opposite[7]
(c) *complementary* if their contrary components are opposite and their polarities are non-neutral and equal[8]
(d) *corollary* if their contrary components are equal and their polarities are non-neutral and opposite[9]
(e) *connex* if their contrary components are equal and the absolute value of the difference of their polarities equals 1[10]
(f) *anti-connex* if their contrary components are opposite and the absolute value of the difference of their polarities equals 1[11]

To sum up: {A^0, $\bar{A}^0$} are *dual*; {A^+, $\bar{A}^-$} and {A^-, $\bar{A}^+$} are *contraries*; {A^+, $\bar{A}^+$} and {A^-, $\bar{A}^-$} are *complementary*; {A^+, A^-} and {$\bar{A}^+$, $\bar{A}^-$} are *corollary*; {A^0, A^+}, {A^0, A^-}, {$\bar{A}^0$, $\bar{A}^+$} and {$\bar{A}^0$, $\bar{A}^-$} are *connex*; {A^0, $\bar{A}^+$}, {A^0, $\bar{A}^-$}, {$\bar{A}^0$, A^+} and {$\bar{A}^0$, A^-} are *anti-connex*.

To fix ideas, let us take the example of the matrix[12] {*eclecticism*$^+$, *multi-disciplinarity*^{0}, *dispersion*$^-$, *expertise*$^+$, *monodisciplinarity*^{0}, *compartmentalization*$^-$}. One has then the following relationships:

(a') {*multi-disciplinarity*^{0}, *monodisciplinarity*^{0}} are dual
(b') {*eclecticism*$^+$, *compartmentalization*$^-$}, {*dispersion*$^-$, *expertise*$^+$} are antinomical
(c') {*eclecticism*$^+$, *expertise*$^+$}, {*dispersion*$^-$, *compartmentalization*$^-$} are complementary
(d') {*eclecticism*$^+$, *dispersion*$^-$}, {*expertise*$^+$, *compartmentalization*$^-$} are corollary
(e') {*multi-disciplinarity*^{0}, *eclecticism*$^+$}, {*multi-disciplinarity*^{0}, *dispersion*$^-$}, {*monodisciplinarity*^{0}, *expertise*$^+$}, {*monodisciplinarity*^{0}, *compartmentalization*$^-$} are connex
(f') {*multi-disciplinarity*^{0}, *expertise*$^+$}, {*multi-disciplinarity*^{0}, *compartmentalization*$^-$}, {*monodisciplinarity*^{0}, *eclecticism*$^+$}, {*monodisciplinarity*^{0}, *dispersion*$^-$} are anti-connex

Structure of a thesis

At this step, it is worth delving more deeply into the internal structure of the *thesis* to which the plan dialectical applies. I shall draw a distinction here between *simple* and *complex* theses.

Simples theses

In general, a simple thesis presents a structure which is that of an appreciation - negative, neutral or positive - relative to a given concept. Let α be such a concept; one denotes then by $\zeta^p(\alpha)$ such structure of *thesis*, where *p* denotes a negative polarity, neutral or positive such that respectively $p \in \{-1, 0, 1\}$. The negative appreciation can be assimilated to a *blame* and the positive appreciation to a praise. The *blame* of a given concept α is thus denoted by $\zeta^-(\alpha)$, the *neutral appreciation* by $\zeta^0(\alpha)$ and the *praise* by $\zeta^+(\alpha)$. In a general way, the propositions corresponding to the simple theses present the following structure: $\zeta^p(\alpha)$, with $p \in \{-1, 0, 1\}$

[6] Formally α_1 and α_2 are *dual* if and only if $c[\alpha_1] = -c[\alpha_2]$ and $p[\alpha_1] = p[\alpha_2] = 0$.
[7] Formally α_1 and α_2 are *antinomical* if and only if $c[\alpha_1] = -c[\alpha_2]$ and $p[\alpha_1] = -p[\alpha_2]$ with $p[\alpha_1], p[\alpha_2] \neq 0$.
[8] Formally α_1 and α_2 are *complementary* if and only if $c[\alpha_1] = -c[\alpha_2]$ and $p[\alpha_1] = p[\alpha_2]$ with $p[\alpha_1], p[\alpha_2] \neq 0$.
[9] Formally α_1 and α_2 are *corollary* if and only if $c[\alpha_1] = c[\alpha_2]$ and $p[\alpha_1] = -p[\alpha_2]$ with $p[\alpha_1], p[\alpha_2] \neq 0$.
[10] Formally α_1 and α_2 are *connex* if and only if $c[\alpha_1] = c[\alpha_2]$ and $\left|p[\alpha_1] - p[\alpha_2]\right| = 1$.
[11] Formally α_1 and α_2 are *anti-connex* if and only if $c[\alpha_1] = -c[\alpha_2]$ and $\left|p[\alpha_1] - p[\alpha_2]\right| = 1$.
[12] For a more comprehensive list of matrices of concepts, see Franceschi (2002).

