

## ARTICLE

# Integral Thinking and its application to Integral Education

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### ABSTRACT

After the exploration of different kind of thinking skills oriented to discerning complex issues and phenomena, this article argues about the need to use a new modality of thinking, defined as integral thinking. Based on the holonic theory and on the proprieties of the holons and their part-whole relationships, the paper proposes and characterizes integral thinking, a kind of thinking that is holistic but also has span and profundity, going beyond conventional Aristotelian epistemic-inspired ways. Integral thinking joins in a single model the assets of premodern, modern and postmodern thinking systems; and helps in going beyond the nowadays syncretism of many perspectives. Integral thinking is the kind of thinking appropriated to the contemporary need to think integrally in science, culture, professions, and arts or about the evolution of personal consciousness. It's useful also to be applied in the diverse professional fields, especially when comprehensive approaches are needed. Integral thinking can be used in holistic education and pedagogies. The use of integral thinking in the educational *actuality* can help to characterize the integral education practice and agenda.

## 1. Introduction

In the information age in which we live is especially pertinent understanding thinking skills and their relevance in the systems of thought. Thinking skills are required in all the applied fields like education, psychotherapy, leadership, and organizations, among many other ones, as well as in the acquisition of personal consciousness. Today there is an increasing need for thinking well, an authentic art. We use the word 'art', from the Latin *ars*, because thinking can be understood also as a *tekhne*, the Aristotelian Greek word for art. Effectively Aristotle<sup>[1]</sup> proposed three kinds of *episteme*: *episteme theoretike*, *poietike*, and *praktike*. Each one has intellectual character<sup>[2]</sup> and represents, therefore, a kind of thinking. The first

one allows thinkers to create theories, which conduct necessary outcomes, as is the case of theoretical predictive sciences. The second one allows the *poiesis* of different possibilities, which are separated from the thinker too. The *episteme praktike*, instead, is oriented to the *phronesis* and centered in the agent, in order to guide the *praxis*, the ways of acting. Aristotle introduced also the *nous*, "that grasps die self-identical essences which are objects of first philosophy"<sup>[3]</sup>, involving "the complete identity of knower and known, which represents the ideal to which human noetic activity aspires"<sup>[4]</sup>. All those modalities together form, in his system, the *Sophia*. "On Aristotle's view, *Sophia* is a combination of *nous* and *episteme*"<sup>[5]</sup>, which requires, therefore, the contribution of different modalities of thinking. The combination of these modalities can be

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described as wisdom<sup>[6]</sup>. A challenge for contemporary Psychology is how to define a system able to include all the Aristotelian thinking modalities: the more conventional *epistemes*, but especially the less treated *nous* and *Sophia*. This is the first purpose of this study.

It's a very relevant issue because Modernity, commonly considered, promoted rationality in the generalized *episteme theoretike* style of thinking. Modern schools and universities trained students in this kind of thinking, the one that De Bono<sup>[7]</sup> summarized in the sentence: "I'm right, you are wrong". Other concomitant characteristics of the modern worldview (like specialization, the predominance of analysis, fragmentation in disciplines, etc.), maybe helped to promote real progress, but couldn't encompass the total complexity of the human experience. To approach more complex views, disciplines like phenomenology, for instance, have to include in their methodological process the phenomenological reduction<sup>[8]</sup>, in order to allow the possibility of thinking about subjective matters without being influenced too much by the established conventional theoretical ways.

Additionally, problems today are multifaceted, cross-disciplinary, human-centered, and rarely solved through simple or linear solutions<sup>[9]</sup> and for that reason, we need in our time many different kinds of thinking to deal with different kind of problems and phenomena. For instance, de Bono, aware of the western predominance of logic-formal thinking, presented six flexible modalities in his well-known model of the six thinking hats<sup>[10]</sup>: logic (black), emotional (red), creative (green), factual (white), positive (yellow), procedural (blue). Thus, another question may arise: Are there, in this perspective, all the thinking modalities represented? Our point of view is that, although this approach is useful in the kind of thinking needed in the creative arena of problem-solving, it doesn't exhaust all the possible options of thinking.

In order to complete the map of thinking modalities, and on the other hand, there is a new intellectual need in our postmodern societies: thinking about complexity<sup>[11]</sup>. That means to keep in mind at the same time diverse features: subjective-objective, biological-cultural, scientific-professional, and so on. New ways of thinking, going beyond unidirectional modalities, have to be proposed to create comprehensive systems of thought about complex situations. In that sense, Wilber<sup>[12]</sup> proposed the integral theory as a map for the different dimensions of human consciousness. We can inquire if there are corresponding modalities of thinking to the integral approach. Especially interesting would be to find out what are the modalities available in the advanced stages of consciousness. And because the integral theory has experimented a very gen-

eralized application in different fields<sup>[13]</sup>, understanding the new thinking skills associated with it arises as a very relevant issue.

