

It Only Takes Two

*«Without contraries there is no progression.
Attraction and repulsion, reason and energy,
love and hate are necessary to human existence.»[1]*

What happens when you go up?
Every up implies down, because you cannot go upwards forever.
Every mountain top has its downslope, whatever.

«Surely, bees and flowers may look different from each other. But one cannot exist without the other — in essence they are interrelated, interdependent parts of one ecological supraorganism.»[2]

God created words and inspiration.
Devil created numbers and calculation.
Neither one is to be discarded or elevated.
Both are needed, — inner and outer, balance and counterbalance, — for the life to function properly.

But note: where both aims, the aesthetic and the technical, were pursued together, it had the happy result of producing that harmonious relationship between the subjective and the objective life, between spontaneity and necessity, between fantasy and fact which made for the beauty called Renaissance.

And when one could move easily along the pole of seemingly exclusive oppositions, they called him Renaissance Man.

Why? What's going on here?

I.

Modern western civilization in whole and in parts operates within Aristotelian-Newtonian habits of thought. «Traditional» separation of art and science happened only in XVII century — technology and materialistic scientism won. Since then people turned their backs upon religion and philosophy and art. Epistemia became a new religion.[3]

This paradigm was entrenched by Rene Descartes and Francis Bacon, and later was validated by numerous achievements of science and technology.

Epistemological culture created false idols of technical perfectionism and rational progressivism, celebration of a businessman and denigration of a poet.

The biggest lie of the Western alphabetic-literate rationalism is that Truth can be found [essentialism] rather than made or experienced. Found through uniform deterministic formulas rather than through pluralistic and multiform experience. See, the very language is not free from rational authoritarianism, it relies on oppositions.[4]

Visible results of rationalism are professional bureaucracies based on principles of McDonaldisation, Fordism/Taylorism — simple, effective formulas that make businesses profitable and people dehumanized.

KISS — «Keeping it simple, stupid», keeps people stupid and easily manipulated. No wonder that to the manipulated people normal, curious human being looks like Renaissance genius with capital G.

II.

«Autonomous machines and servile people, de-humanized and disconnected from their values and purposes.»[5]

What does it look like, this Aristotelian worldview?

Look around.

It is a worldview of rigid causal sequences, not human purposes.

It is forgetting that beautiful flower comes with a bitter root.

It is a blessing, repeated once too often, that becomes a curse.

It is Data over Virtues.

It is Episteme over Metis.[6]

It is Quantity over Quality.

It is Knowledge over Action.

It is Reason over Imagination.

It is Parmenides over Empedocles.

It is External Progress over Internal Regress.

It is the worldview of the Sorcerer's Apprentice who can't find the way to turn the machine off.

It is the worldview of either/or and yes/no dualisms which obey concrete formulas of delusional managerism.[7]

Alienating fragmentation of Cartesian-Newtonian worldview «reduces realities to such bifurcated polarities and either/or antimonies» which make very smart people to—

Conquer outer space.

Only to succumb to inner chaos.
Produce marvelous entertainment.
Only to discover more potent anti-depressants.
Design a perfect physical order.
Only to add new mental disorders to evergreen DSM.
Be charmed by materialistic scientism.
Only to find that communities of practice and conviviality deteriorate.[8]
Invent smart machines and Virtual Reality.
Only to face constant grade inflation in schools and the Real Reality getting nasty.
Engineer powerful extrahuman corporations.
Only to left behind a small individual without an agency.

—and a man is becoming an exile in mechanical world where only machines can live.

This worldview enhances the totalisation of rigid instrumental rationalism — reason and progress create uninspired, dehumanized systems where bivalent filters of Aristotelian binary logic rule the living matter.

To succeed in mechanical world of Cartesian-Newtonian habits of thought one must himself become a subsidiary machine. Hence, the humanization of the machine (strong AI) is a sister phenomenon of the mechanizing the humanity.

III.

«*What is your Conceptual Continuity?*»[9]

Leonardo lived before the great Split (Descartes/Newton), which shattered natural philosophy into multiple sciences. He thought laterally and symbolically, which was the usual *modus operandi* in his days. No wonder we view his case as unique — we live on this side of the great Split.