and $\alpha \in \{A^+, A^0, A^-, \bar{A}^+, \bar{A}^0, \bar{A}^-\}$. By referring to the *matrix* notion, one notes that the different theoretical cases are the following, with regard to the six *concepts* of a given *matrix*: $\{\zeta^-(A^+), \zeta^-(A^0), \zeta^-(A^-), \zeta^-(\bar{A}^+), \zeta^-(\bar{A}^0), \zeta^-(\bar{A}^-), \zeta^0(A^+), \zeta^0(A^0), \zeta^0(A^-), \zeta^0(\bar{A}^+), \zeta^0(\bar{A}^0), \zeta^0(\bar{A}^-), \zeta^+(A^+), \zeta^+(A^0), \zeta^+(A^-), \zeta^+(\bar{A}^+), \zeta^+(\bar{A}^0), \zeta^+(\bar{A}^-)\}$. At this step, it appears that the *neutral appreciation* is somewhat rarely found. Thus, for the sake of simplicity, we shall be mainly concerned here with describing more accurately the theses which present the structure of a *blame* or of a *praise*.

Let us begin with the *blame*. A number of theses are thus composed of a depreciative appreciation, related to a behavior, a way of doing or apprehending things, a given situation. Such statements correspond to propositions that present the structure of a *blame*. Such propositions can be denoted by $\zeta^-(s)$ where *s* designates a way of apprehending or of doing things.

Let us take, to fix ideas, a few examples. Consider the following thesis:

(1) In the contempt of ambition is to be found one of the essential principles of happiness on earth. (Edgar Poe, *The Domain of Arnheim*)

The author considers here the "contempt of ambition" as a fundamental principle allowing to reach happiness. Such a viewpoint can be analyzed as a negative, depreciative judgment toward *ambition*. This latter concept can be considered as a neutral notion[13]. Hence, such a simple thesis presents the structure which is that of the *blame* of $ambition^0$ and can be thus denoted by $\zeta^-(ambition^0)$.

Consider also this other thesis:

(2) Love, the scourge of the world, atrocious folly. (Alfred of Musset, *Premières poésies*)

The content of this latter thesis can be analyzed as a very pejorative appreciation formulated with regard to $love^+$. Here also, such thesis presents a structure that can be analyzed as a *blame* of $love^+$, that one can thus denote by $\zeta^-(love^+)$.

Conversely, one also frequently encounters some theses which are composed of a flattering appreciation with regard to a given behavior, a propensity to act, a situation or a way of apprehending things. The structure of the corresponding proposition is then that of a *praise*. One denotes such propositions by $\zeta^+(s)$ where *s* designates a way of considering things or a given behavior.

Consider then a few examples. To begin with, the following viewpoint illustrates this type of structure:

(3) Nothing of great importance came true in the world without passion. (Hegel, *Introduction to the Philosophy of History*)

The author formulates here a praise related to the *passion*, considering thus that "nothing of great importance" ever came true without this latter. One can consider here the *passion* as a neutral notion[14]. Such a viewpoint presents thus the structure of a *praise* of $passion^0$, i.e. formally $\zeta^+(passion^0)$.

One also encounters an identical type of structure, regarding the following affirmation:

(4) Passion is an illness that abhors all medication. (Kant)

which can be analyzed as a *blame* of $passion^0$, i.e. formally $\zeta^-(passion^0)$.

Lastly, the following simple thesis:

[13] Personal *ambition* could be fruitful ($ambition^+$) or well excessive, or even immoderate ($ambition^-$).
[14] A *passion* could be positive ($passion^+$) or well excessive, destructive ($passion^-$).

(5) The worst vice of the fanatic is his sincerity. (Oscar Wilde)

constitutes an example of *praise* of the *negative* concept of fanaticism, i.e. formally ζ^+ (*fanaticism*$^-$).