Wilber<sup>[14]</sup> additionally advocated for the need that a significant number of people arrive at the second tier of conscience. If this number would reach the 10% of the human population, Wilber explains that there would be a no return point and the humanity, as a collective, would make a big change in the collective consciousness and values<sup>[15]</sup>. If the styles of thinking taught at schools are based in the modern and in the Aristotelian thinking modalities is not strange that nowadays only maximum the 5% of humanity arrives at these advanced stages of consciousness<sup>[16]</sup>. And with only positive, wishful and creative thinking, the preferred postmodern modalities, there will be no significant advance. It's thus necessary to characterize a new modality of thinking to be used in advanced stages. Another purpose of this study is how to characterize this advanced modality of thinking independently of any religious or philosophical tradition, nevertheless with the potential to be recognizable for the different traditions, as a meeting point, where diverse people could meet and share advanced systems and models about the human consciousness and experience<sup>[17]</sup>.

## 2. Descriptive Characterization of Integral Thinking

### 2.1 Advanced Modalities of Thinking

A list of advanced modalities of thinking, ordered by correspondences in the spectrum of consciousness<sup>[18]</sup>, includes:

Logic-formal thinking. Piaget<sup>[19]</sup> studied and described operational-formal thinking, and documented its development. This kind of thinking makes use of mental operations, which are interiorized actions, and is applicable to solve mathematical and scientific problems.

Mythic-religious-cultural thinking. Religious and philosophical premodern traditions developed systems of thought around the relationship of the individual with the cosmos. Worldviews (cosmo-visions) are implicit in all human cultures. Each culture has its own belief systems, which often include the mythological sphere<sup>[20]</sup>. The collective cultural representation allowed massive cooperation and was necessary for the development of larger societies, developed from the original survival clans. These representations use imaginative human capabilities<sup>[21]</sup>.

Rational, dialectic, rhetoric thinking. Aristotle, as has been explained, systematized different kinds of thinking. On one side the rational-dialectic thinking. Formal forums were developed, and western thought grew in different

fields by exercising rationality: science, law, medicine, organizations, ethics, aesthetics, and so on<sup>[22]</sup>. The new psychological paradigm for the study of reasoning integrates psychology of reasoning with the study of judgment and decision-making, including degrees of uncertainty. Subjective psychological value or utility and social pragmatics are playing a central role<sup>[23]</sup>. On the other hand, Aristotle<sup>[24]</sup> systematized as well the *tekhnē retorikē*, the rhetoric thinking: An art of persuasion, will-mobilizing, employed to produce eloquent discourses. The purpose of this art is different from dialectics but utilizes also reasoning abilities.

Design-oriented, creative, positive thinking. Gardner<sup>[25]</sup> established creative lines of development parallel to the Piagetian logic-mathematical one (spatial, musical, linguistic, kinesthetic). In turn, De Bono<sup>[26]</sup> presented the creative and positive modalities of thinking skills, as an alternative to logic-argumentative kind of thinking. On the other hand, Bereiter & Scardamalia<sup>[27]</sup> systematized design thinking, which is proposal oriented, prototype developer, and socio-critical based. There is a dynamic relationship between thinking modalities and mental states. For example, creative thinking can be influenced by mindfulness meditation<sup>[28]</sup>.

Symbolic-spiritual thinking. Jung<sup>[29]</sup> introduced the concept of symbol distinct from the concept of sign. While a sign is like an instrumental tool of the mind in order to communicate well-known realities, a symbol canalizes psychical energy from the Jungian collective unconscious. The brain, in the Jungian view, not only processes signs but also has symbolic capabilities. The symbolic thinking is necessary for evolution, from literal-mythic-cultural systems to a more personal, experiential kind of religiosity-mysticism. Gardner<sup>[30]</sup> documented inter and intrapersonal developmental lines, that use symbolic competences, especially the intrapersonal one.

Post-formal, vision-logic thinking. Sinnott and Commons & Richards<sup>[31]</sup> proposed postformal thinking, as subsequent stages after the Piagetian. Botella and Gallifa<sup>[32]</sup> described this postformal thinking as contextual, relativist, organicist and studied their contextual dependence. Wilber<sup>[33]</sup> named this kind of thinking as vision-logic because unites logical with symbolic capabilities. This thinking depends on experience and has his own development: Systemic, metasytemic, paradigmatic, meta-paradigmatic<sup>[34]</sup>. Intuition, in advanced modalities of thinking, has an impact at the moment of taking complex decisions<sup>[35]</sup>.

Thinking of the “branches”, spiritual advanced, metaphysical thinking. Ashlag<sup>[36]</sup>, a Jewish Kabbalah rabbi, proposed the language of the “branches” to talk about metaphysical concepts. As it were a tree, some complex

metaphysical concepts belong to the “roots” but, in order to talk about them, is necessary to develop a special language of the “branches” in order to share knowledge. This kind of thinking is necessary to understand some metaphysical concepts and is difficult to be separated from metaphysical content. It is the kind of thinking used in the relationship between a spiritual teacher and his/her disciple.

Integral thinking. Sharing traits with symbolic, postformal, and metaphysical modalities of thinking, there is the option of a kind of thinking aimed to amplify and concrete the possibility to think about complex matters, in the scientific, professional, cultural or personal arenas, without metaphysical reference. We’ll describe and characterize it with the name of integral thinking.