However, Leonardo was not unique among his contemporaries, he was simply the best painter and the most enigmatic character.

Leonardo was not a Renaissance genius, because Renaissance science was literary rather than empirical endeavor. One would have to know classical rhetoric and cite hot authors (Plato and Aristotle) to call himself a humanist scholar back in 1400th. Leonardo did not received formal education, he could not read Latin or Greek classical texts — he even called himself *omo sanza lettere*, «the unlettered man».

Leonardo was among the first Europeans to employ modern scientific method before modern science was established 150 years after his death. This is because of his background in Florentine *bottega* culture (Verrocchio's workshop) where art, science and design were equal parts of a daily routine.

Leonardo greatly admired Filippo Brunelleschi, Renaissance architect, engineer and goldsmith who became a scientist. His life and career Leonardo emulated after another *uomo universale* (versatile, universal man) — Leon Battista Alberti, an architect and a lawyer, writer, musician and mathematician.

This wide range of knowledge was common in Florentine society of the XV century. Artists, composers, merchants, warriors and statesmen were competing with each other to become a new human ideal, most widely educated person. They read classical texts on geography, philosophy, mathematics and discussed science in public. Hollywood of Florence was nerdy.

Even among them Leonardo was famous for his penchant for experiential knowledge:

«But first I shall do some experiments before I proceed farther, because my intention is to cite experience first and then with reasoning show why such experience is bound to operate in such a way. And this is the true rule by which those who speculate about the effects of nature must proceed.»

...systematic observations:

«Before you make a general rule of this case, test it two or three times and observe whether the tests produce the same effects.» (Manuscript A).

...replicability and repeated measurements:

«This experiment should be made several times, so that no accident may occur to hinder or falsify the test.» (Manuscript M).

Later in life Leonardo would say *«Facile cosa e farsi universale»* — «It is easy to become universal» — meaning that for a person who knows how to connect dots, wide range of knowledge is not a big deal. This is very alien concept to modernity.

Leonardo was fascinated with whirlpools: he saw the dynamic vortices as the essential characteristic of life, interplay of stability and motion.

In his experiments and observations Leonardo always looked for similarities, whether in macrocosm of the nature or microcosm of human body. His main trick was to draw parallels between patterns and processes: metabolism in plants and growth of the cities, movement of blood in human arteries and flows of water in rivers, form of human skull and architecture of cathedral, perspective of light and movement of sound waves.

Leonardo's interests were constant sets of pairs and triplets: beauty and proportion, music and geology, motion and friction, optics of human eye and perspective of light, dynamics of water and wind, anatomy of human body and mechanics, botany and urban planning, geometry and painting. And he was master of connecting patterns of energy everywhere he saw it.

Aside from his inventions and religious paintings Leonardo was interested in mathematics. Math is much more than equations and formulas. Only after complexity theory and the quantum mechanics modern mathematicians today began to understand that complex networks, relationship patterns and transformations of the living world are purely mathematical.

«All sciences collapse into physics. And physics eventually collapses into pure math.»[10]

Leonardo understood this in his thirtieth, which urged him to study geometry when most people forget it. He was so sure of the importance of mathematics, that in his Anatomical Studies, he proclaimed, *«Let no man who is not a mathematician read my principles.»*

After this scientific turn Leonardo produced even more beautiful art. Because art is science in every possible meaning. People easily underestimate the amount of ground work in arts. One simple landscape appears after hundreds of sketches and less colorful paintings. One tiny poem may require dozens of drafts to achieve even passable clarity. One play is ready for the stage only when the whole theater made it through several months of production and rehearsals. It is an experiment after experiment that makes great work of art. However, public used to overestimate the spontaneity in creation. Each art has its mechanical side, sheer monotony and drudgery.

And Leonardo knew the mutually-influencing relationship of art and science better than everyone — he was a natural wide ranger.

IV.

«We don't need problem solvers, for life is not a problem to be solved, but a reality to be experienced.»[11]

Modern academia encourages split and specialization, widening the Split. Mind-body, self-other, nature-nurture, us-them. Renaissance Manager will be an outsider to the epistemia culture, wide ranger who connects the similarities of separate domains in sciences and arts.