At this step, we are in a position to determine the *truth value* of the simple theses. The truth value of each type of *praise*, of *neutral appreciation* or of *blame* indicates if the considered affirmation is plausible and coherent or not, given that the *praise* of a *positive concept* is *true*, in the same way as the *neutral appreciation* of a neutral concept and the *blame* of a *negative concept*. Conversely, the *praise* of a *non-positive concept*[15], the *neutral appreciation* of a non-neutral concept or well the *blame* of a *non-negative concept*[16] are *false*. Formally, the truth value [*v*] of propositions of the type $P = \zeta^p(\alpha^q)$, with $p, q \in \{-1, 0, 1\}$ and $\alpha \in \{A^+, A^0, A^-, \bar{A}^+, \bar{A}^0, \bar{A}^-\}$ can be calculated as follows: [*v*] = 1 (*true*) if $p = q$ and [*v*] = -1 (*false*) if $p \neq q$.[17] Hence, among the different cases which have just been enumerated, those whose truth value is *true* are: $\{\zeta^-(A^-), \zeta^-(\bar{A}^-), \zeta^0(A^0), \zeta^0(\bar{A}^0), \zeta^+(A^+), \zeta^+(\bar{A}^+)\}$. And those whose truth value is *false* are: $\{\zeta^-(A^+), \zeta^-(A^0), \zeta^-(\bar{A}^+), \zeta^-(\bar{A}^0), \zeta^0(A^+), \zeta^0(A^-), \zeta^0(\bar{A}^+), \zeta^0(\bar{A}^-), \zeta^+(A^0), \zeta^+(A^-), \zeta^+(\bar{A}^0), \zeta^+(\bar{A}^-)\}$.

Complex theses

Whereas simple theses contain a judgment related to one single concept belonging to a given matrix, *complex theses* are composed of appreciations relative to *several* concepts of a same *matrix*. A *complex* thesis can thus be defined in a general way as the *conjunction* of several simple theses. A *complex* thesis can thus be composed of appreciations relative to two, three, ..., *n* different concepts. One will use accordingly the term of *n-complex thesis*. Under these circumstances, the combinations prove to be numerous, without it being nevertheless necessary to enumerate them exhaustively. A given proposition P constituting a complex thesis presents thus the following structure: $P = Q_1 \wedge Q_2 \wedge ... \wedge Q_n$, for $n > 1$, and $Q_i = \zeta^{pi}(\alpha^{qi})$, with $p_i, q_i \in \{-1, 0, 1\}$ and $\alpha \in \{A^+, A^0, A^-, \bar{A}^+, \bar{A}^0, \bar{A}^-\}$. We have then the 2-complex, 3-complex, …, *n*-complex theses.

At this step, it appears necessary to consider first the 2-complex theses, which constitute, among the complex theses, the most common case. The 2-complex theses are composed of some appreciations relative to *two* concepts of a same matrix. They present the structure: $\zeta^p(\alpha_1(A/\bar{A}, c_1, q)) \wedge \zeta^r(\alpha_2(A/\bar{A}, c_2, s))$. The following appreciation constitutes thus an example of 2-*complex* thesis:

(6) All theory is gray, but the golden tree of life is green. (Goethe)

This 2-*complex* thesis is in effect composed of both the *blame* of *theory* (“all theory is gray”) and the *praise* of *pragmatism* (“the golden tree of life is green”). It proves here that the concepts of *interest for theory* and of *pragmatism* belong to the following matrix: {*capacity of abstraction*$^+$, *interest for theory*^{0}, *dogmatism*$^-$, *pragmatism*$^+$, *interest for practise*^{0}, *prosaicness*$^-$}. The structure of the thesis is thus ζ^-(*interest for theory*^{0}) $\wedge$ ζ^+(*pragmatism*$^+$) i.e. $\zeta^-(A^0) \wedge \zeta^+(\bar{A}^+)$.

In the same way, the following appreciation constitutes a case of 2-complex thesis:

(7) The art of being sometimes very audacious, sometimes very cautious is the art of success. (Napoleon Bonaparte)

This 2-complex thesis is composed of both the *praise* of *boldness* (“The art of being (…) very audacious (…) is the art of success”) and the *praise* of the *cautiousness* (“the art of being

[15] *Negative* or *neutral*.

[16] *Positive* or *neutral*.

[17] One could as well distinguish here *degrees* of truth value, by making use of degrees of appreciation, with $p \in [-1, 1]$. An approach by degree of the truth value ensues, by calculating thus this latter with regard to the absolute value of the difference between *p* and *q*: $[v] = 1 - |(p - q)/2|$.

(…) very cautious is the art of success"). It appears that these latter concepts belong to the following matrix: {*boldness*$^{+}$, *propensity to take risk*^{0}, *temerity*$^{-}$, *cautiousness*$^{+}$, *propensity to avoid the risk*^{0}, *cowardice*$^{-}$}. The thesis is thus composed here of the praise of two complementary positive concepts of a same matrix. The particular structure of this type of complex thesis is thus composed of the *praise* of A^{+} and the *praise* of $\bar{A}^{+}$, i.e. formally ζ^{+}(*boldness*$^{+}$) $\wedge$ ζ^{+}(*cautiousness*$^{+}$).