## 2.2 The Need for Integral Thinking

The last years have seen “leading thinkers in many fields of scholarly endeavor (including complexity science, ecology, education, futures studies, integral studies, philosophy, psychology, spirituality studies, and systems theory) claim that the fragmented, mechanistic and materialistic ways of thinking of the last century are no longer sustainable. As Einstein put it a century ago, the significant problems we have cannot be solved at the same level of thinking with which we created them”.<sup>[37]</sup>

The aforementioned need for having a kind of thinking aimed at thinking about complex issues is another argument to justify the demand for new ways of thinking. There is a need to develop “attempts to open futures thinking out in all possible dimensions to embrace the new thinking and knowledge patterns that are emerging across the breadth and depth of the global knowledge terrain”.<sup>[38]</sup>

In that sense, Wilber<sup>[39]</sup> formulated the already mentioned integral theory of human consciousness and evolution. This theory joins in a single model the premodern, modern and postmodern legacies. The theory defines four quadrants covering subjective, objective, inter-subjective, and inter-objective fields of human experience. In order to interact intellectually with those fields, which are operating at the same time, and especially for the elevated levels of consciousness, we need to characterize a new modality of thinking: the integral thinking. Although the integral theory has been fully studied as a map for thinking<sup>[40]</sup>, there has not been developed yet a system of thinking according to the need to think in the framework of this knowledge.

In order to think globally, there is the designated as ‘holistic thinking’<sup>[41]</sup> (for example in holistic medicine), which promotes thinking about the whole human being instead of thinking about isolated parts. “The whole is greater than the sum of its parts”, affirmed Aristotle<sup>[42]</sup>.

But the relation between the ‘parts’ and the ‘whole’ will need more detailed exploration. Which are the parts? What is the relation between a single part and the whole? In which conditions one part can be at the same time part and whole? Is there any relationship between a part of a part and the corresponding part of the whole? All these questions are unresolved in generic ‘holistic thinking’. Holistic thinking can be another way to name the first stages of vision-logic or post-formal thinking, inside the Aristotelian epistemic framework. To approach all these questions and to surpass the Aristotelian conventional-episteme-related views there is a need for integral ways of thinking.

### 2.3 What Does ‘Integral’ Mean?

‘Integral’, coming from the Latin ‘*integralis*’, signifies “composed of parts that together constitute a whole”<sup>[43]</sup>, and/or that all the parts are necessary for making the whole entire and complete<sup>[44]</sup>. There is another trait when a part is denominated as integral: It means that it’s a necessary, essential or fundamental part<sup>[45]</sup>. A general trait of an integral approach can be found by joining the diverse meanings: Because the whole has to be complete, it requires an equilibrated, balanced, and irreplaceable presence of the constituent and essential parts.

As a verb “to integrate” could mean “to make whole or to make complete; to make part of a larger unit; to join with something else; to unite”<sup>[46]</sup>, especially from similarities. The word “integrated” means composed of parts. “Integer”, with reference to a person or a system, means entire (comprehensive), literally or figuratively, complete in itself.<sup>[47]</sup> In this last case could mean with a “character” or adhesion to a set of principles. When we use “integral” as an adjective the meaning is wider than “integrated” or “integer”. The essential parts have to be balanced to create a united entire whole.

“An integral approach is inclusive and does not privilege particular parts over others; rather, people judiciously and with careful deliberation fuse relevant parts into new entities so as to address the complexity of the situation”<sup>[48]</sup>. The combination of the parts will be able “to get a new whole that provides the complexity required to address the unique situation”<sup>[49]</sup>. The resultant whole will be an emerging outcome. “By using the term integral, we foreground concepts of inclusivity, holism, pluralism, and reverence”<sup>[50]</sup>.

It’s the case of integral thinking as a modality of thinking about complete, comprehensive and balanced relations in part-whole issues. We need this kind of thinking because it is necessary to distinguish between an integrated approach (syncretism of different perspectives) from an

integral one, as we will explain.

Integral thinking is useful to think about complexity. Complexity is composed of two independent dimensions:<sup>[51]</sup> differentiation and integration. Wilber<sup>[52]</sup> considered complexity as a continuing process of differentiating and integrating. Although these capabilities are necessary for complex thinking they are not sufficient to characterize the thinking about comprehensive complex realities. For that reason too, we are introducing integral thinking.

## 2.4 Definition of Integral Thinking

### Holonic theory

Wilber introduced the concept of the *holon*. According to the holonic conception, the reality is not composed by wholes nor have parts, but is composed by unities whole/part or holons<sup>[53]</sup>. Any entity or unity of consciousness can be understood simultaneously as a whole or a part, any unity of consciousness, simple or complex, is a holon.