«Success requires 'endeavour' and, above all, a mental dexterity that avoids one-dimensional, single-lens, scientific myopia. The problem has been that 'in understanding organization as a rational, technical process, mechanical imagery

tends to underplay the human aspects of organization and to overlook the fact that the tasks facing organizations are often much more complex, uncertain, and difficult than those that can be performed by most machines»[11]

Renaissance manager would be far from current epistemic apartheid and paradigmatic warfare in academia. He would be a stranger to the intellectual empire of knowledge society that «flushes out knowledge and knowledge flushes out wisdom-in-practice.»

He will embrace paradox and contradiction, fuzzy logic of complex networks, lateral thinking and integrative efforts that close the great Split.

He will stress the primacy of change and flux over fixity and permanence.

He will acknowledge the ceaseless movement and transformation as inherent concept of the world.

He will abandon the mechanistic Newtonian-Cartesian worldview to work within the frameworks of an ecological view, «evolutionary perspective with its emphasis on networks, complexity, and patterns of organization.»

He will be able to recognize the interconnectedness of all phenomena.

He will work on several problems simultaneously and move freely along the ladder of abstractions.

«Richard Feynman was fond of giving the following advice on how to be a genius. You have to keep a dozen of your favorite problems constantly present in your mind, although by and large they will lay in a dormant state. Every time you hear or read a new trick or a new result, test it against each of your twelve problems to see whether it helps. Every once in a while there will be a hit, and people will say: "How did he do it? He must be a genius!"[12]

But this can only happen in times of crisis, when paradigm shifts encourage substantive cultural change, major displacement of thinking habits and speech patterns.

Renaissance worldview will work when people began to value:

Ecological Flux over Rigid Identity.

Holistic Mapping over Mechanistic Analysis.

Mental Flexibility over Cognitive Constipation.

Experience and Action over Knowledge and Being.

Cooperative Cohesion over Competitive Environment.

Self-organizing Fractal Networks over Vertical Hierarchy.

Asymmetrical and Non-linear over Centralized and Focal.

Correlative and Harmonizing over Causal and Linear.

Polytheistic Tradition over Monotheistic Modernity.

Vortices of Leonardo over Newtonian fixity.

To embrace the science of Leonardo the Renaissance manager has to think of action as simple doing instead of knowing, becoming instead of completing, perpetual starting instead of eventual finishing.

V.

And he would paint delicate watercolors, obviously.

Notes:

[1] *William Blake.*

[2] *Alan Watts.*

[3] *Epistemological culture, western epistemia — preoccupation with knowledge-creation and knowledge management, knowledge-intensive industry, knowledge-based firms and knowledge workers dedicated to 'lifelong learning' results in a form of epistemological (knowledge based) servitude. It wasn't always so and it doesn't have to be so.*

[4] *Even the fabric of most Western languages is made of this Aristotelian causality, logocentric thought which «relies upon a series of dichotomies of opposition.»*

Hear, phonic — one-dimensional, rational, causal, literal meaning. The photograph is black or white. «If and then, premise and conclusion.»

What about the Eastern systems of human speech?

See, ideographic — multi-faceted overlapping meanings, organic, irrational. Chiaroscuro of narratives and sfumato of discourses. «Horse, candle, spring and carp.»

[5] *Marshall McLuhan, Lewis Mumford.*

[6] *Episteme (epistemic rationalism) as in abstract, theoretical knowledge — top-down, context independent, objective and generalized. [science, technical praxis]. Metis as in direct experiential knowledge, local craft or skill — bottom-up, context sensitive, highly localized. [art, cultural hexis].*

[7] *John Kenneth Galbraith.*

[8] *Ivan Illich.*

[9] *Frank Zappa.*

[10] *Lou Keep.*

[11] *Soren Kierkegaard.*

[12] *Gareth Morgan. Images of Organization. Sage Publications, 1998.*

[13] Gian-Carlo Rota. *Ten Lessons I wish I had been Taught*. MIT, April 20, 1996 on the occasion of the Rotafest.

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Inspired by the giants with active minds, who traveled freely across multiple domains:

Archimedes and Eratosthenes, Douglas Hofstadter and Michael Polanyi, Peter Drucker and E.F.Schumacher, Frank Zappa and Karlheinz Stockhausen, Alexander Vvedensky and Fernando Pessoa.