Consider lastly the following thesis, which also constitutes a case of 2-complex thesis:

(8) Two excesses: to exclude reason, and to admit nothing else than reason. (Pascal, *Thoughts*)

This last thesis is in effect composed of both the blame of *irrationality* ("exclude the reason") and the blame of *hyper-rationalism* ("to admit nothing else than reason"). The corresponding reconstituted matrix is the following: {*imagination*$^{+}$, *inspiration*^{0}, *irrationality*$^{-}$, *rationality*$^{+}$, *reason*^{0}, *hyper-rationalism*$^{-}$}. As we see it, we face here a 2-complex thesis whose structure is ζ^{-}(*irrationality*$^{-}$) $\wedge$ ζ^{-}(*hyper-rationalism*$^{-}$) i.e. $\zeta^{-}(A^{-}) \wedge \zeta^{-}(\bar{A}^{-})$.

Lastly, the following 2-complex thesis:

(9) How can we tolerate that passion be placed on the same level than reason? (Sénèque, *De Ira*)

can be analyzed as a *blame* of *passion*^{0} and a *praise* of *reason*^{0}, i.e. formally ζ^{-}(*passion*^{0}) $\wedge$ ζ^{+}(*reason*^{0}), i.e. $\zeta^{-}(A^{0}) \wedge \zeta^{+}(\bar{A}^{0})$ at the level of the matrix {*motivation*$^{+}$, *passion*^{0}, *fanaticism*$^{-}$, *level-headedness*$^{+}$, *reason*^{0}, *lukewarmness*$^{-}$}.

It is worth noting here that this last type of 2-complex thesis corresponds to a common case, for motives of internal coherence. It is in effect logical when one criticizes or depreciates such or such value or concept, of flattering its contrary. To blame such or such thing amounts naturally to praising its opposite, and conversely. For that reason, the 2-complex theses whose particular structure is $\zeta^{-}(A^{-}) \wedge \zeta^{+}(\bar{A}^{+})$ or well $\zeta^{+}(A^{+}) \wedge \zeta^{-}(\bar{A}^{-})$ also constitute, among all possible combinations of 2-*complex* theses, a common case.

For what concerns the truth value of the 2-complex theses, it can be determined in the same way as for the simple theses. Let thus $P \wedge Q$ be a 2-complex thesis, such that $P = \zeta^{p}(\alpha^{q})$ and $Q = \zeta^{r}(\beta^{s})$, with $p, q, r, s \in \{-1, 0, 1\}$ and $\alpha, \beta \in \{A^{+}, A^{0}, A^{-}, \bar{A}^{+}, \bar{A}^{0}, \bar{A}^{-}\}$. Formally, the truth value [v] of a 2-complex thesis $P \wedge Q$ is *true* if $v[P] = v[Q]$ = true, and *false* in other cases[18]. It is worth noting that the most common types of 2-complex theses are those whose truth value are *true*. Such is the case when the truth-value of each of the two propositions included within the complex thesis is *true*. Under this hypothesis, the two propositions reinforce themselves. It consists thus of the cases corresponding to: $\{\zeta^{+}(A^{+}) \wedge \zeta^{-}(A^{-}), \zeta^{+}(A^{+}) \wedge \zeta^{+}(\bar{A}^{+}), \zeta^{+}(A^{+}) \wedge \zeta^{-}(\bar{A}^{-}), \zeta^{-}(A^{-}) \wedge \zeta^{+}(\bar{A}^{+}), \zeta^{-}(A^{-}) \wedge \zeta^{-}(\bar{A}^{-}), \zeta^{+}(\bar{A}^{+}) \wedge \zeta^{-}(\bar{A}^{-})\}$.

Dual theses

At this step, it is worth focusing on the notion of a dual thesis of a given thesis. This last notion applies both to the simple theses and to the complex ones. The dual thesis constitutes here an element of the dialectical discussion, which proves to be important since it is the basis of the discussion related to the thesis under consideration.