Holons create hierarchies, organizing reality by increasing profundity and transcendence. On the other hand, holons establish heterarchies of similar holons, defined by holonic equivalence<sup>[54]</sup>. Profundity and span are two complementary aspects of holons. Holons are forming a holarchy<sup>[55]</sup>. There are holons (whole/part) in the biosphere, in the biosphere, and in the noosphere. Wilber proposed 20 tenets that the holons accomplish<sup>[56]</sup>. Among them, there are the dimensions of the holons. Each holon has four dimensions<sup>[57]</sup>.

Agency. The tendency to be a whole. Aristotelian *entelechy*, morphic field (Sheldrake), canon (Koestler), relative autonomy and completeness, yang. It manifests the tendency towards self-preservation, autonomy, self-responsibility, self-esteem. It assumes in this sense fixed forms or patterns, among which there are the 20 tenets. Wilber named this dimension as ‘deep structure’. In pathological forms, it’s manifested as alienation and repression. It’s the part of the holon that gives structure or is structuring. Oriented towards improvement and optimization, has an agent character.

Communion. The tendency to the relationship, to create bonds, participatory, to express their partnership, the ability to be part of a whole, attract other parties, relationship with something broader, *yin*, self-adaptation. This dimension can be called *agape* (evolutionary), in the sense of attracting other holons. Pathological forms: fusion and indissociation. Focused on the relationship with other holons, creating relationships of participation and inclusion.

Self-transcendence. Autotransformation, creative novelty, creativity<sup>[58]</sup>, each holon is a new whole/part that has its own new forms of agency and communion. This is the



impulse to experience freedom, to find cohesion and unity through a greater, deeper, and broader totality. Articulation by breaks of symmetry (Prigogine) not by a regrouping of the same. Evolution is the result of self-transcendence, also called by Wilber as *Eros*, that is, Spirit manifested in something else: matter, body, mind, soul, etc. In this dimension, the "telos" or purpose is originated. If self-transcendence is not achieved, "Phobos" (fear, regression, panic, contraction, and repression) is experienced. It is the part of the holon that goes beyond himself, his interior, source of novelty, ability to change. Transcendence assumes that any holon is under an evolutionary drive and presents novelty.

Self-dissolution/self-immanence. The morphogenetic gradient in the manifest field. This means not only a manifest reality with some kind of support in the manifested reality but also the potential to evolve. Preservation of the current level or regression to previous levels. Wilber conceptualized it as the instinct of death or *Thanatos*, a force opposed to *Eros*. Part of the holon that is focused on the preservation of itself, in the maintenance, preservation of the current state.

A representational schema with the four dimensions is:

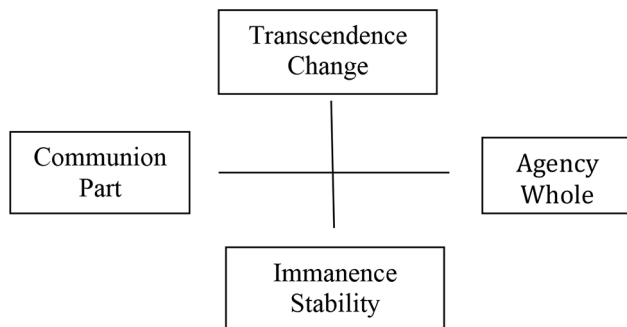


Figure 1. Holonic Dimensions

The holons are organized in a holarchy (hierarchies and heterarchies). Wilber characterized the global holarchy in the following holon: Immanence: objective world; transcendence: subjective states and stages of consciousness; agency: interobjective relationships and systems; communion: intersubjective shared cultural representations. By presenting the holonic theory we don't assume any kind of unnoticed dualism<sup>[59]</sup>.

### Conceptualization of Integral Thinking

Using the human understanding potential, integral thinking is the kind of thinking, which proceeds by following two steps:

#### Holistic consciousness

Identification, perception or recognition of an elevated

holon addressed to understand the human consciousness or experience. The system can be: intellectual, philosophical, mystic-religious, psychological, related to self-knowledge or spiritual. Perceiving and understanding the transcendent dimension is a necessary step, otherwise, the holon wouldn't have the depth required and the system would collapse into a predictive system. Some relationship with a 'lived experience' is also necessary. It can be a perception, a dream, an intuition, a feeling, a sensation, a subjective thought, in short: a subjective holon. That experience has to be interpreted in the framework of the holonic system. In Jungian psychology, this recognition is explained as the operation of the transcendent function that unites consciousness and unconscious. Duality/polarity is a core element of integral theory<sup>[60]</sup>. That means some presence of collective unconscious materials in the consciousness, which can be denominated as the presence of the soul, the inner self, the presence of being or spirit, although there would be, of course, distinctions and clarifications to be made, because these aspects are not exactly the same. That union of opposites gives a sensation of security in the system, of internal truth, equivalent to the Aristotelian *nous*. This consciousness transcends all the previous levels, and there is a sensation of understanding them from the new position. Because transcendence is operating, there is, as a result, advance in profundity and consciousness. An elevation of consciousness is taking place. When this happens, because any holon is a whole, consciousness can be designated as holistic, or holonic.