Let us focus, to begin with, on dual theses of simple theses. Let us begin by giving a general definition. Formally, a simple thesis $\zeta^{p}(\alpha_{l}(A/\bar{A}, c, q))$ admits of a dual thesis that corresponds

[18] Such a definition generalizes to the determination of the truth values of the 3-composed theses, …, *n*-composed.

to the following definition: $\zeta^{p}(\alpha_2(A/\bar{A}, -c, q))$. Thus, a dual thesis of a simple thesis presents the following characteristics: (i) the polarities of the appreciation of the dual thesis and of the simple thesis are identical; (ii) the contrary components of the concepts on which bear the appreciations of the dual thesis and of the simple thesis are opposite; (iii) the polarities of the concepts on which bear the appreciations of the dual thesis and of the simple thesis are identical.

Let us consider first the dual theses of the *true* simple theses. The types of true simple theses can be thus enumerated as follows: $\{\zeta^{+}(A^{+}), \zeta^{0}(A^{0}), \zeta^{-}(A^{-}), \zeta^{+}(\bar{A}^{+}), \zeta^{0}(\bar{A}^{0}), \zeta^{-}(\bar{A}^{-})\}$. Formally, a true simple thesis $\zeta^{p}(\alpha_1(A/\bar{A}, c, p))$ presents a dual thesis which responds to the following definition: $\zeta^{p}(\alpha_2(A/\bar{A}, -c, p))$. Thus, the dual theses of the true simple theses are respectively: $\{\zeta^{+}(\bar{A}^{+}), \zeta^{0}(\bar{A}^{0}), \zeta^{-}(\bar{A}^{-}), \zeta^{+}(A^{+}), \zeta^{0}(A^{0}), \zeta^{-}(A^{-})\}$.

To take an example, consider the following true simple thesis:

(10) What you can do, or dream you can do, begin it. Boldness has genius, power and magic in it. (Goethe)

which presents the structure $\zeta^{+}(\textit{boldness}^{+})$ i.e. $\zeta^{+}(A^{+})$ at the level of the matrix $\{\textit{boldness}^{+}, \textit{propensity to take risk}^{0}, \textit{temerity}^{-}, \textit{cautiousness}^{+}, \textit{propensity to avoid risk}^{0}, \textit{cowardice}^{-}\}$. The thesis below whose structure is $\zeta^{+}(\textit{cautiousness}^{+})$ i.e. $\zeta^{+}(\bar{A}^{+})$ constitutes thus its dual thesis:

(11) Cautiousness is as much superior to the other virtues as sight is to the other senses. (Bion of Phlossa)

Consider also the dual theses of the *false* simple theses. The types of false simple theses are: $\{\zeta^{-}(A^{+}), \zeta^{-}(A^{0}), \zeta^{-}(\bar{A}^{+}), \zeta^{-}(\bar{A}^{0}), \zeta^{0}(A^{+}), \zeta^{0}(A^{-}), \zeta^{0}(\bar{A}^{+}), \zeta^{0}(\bar{A}^{-}), \zeta^{+}(A^{0}), \zeta^{+}(A^{-}), \zeta^{+}(\bar{A}^{0}), \zeta^{+}(\bar{A}^{-})\}$. And the dual theses of the false simple theses are respectively: $\{\zeta^{-}(\bar{A}^{+}), \zeta^{-}(\bar{A}^{0}), \zeta^{-}(A^{+}), \zeta^{-}(A^{0}), \zeta^{0}(\bar{A}^{+}), \zeta^{0}(\bar{A}^{-}), \zeta^{0}(A^{+}), \zeta^{0}(A^{-}), \zeta^{+}(\bar{A}^{0}), \zeta^{+}(\bar{A}^{-}), \zeta^{+}(A^{0}), \zeta^{+}(A^{-})\}$.

To take an example, the following false simple thesis:

(4) Passion is an illness that abhors all medication. (Kant)

presents the structure $\zeta^{-}(\textit{passion}^{0})$ i.e. $\zeta^{-}(A^{0})$ at the level of the matrix $\{\textit{motivation}^{+}, \textit{passion}^{0}, \textit{fanaticism}^{-}, \textit{level-headedness}^{+}, \textit{reason}^{0}, \textit{lukewarmness}^{-}\}$. The following thesis whose structure is $\zeta^{-}(\textit{reason}^{0})$ i.e. $\zeta^{-}(\bar{A}^{0})$ constitutes thus its dual thesis:

(12) If reason dominated on the earth, nothing would happen there. (Bernard Fontenelle)