This level has been described as the change toward the second tier or the systemic level<sup>[61]</sup>, the flexible flow level<sup>[62]</sup>, and there is a correspondence with self-realization (Maslow), integral level (Gebser), fifth order of consciousness<sup>[63]</sup> and autonomous level (Loevinger, Cook-Greuter). It corresponds with vision logic inferior<sup>[64]</sup> and with the paradigmatic post-formal thinking stage. Commons and Richards<sup>[65]</sup> explained that at this stage a paradigm is created and their principles are applied to fields of different systems. Botella and Gallifa<sup>[66]</sup> studied the contextual character of postformal thinking and the difficulties to transfer schemas from one paradigm to another. That requires an additional effort.

### Integral Thinking

Once the previous consciousness is developed for an elevated holonic structure, directed to explain human experience or consciousness, the next step is to advance understanding in depth the holonic traits and proprieties, the dimensions of the holon: immanence, transcendence, agency, communion. The thinking involved can be denominated as integral thinking. It's addressed to the recogni-

tion of the holonic structure dynamics. An important trait of integral thinking is to understand the whole-part relationships in the holarchy, going throughout the different holonic dimensions. Effectively, this second level requires going in depth to the relationship of the particular holon with other similar holons and with the entire holarchy, to understand in depth each dimension and the dynamics of that particular holon in space, time and movement. A consciousness act has the following dimensions: preservation, profundity, projective action and span<sup>[67]</sup>. The increase in these dimensions, especially span and profundity, results in an elevation of the consciousness. This elevation results in an emerging way to approach the experience.

This stage is equivalent to the global vision<sup>[68]</sup>, the consciousness of constructs (Loevinger, Cook-Greuter), vision-logic superior o global mind interparadigmatic (Wilber), interparadigmatic (Commons and Richards). It's characterized by the integration of paradigms and to understand from here diverse complex systems. Gallifa and Botella<sup>[69]</sup> studied complexity as a contribution of differentiation and integration as independent dimensions. This level requires this double effort.

### How Integral Thinking Works

An example of a holistic system in psychotherapy is bio-psycho-social-technical, being: bio (immanence), psycho (transcendence), social (communion) and technical (agency). Thinking integrally about that structure is relating each dimension with other holons and with the whole holarchy, finding the span of the model and profundity in different directions. For instance in what extent the Psychology (transcendence) under consideration is related to the transcendent dimension (the subjective quadrant) in the general holarchy. And the same can be done with the other dimensions. The internal actions implicated in these processes are what we defined as integral thinking. Transcendence is necessary.

The name of integral thinking means to find out the span and profundity of each dimension, making it communicable by reasoning. The first holistic level is more individual and contemplative oriented (consciousness), the second level requires the possibility of sharing it in a community using language (thinking). Integral thinking makes explicit what is implicit, by using the human capacity of understanding.

Although integral thinking is phenomenological in spirit, it's not enough to apply the phenomenological reduction<sup>[70]</sup>, nor the eidetic. An implicit trait of integral thinking is that the eidetic process follows a general configuration. It utilizes as a guide the holonic structure, filling it with content, and using concurrently all the rest

of modalities of thinking. The general holonic schema corresponds to a natural phenomenology of the consciousness<sup>[71]</sup>.

The relevance of integral thinking is that allows thinking outside the schema "I'm right, you are wrong" characteristic of Modernity, and at the same time avoids the necessary reference to the authoritative sources of the premodern perspectives. Another asset is that goes beyond the relativistic thinking so characteristic of postmodern thought. Integral thinking doesn't substitute all of these modalities, but amplifies possibilities by thinking in a fourth way: the way of developing a thinking art (*tekhne*), complementary and integrating (excuse the repetition).

Integral thinking is an art, a *tekhne*. As an art, the production can be understood as an object outside the agent, and there is more than one possibility because it's oriented to *poiesis*, being a product of an *episteme poietike*, instead of an *episteme theoretike*, as is the case of the logical-argumentative thinking. Integral thinking, because achieves profundity in diverse dimensions and span, causes elevation of consciousness to a next level. Additionally by actualizing the *telos* contributes to the advance of human evolution.

The structure of integral thinking can be represented as a cross, circumscribed in a circle. This representation unites completeness (circle), meaning span, with four directions (cross), representing deepness in each direction. Is the simplest representation of a universal figure: The mandala. Integral thinking has a mandala-like structure. It's the thinking version of this universal internal-external form.

### Finding the Holarchy in the Holon, Understanding the Holarchy from the Holon.

To understand and describe how the level of integral thinking (span and profundity in the four dimensions) can operate is particularly relevant. As it was proposed, the starting point is a particular identification of an elevated holonic system. Once identified, integral thinking proceeds to discover and describe the different holonic parts. Integral thinking involves going in depth in the different dimensions:

**Transcendence.** Is the necessary part that allows change and novelty. Is important to detect in any approach the *telos*, the actualization of new possibilities. That means to have a dynamics open to the new, to the future, that is not only a mechanical repetition of the past. For example, the presence of the subjective dimension can, at any moment, make evolve a complete system (consciousness, cultural, technical or scientific of any kind). Without transcendence, there is no possibility of an integral approach.

When transcendence is reduced, the approach collapses into a predictive system.

**Communion.** This is the relationship with other holons. Is the sharing dimension, the presence of *agape*. Sometimes these relationships are not totally conscious and are manifested as worldviews, ways of understanding, language constructs. Is the world of implicit meanings, cultural rules, superego rules, limitation of human space or relationship with others.

**Agency.** Structure and unity of the holon and the potential to be projecting the internal structure to the exterior objective world. It can have the form of knowledge of the group. It can be a projection, transforming environment according to an objective, application of skills of any kind, competences, talent, knowledge of a group. It can be also an interpretative tradition shared by a group.

**Immanence.** Stability, persistence, habits, biologic conditionings, repetition of past schemas and patterns, the trend to preservation, that can include the possibility to preserve the good as in resilience.

Integral thinking allows finding the holarchy in a concrete holon and the other way round: to understand the whole holarchy from a particular holon. The holon more inclusive provides *telos* to the less inclusive. An example can be the Kabbalistic thinking that promotes the study of nested worlds, like Russian dolls, ones inside the others, all with the same characteristics. The same form can be found going from inside to outside, and vice versa.

The relations that integral thinking focuses on are:

**Table 1.** Relationship Holon-holarchy

To find:	A: Holon-holarchy	B: Holarchy-holon
1. In the part the part	The part of the holon has the same traits than the part of the holarchy	The part of the holarchy has the same traits than the part of the holon
2. In the part the whole	In the part of the holon there is the presence of the whole holarchy	In the part of the holarchy there is the presence of the whole holon
3. In the whole the part	The whole holon is a part of the holarchy	The whole holarchy is a part of the holon
4. In the whole the whole	The whole holon has the same qualities that the whole holarchy	The whole holarchy has the same qualities that the whole holon

Let's provide examples from different contexts in some of the cells. We could provide similar examples in the rest of the dimensions of the table:

1A. For example, the holistic psychotherapy presented. Saying bio (immanence) we have to apply the correspondent part of the whole holarchy (Wilber holarchy): Objective (immanence). That means objectivity of scientific

findings. Integrating the findings of neuroscience to psychotherapy can be an example of this point.

3B. In the same example of the holon of holistic psychotherapy: Transcendence is psychology. In the psychological approach considered we have to find the whole holarchy. If a representation of the holarchy is the Wilber model, that would mean the characteristics of the psychology required, which needs to have the four dimensions: Object (I), Subject (T), Interobjective relationships (A), Intersubjective ones (C). The question for integral thinking can be: Does the approach consider scientific, subjective, cultural, and technical consciousness and evolution?

4A. Considering a medical specialty as a whole, and a specialist who knows in depth a system in the human body the thinker. Integral here means to apply the whole holarchy traits to the specialty. Knowing for example how the subjective, cultural, technical, scientific evolution traits can influence the whole particular biological system studied.

4B. An example can be found in the sentence: "A catcher of the rye" written as a title of the best seller of Salinger<sup>[72]</sup>. In this sentence, there is the presence of the whole message that the author wanted to communicate. The role of the book as a "catcher" of children by avoiding their fall in a precipice, a symbol for helping to maintain the infantile spirit in the described adult society characterized by the hypocrisy of customs and darkness in the real motives of the behaviors described in the book. A single sentence can contain all the condensed thinking of the author.

The purpose of integral thinking is to reflect on these relationships in order to have a more complete and balanced perspective, to evolve to a more elevated level of consciousness, and to develop an emergent way to deal with the particular experience.

This approach doesn't contradict the Aristotelian sentence: "the whole is greater than the sum of its parts". That principle is true in realities with minimal transcendence, but integral thinking, by considering transcendence, goes beyond this sentence without invalidating it. Integral thinking contemplates the relation part-whole and holon-holarchy in a broadened, more complex and complete way.

This approach explains well why syncretism is neither holistic nor integral. It can be, for instance, more truly 'integral' to belong to a tradition and going in depth to the holonic dimensions of the system, that merely adding perspectives without concern in transcendence and without span and profundity. The integral thinking goes beyond syncretic postmodern thought.

### 3. How Integral Thinking Works in A Thought System

Integral thinking can be applied to any problem, situation, art, science, or level of conscience, whether individual or collective, that involves human experience. As far as the application of integral thinking to a system of thought is concerned, first of all, the holonic schema has to be identified. Integral thinking results in an all-inclusive, transcendent, organizing, resilient art. That means that span and profundity should be considered. As any art (in the Aristotelian sense) more than one outcome is possible. The object (product of integral thinking) is an artifact (*art-factum*), the product of an art, which can be described as made by an integral art. Integral education produced integral educated individuals, integral medicine integral care and cure of patients, and so on.

How an integral system of thought can be identified? There are according to the development made four criteria for the system of thought considered:

1. Does the system have a holonic structure? All the dimensions have to be represented.
2. Is there in the system transcendence related to experience? There is the transcendent function. The system is holistic and not merely syncretic.
3. Are there relationships with other holonic systems? Is a proof of the character interparadigmatic. The system has 'span'.
4. Are there relationships with the whole holarchy through relationships whole-part? It's the specific trait of profundity in the different dimensions, a characteristic and necessary trait of integral thinking.