It is worth considering now, on the other hand, the dual theses of the complex theses. These latter are such that the contrary components of the concepts on which bear the appreciations of the two simple theses, which are part of the dual thesis and of the considered thesis, are opposite[19]. Consider then the true 2-complex theses. Thus, the dual thesis of $\zeta^{+}(A^{+}) \wedge \zeta^{-}(\bar{A}^{-})$ is $\zeta^{+}(\bar{A}^{+}) \wedge \zeta^{-}(A^{-})$. And also, the dual thesis of $\zeta^{0}(A^{0}) \wedge \zeta^{+}(A^{+})$ is $\zeta^{0}(\bar{A}^{0}) \wedge \zeta^{+}(\bar{A}^{+})$. It is worth noting here in particular that the dual thesis of $\zeta^{0}(A^{0}) \wedge \zeta^{0}(\bar{A}^{0})$ is $\zeta^{0}(\bar{A}^{0}) \wedge \zeta^{0}(A^{0})$, that the dual thesis of $\zeta^{+}(A^{+}) \wedge \zeta^{+}(\bar{A}^{+})$ is $\zeta^{+}(\bar{A}^{+}) \wedge \zeta^{+}(A^{+})$ and that the dual thesis $\zeta^{-}(A^{-}) \wedge \zeta^{-}(\bar{A}^{-})$ is $\zeta^{-}(A^{-}) \wedge \zeta^{-}(\bar{A}^{-})$.

Let us also give a few examples. Thus, the true 2-complex thesis corresponding to the following proposition:

[19] Formally, let thus $P \wedge Q$ be a 2-composed thesis, such that $P = \zeta^{p1}(\alpha_1(A/\bar{A}, c1, q1))$ and $Q = \zeta^{p2}(\alpha_2(A/\bar{A}, c2, q2)$, with $p1, p2, q1, q2 \in \{-1, 0, 1\}$, $c1, c2 \in \{-1, 1\}$ and $\alpha, \beta \in \{A^{+}, A^{0}, A^{-}, \bar{A}^{+}, \bar{A}^{0}, \bar{A}^{-}\}$; then the dual thesis of $P \wedge Q$ is of the form: $\zeta^{p1}(\alpha_1 (A/\bar{A}, -c1, q1)) \wedge \zeta^{p2}(\alpha_2 (A/\bar{A}, -c2, q2)$. Such definition generalizes easily to the dual theses of the *n*-composed theses.

(6) All theory is gray, but the golden tree of life is green. (Goethe)

presents the structure $\zeta^-(A^0) \wedge \zeta^+(\bar{A}^+)$ i.e. $\zeta^-(\textit{interest for theory}^0) \wedge \zeta^+(\textit{pragmatism}^+)$ at the level of the matrix $\{\textit{capacity of abstraction}^+, \textit{interest for theory}^0, \textit{dogmatism}^-, \textit{pragmatism}^+, \textit{interest for practice}^0, \textit{prosaicness}^-\}$. The following thesis whose structure is $\zeta^-(\bar{A}^0) \wedge \zeta^+(A^+)$ i.e. $\zeta^-(\textit{interest for practice}^0) \wedge \zeta^+(\textit{capacity of abstraction}^+)$ constitutes thus its dual thesis:

(13) All practice is vile, but fecund and elevated is the quest of the genuine abstraction.

Similarly, the following proposition:

(8) Two excesses: to exclude reason, and to admit nothing else than reason. (Pascal, *Thoughts*)

constitutes a true 2-complex thesis whose structure is $\zeta^-(\textit{irrationality}^-) \wedge \zeta^-(\textit{hyper-rationalism}^-)$ i.e. $\zeta^-(A^-) \wedge \zeta^-(\bar{A}^-)$ at the level of the matrix: $\{\textit{imagination}^+, \textit{inspiration}^0, \textit{irrationality}^-, \textit{rationality}^+, \textit{reason}^0, \textit{hyper-rationalism}^-\}$. The thesis below whose structure is $\zeta^+(\textit{imagination}^+) \wedge \zeta^+(\textit{rationality}^+)$ i.e. $\zeta^+(A^+) \wedge \zeta^+(\bar{A}^+)$ constitutes thus its dual thesis:

(14) The art of being sometimes very imaginative, sometimes very rational is the art of success.

Lastly, it is worth noting that one has also analogous definitions for 3-complex, 4-complex, etc. theses. To take then an example, the dual thesis of the 3-complex thesis $\zeta^+(A^+) \wedge \zeta^0(A^0) \wedge \zeta^0(\bar{A}^0)$ is $\zeta^+(\bar{A}^+) \wedge \zeta^0(\bar{A}^0) \wedge \zeta^0(A^0)$. In the same way, the dual thesis of the 3-complex thesis $\zeta^+(A^+) \wedge \zeta^0(A^0) \wedge \zeta^-(A^-)$ is $\zeta^+(\bar{A}^+) \wedge \zeta^0(\bar{A}^0) \wedge \zeta^-(\bar{A}^-)$.