### 4. Integral Thinking and Educational Actuality

#### 4.1 Holistic Education as A Potentiality

Gallifa<sup>[73]</sup> characterized holistic education from the traits of a holistic consciousness act. In this study, holistic education was characterized by the presence of an evidence-based program, technical-metacognitive projective action, the promotion of evolved cultural values, and an orientation to personal consciousness evolution. Holistic Education in this way defined is a *potentiality*, in Aristotelian terms, a field of pedagogical possibilities.

Nevertheless, the *actuality* of Education in the educational practice needs an adaptive kind of interaction to manage these cited dimensions of holistic education, using thinking skills in the practical arena. This *actuality* of the educational practice needs the special thinking skills that we characterized as integral thinking. Integral think-

ing is used to ponder these dimensions, balance them, sometimes deciding in seconds what decision to make in the practical context in order to integrate the four logics.

#### 4.2 Integral Thinking in Educational Practice

Education is an *actuality* in space, time and movement. Holistic educational practice will benefit from the application of integral thinking because integral thinking is based in part-whole relationships that can be projected in the particular educational situation, composed by singular students, particular educational environment, and a holistic approach based in holistic consciousness. Using integral thinking between each one of the mentioned four dimensions of holistic education and the corresponding part of the whole holarchy (1A case of table 1), we'll obtain four logics:

##### Orientation to personal consciousness acquisition:

Each human being has subjectivity and the possibility to develop diverse developmental lines as well as making evolve their self-system of consciousness. As has been explained, a particular system to understand the evolution of consciousness is necessary but, to a certain point, all systems share general principles. The levels of desire define the personal evolutionary level<sup>[74]</sup>. The logic of sharing is more evolved and elevated than the logic of receiving for oneself alone. This dimension allows diversity in metaphysical, spiritual, religious, or philosophical options. Nevertheless, all of them share a wide common ground, around the common humanity of teachers and students. In addition, from the point of view of the student, the teacher is situated in the place of genuine sharing regardless of the system for understanding the evolution of consciousness is considered. Without this subjective dimension, education wouldn't have transcendence and therefore the approach wouldn't be holistic.

**Evolution in values/culture:** Each school or classroom is a human group and, as such, shares collective values. Diverse institutional logics are at work, institutional procedures, norms, and regulations. And all of them reflect implicit values. The evolutionary logic here is that dialogic values and styles of social interaction are more evolved than authoritarian values. Sometimes these values are unconscious because they are expressed implicitly in routines and in unquestioned procedures. On the other hand the relationship of the school with the environment is also part of this logic. Schools can be part of networks, where there is also an exchange of giving and receiving. Democratic and dialogical systems of values are more evolved. Although democratic learning may be slower, this extra time is usually necessary to make possible the evolution in the group values.



**Evolution in learning of the knowledge shared by a group:** This logic is about the acquisition of competences and techniques to develop a profession or to acquire more general competences useful for the practical life. This dimension manifests the presence of the societal needs and the logic of evolution of human life through productive capabilities<sup>[75]</sup>. Competence-oriented education is important and necessary. It's the 'learning by doing'. A wide range of abilities can be learned in this dimension. Even spiritual techniques can be understood as competence-based, like for example the case of meditation techniques.

**Content acquisition:** The purpose of any educational system is to guarantee content acquisition of sciences and humanities through specific curriculums. The evolution of knowledge is the evolutionary logic of this point. Therefore the possibility of creating knowledge collaboratively is part of that dimension. Cooperative knowledge building is a more evolved way to acquire knowledge than knowledge transmission. Evidence-based programs have to be part of this educational systems logic.

For having an integral education practical approach, these logics have to be combined with the integral thinking modalities presented. Combining and balancing these logics in the educational *actuality* will cause that the holistic education approach considered, could have the potential to evolve, raise-above and situate the consciousness implicated in an emergent and elevated place. The consciousness implicated in modern schools and universities, as well as the consciousness of the postmodern ones, will be surpassed with that emergent model based in the use of integral thinking, which allows the elevation of consciousness in the educational *actuality* of a holistic education approach.

## 5. Integral Education

Education can be formal or informal, more planned or less. Each teacher or each student is at the same time a whole and a part (both can be recognized as holons). Integral thinking applied to education can be understood as a combination of all the parties (comprehensive education) and uniting them in a harmonic and balanced way (well-rounded).

To be an integral teacher is necessary to apply integral thinking to the educational practice. That means to be transforming these thinking processes into educational *actuality*. This means to be aware of all the dimensions taking part in a holistic education approach and to decide in the educational moments how to combine these dimensions. Especially important is not forgetting that education is about educating whole human beings. An integral teach-

er uses integral thinking to find the opportunity to amplify and elevate consciousness.

Integral education, in their more general meaning, can be understood as the emerging process of combining, by using integral thinking, the following future emergent trends in a comprehensive and well-rounded way. These trends are the previous four logics, now evaluated and projected towards the future, in inverted order:

**Establishing a new relationship with knowledge.** Educational systems, in Modernity and Enlightenment, focused on the transmission of knowledge from the empirical sciences. All the disciplines aspired to their scientific status and the model of specialization prevailed. The university also assumed the function to advance knowledge through scientific research. These roles, together with the extension of industrial societies, led to the teacher-student relationship becoming more vertical and transmissive. Today, however, technology facilitates access to knowledge as well as horizontality and the possibility of collaboration in the construction of knowledge. Educational systems will need to assimilate this potential. At the same time, for the acquisition of knowledge, it will be necessary to work on the basis of the evidence from educational research. With this evidence, the objective of reaching the diversity of all students and optimizing equity can be better approached. In this sense, the evolution of artificial intelligence, from which we are already beginning to see applications, will probably contribute to individualize and universalize learning and contribute to evaluating it more effectively.

**Creating a closer relationship between education and life.** The dynamism of society and the world outside of the schools and universities will have to cross even more the walls of the classroom. One of the essential dimensions must be a greater approach to the diverse and changing professions. This is the dimension of the master-apprentice relationship and must be fully incorporated. This implies taking into account and privileging the field of human will, which pushes the motivation to improve and contribute to the human environment. For that reason diverse approaches will have to be incorporated: the logic of the Arts, the perspective of the human action and work, the ability to propose solutions to real problems and improve them; all in order to better be directing the creativity and talent of students and to develop their skills and abilities. To facilitate this, guidance, coaching or personalized tutoring should be relevant, as well as better knowledge of the potential and singularity of the students to help to promote their vocations.

**Paying more attention to the values of culture and organizations.** The organizations where students learn

(schools or universities) are a model of society and culture, where students are learning collective values and acquire world-views. The culture of the school or the university prepares the culture for the societies of the future. Education is also training of future leaders and citizens. It will be necessary to promote schools or universities with more dialogical values, cooperative styles, and less vertical structures, which will be more evolved than the institutions we have inherited, too hierarchical and bureaucratic. This is the logic of the evolution of human consciousness for groups and organizations. Here the education of the future will also be able to incorporate the legacy of post-modern sensibility. There will be a need for an education with a truly more advanced consciousness to respond to the urgency and seriousness of the world's problems.

#### **Giving a greater centrality to personal consciousness.**

It will be important also to recover the legacy of the pre-modern traditions that favored the Master-disciple relationship. This is the field of the evolution of subjective consciousness and the development of the inner dimensions. At this point the uniqueness of each person takes centrality. Personal happiness and fulfillment are at stake. The relationship or accompaniment is essential to achieve it. It is the awareness of the centrality of genuine authenticity, love, and esteem as a fundamental element of education. Without this dimension, education would remain as an excessive recreation of the past, without opening up the transcendence of each educational *actuality*. For that reason, we can talk about education and not just about teaching or strict instruction. To make possible this dimension we will have to use the common language of integral education to share the contribution to the development of consciousness coming from different traditions.

As has been argued, each educational event is composed, more or less consciously, for each one of these logics, which are also dimensions of human evolution. We propose for the future the integral education, which means a holistic educational approach where the previous dimensions have been taken into account in a conscious, balanced and coherent way.

## **6. Conclusive Thoughts**

We described and defined integral thinking as a modality of thinking to deal with complexity and the different kind of relationships whole/part. Integral thinking is a structured form of thinking, based on the holonic structure and dynamics, which goes beyond the Aristotelian principle that 'the whole is greater than the sum of its parts'. It transcends it without negating their application in systems created by *epistemes*. Integral thinking operates defining the parts and the relation between them and the whole.

Grounded in the holonic theory, is not merely holistic. It requires the consideration of the holonic structure but also to understand qualitatively the parts, and especially the relationship between other systems and parts/whole relations, including the relationships with the whole holarchy.

The adequate characterization of all the holonic dimensions is a distinctive trait of integral thinking. By going in depth in the different dimensions, transcendence included, integral thinking helps in increasing the profundity and to the elevation of consciousness. Pushes and pulls the advance of human evolution in different fields: Individual consciousness, culture, science or arts. Because it requires a high level of consciousness integral thinking is placed in an advanced location among the different modalities of thinking.

Postmodern thinking encourages integrated-syncretic approaches. Integral thinking, on the other hand, implicates span, but also conscious profundity. Integral thinking allows postmodern thought to escape from syncretic relativism and helps Wilberian integral approaches to integrate the assets of premodernity, modernity, and post-modernity in one system of thought. The integral thinking core aim is to facilitate the evolution of human consciousness throughout the whole holarchy. In addition, integral thinking is useful to identify and/or to create integral perspectives in different fields, a contemporary true need.

Integral thinking can be applied to holistic education projecting part-whole relationships into the *actuality* of practical educational contexts. The result will be the evolution of the educational system considered to a more elevated level of consciousness. The emergent educative practice can be denominated as integral education.

In addition, integral thinking can help to the purpose of defining the dimensions to be considered in integral education practice and its agenda for the future.

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