The matrix-based dialectic plan

The preceding developments allow now to describe the steps of the dialectical reasoning applicable to the analysis of a given particular thesis, from the above-mentioned principles. The first step consists thus in the accurate determination of the structure of the thesis under consideration. The second step, which results directly from it, is the attribution of a truth-value to this latter thesis. The following step consists then in the reconstitution of the whole matrix applicable to the concept(s) which are the object of the thesis. One is then in a position to determine the dual thesis of the considered thesis in the same way as the true simple theses other than the considered thesis and its dual thesis. Lastly, the final step is the synthesis which consists in the conjunction of the true simple theses relative to each of the 6 concepts of the considered matrix: $\zeta^+(A^+) \wedge \zeta^0(A^0) \wedge \zeta^-(A^-) \wedge \zeta^+(\bar{A}^+) \wedge \zeta^0(\bar{A}^0) \wedge \zeta^-(\bar{A}^-)$. Such a synthesis allows to encompass a threefold antinomy: the one existing between A^+ and $\bar{A}^-$, A^0 and $\bar{A}^0$, and A^- and $\bar{A}^+$. It should be observed here that one can eventually retain from the synthesis but a simplified form consisting of the conjunction of the true simple theses constituting a praise or a blame: $\zeta^+(A^+) \wedge \zeta^-(A^-) \wedge \zeta^+(\bar{A}^+) \wedge \zeta^-(\bar{A}^-)$. In the same way, one may sometimes limit oneself to a truncated form of synthesis consisting in $\zeta^+(A^+) \wedge \zeta^+(\bar{A}^+)$, which emphasizes the complementarity between A^+ and $\bar{A}^+$.[20]

[20] The description of the different steps of the dialectical process thus defined also suggests other types of plans than the one which has been emphasized here. Alternative plans can notably highlight a part related to the step of determination of the truth value of the considered thesis, or well to the dual thesis of this latter.

At this step, we are in a position to present the *matrix-based dialectic plan*. Such a plan results directly from the structure of matrix of concepts which has been just described. The corresponding matrix-based dialectic plan presents thus the following structure:[21]

(15) 1. From the viewpoint of A^0
1.1 Praise of A^+
1.2 Blame of A^-
2. From the viewpoint of $\bar{A}^0$
2.1 Praise of $\bar{A}^+$
2.2 Blame of $\bar{A}^-$
3. Complementarity between A^+ and $\bar{A}^+$ [22]

Consider then, to take an example the following true simple thesis:

(16) Success was always a child of audacity. (Prosper Crebillon, *Catilina*)

whose structure is $\zeta^+(boldness^+)$ i.e. $\zeta^+(A^+)$ at the level of the matrix {*boldness*$^+$, *propensity to take risk*^{0}, *temerity*$^-$, *cautiousness*$^+$, *propensity to avoid risk*^{0}, *cowardice*$^-$}. It results then the following matrix-based plan:

(17) 1. From the viewpoint of *risk taking*^{0}
1.1 The necessity of *boldness*$^+$
1.2 The dangers of *temerity*$^-$
2. From the viewpoint of *risk avoidance*^{0}
2.1 The advantages of the *cautiousness*$^+$
2.2 The risk of *cowardice*$^-$
3. The necessary complementarity between *boldness*$^+$ and *cautiousness*$^+$

Consider also the following false simple thesis:

(12) If reason dominated on the earth, nothing would happen there. (Bernard Fontenelle)

whose structure is $\zeta^-(reason^0)$. The corresponding matrix is: {*level-headedness*$^+$, *reason*^{0}, *lukewarmness*$^-$, *motivation*$^+$, *passion*^{0}, *fanaticism*$^-$}. And the following matrix-based plan then ensues:

(18) Introduction: (i) structure of the thesis; (ii) truth value; (iii) matrix
1. From the viewpoint of *reason*^{0}
1.1 The pitfall of *lukewarmness*$^-$
1.2 The necessity of *level-headedness*$^+$
2. From the viewpoint of *passion*^{0}
2.1 The dangers of *fanaticism*$^-$
2.2 The necessity of *motivation*$^+$
3. The necessary complementarity between *level-headedness*$^+$ and *motivation*$^+$

[21] Alternatively, one could also consider the following variation:

1. From an analytic point of view
1.1 From the viewpoint of A^0
1.1.1 Praise of A^+
1.1.2 Blame of A^-
1.2 From the viewpoint of $\bar{A}^0$
1.2.1 Praise of $\bar{A}^+$
1.2.2 Blame of $\bar{A}^-$
2. From a synthetic point of view: the complementarity between A^+ and $\bar{A}^+$ and between A^- and $\bar{A}^-$

[22] A variation of this type of plan consists evidently in assimilating the part 3 with the conclusion.

Lastly, such a type of plan also proves to be adapted to a true 2-complex thesis such as the following:

(19) In the first place comes your profession, because doing just one thing well will procure a higher development for you than doing one hundred by halves. (Goethe)

This latter thesis can be analyzed as a 2-complex thesis whose structure is ζ^{+}(*expertise*$^{+}$) $\wedge$ ζ^{-}(*superficiality*$^{-}$) i.e. $\zeta^{+}(A^{+}) \wedge \zeta^{-}(\bar{A}^{-})$ at the level of the matrix: {*expertise*$^{+}$, *monodisciplinarity*^{0}, *compartmentalization*$^{-}$, *eclecticism*$^{+}$, *multi-disciplinarity*^{0}, *superficiality*$^{-}$}. And the following matrix-based plan[23] then ensues:

(20) 1. From the viewpoint of *monodisciplinarity*^{0}
1.1 The advantages of *expertise*$^{+}$
1.2 The risk of *compartmentalization*$^{-}$
2. From the viewpoint of *multi-disciplinarity*^{0}
2.1 The necessity of *eclecticism*$^{+}$
2.2 The dangers of *superficiality*$^{-}$
3. The necessary complementarity between *expertise*$^{+}$ and *eclecticism*$^{+}$

Conclusion

From the above developments, it should be noted that the matrix-based dialectic plan presents a number of advantages with regard to the classical dialectic plan. First, the dialectical approach which has just been described performs first an analysis of the structure of the thesis under consideration, which leads then to assign a truth value to it, on objective grounds.

Second, it appears that the matrix-based dialectic plan replaces the thesis or the main proposition in a context that comprises a greater number of concepts than the classical dialectic plan. In effect, the classical dialectic plan usually places the thesis in an environment comprising in general two, or even three concepts. By contrast, the matrix-based dialectic plan replaces the thesis in a context comprising six concepts which are related to this latter.

Third, one of the advantages of the matrix-based dialectic plan is that it also allows to take into account some concepts which are not lexicalized. In effect, a matrix of concepts describes six canonical concepts. But it is rare that the totality of these latter concepts are lexicalized. In effect, the most common situation is that only some concepts - in general two or three - among the six described by the corresponding matrix, are lexicalized. Here also, the advantage of the matrix-based dialectic plan is to allow to take into account exhaustively the six concepts of a same matrix and to incorporate them in the corresponding discussion.

It should also be noted that the step of the antithesis at the level of the classical dialectic plan is replaced here by the determination of the dual thesis, which presents an identical structure

[23] For this last type of thesis whose structure is $\zeta^{+}(A^{+}) \wedge \zeta^{-}(\bar{A}^{-})$, it is also possible to recur to another type of plan which emphasizes more the dual thesis $\zeta^{+}(\bar{A}^{+}) \wedge \zeta^{-}(A^{-})$. Such a type of plan proves to be close to the classical dialectic plan and stresses on the dual thesis of the considered thesis, e.g. ζ^{+}(*eclecticism*$^{+}$) $\wedge$ ζ^{-}(*compartmentalization*$^{-}$). Such a type of plan presents then the following structure:

1. Thesis
1.1 The advantages of *expertise*$^{+}$
1.2 The dangers of *superficiality*$^{-}$
2. Dual thesis
2.1 The necessity of *eclecticism*$^{+}$
2.2 The risk of *compartmentalization*$^{-}$
3. The necessary synthesis between *eclecticism*$^{+}$ and *expertise*$^{+}$, and *superficiality*$^{-}$ and *compartmentalization*$^{-}$

to that of the initial thesis. The dual thesis, which serves here as a basis for dialectical reasoning, presents by its simple or well *n*-complex structure a more elaborated nature than the traditional antithesis.

Lastly, it proves that the classical dialectic plan allows to overcome an antinomy existing between two concepts, which serve respectively as a support to the thesis and to the antithesis. It consists most often of A^+ and $\bar{A}^-$, of A^0 and $\bar{A}^0$, or well of A^- and $\bar{A}^+$. Most of the time, it consists of a dual or antinomical pair of concepts which present the property of being lexicalized. Conversely, the matrix-based dialectic plan constitutes the expression of a dialectical move of the thought which allows to go beyond a threefold antinomy: the one existing at the same time between A^+ and $\bar{A}^-$, A^0 and $\bar{A}^0$, and finally A^- and $\bar{A}^+$, whether these concepts are lexicalized or not.

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