

The role of Art and Science in Relational Dynamics of Human Ecology

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ABSTRACT

The proposal of this paper is articulated as follows:

- Recognize Human Ecology as a reference of everyday social practices, from knowledge to the management of living environments;
- Consider ternary ecosystems Man Society Environment as complex disordered systems, relational dynamic structures, which interact with corresponding disordered systems and share the intrinsic prerogatives that unite them in the multiplicity of their becoming.
- Respond to the looming threats of mechanical simplification of spontaneous evolutionary phenomena progressively stifled by the Artificial World in which Ecosystems (Humans and Nature) are now immersed.
- Rediscover conditions of creative autonomy and appropriate stimuli for the Ecosystemic, unceasingly manifold becoming.
- Rediscover in people and human societies a sense of belonging to their Living Environments and the ability to manage, protect and promote their evolution, in an experiential dimension of Action-Research and self-Governance, beyond the current stereotypes of traditional politics and instrumentation and the new constraints posed by the Digital World to the World of Nature.
- Verification through cyclical self-monitoring of the processes activated (Action-Research) and their evolutionary and propagation potential in the different contemporary contexts of the ternary M/S/E Ecosystems affected by the Digital World

Keywords:

Living-Environment, Learning-Processes, Human-Ecology, Ternary-Ecosystems, Knowledge,

1. INTRODUCTION

We will thus deal with these complex issues by following a path together with artists, philosophers and scientists and all the people who participated in our itinerary, starting from the physical *complex disordered systems* and arriving at *ternary ecosystems* that we can refer to human groups and their living environments that, through everyone's efforts, can maintain their quintessential, relational autonomy.



Fig.1 J.Cage, G.Bateson, P.Klee,G.Deleuze,Leonardo da Vinci, G.Leopardi

The path of Human Ecology unfolds in the interconnection between theoretical elaborations and human/environmental experiences, in the continuous intersectioning of their becoming.

2. DISORDER AND COMPLEXITY AS COMMON ROOT AT THE ORIGIN OF EVOLUTIONARY DYNAMICS

Our planet lives within the multiplicity of the cyclical, continuous becoming of universe, tank to the inherent dynamics of living matter from which ever new configurations and transformation processes unfold.

The continuous interactions among multiple, differentiated and heterogeneous entities -physical, biological, geographic, cultural, economic, political- that participate jointly -being equally involved in the dynamics of the Biosphere- originating on their turn new and new Resonances and Relationships as in a *Sinfonia Concertante* or in a “*cosmic dance*” as suggested by P.Klee.

Ecosystems form and live,coexisting and mutually interacting within the Common Womb of the Biosphere. Their dynamics, incessant and variable, involve all the *disordered complex Systems* of our Planet, from the most elementary (physical systems) to the molecular biological systems (Cyanophites) till the hyper-complex Ternary Systems Man/Society/Environment (M/S/E)

All of them participated in the evolutionary dynamics of the Planet, that have led the living species to optimize their states of balance based on cyclic chains of interactions with the different living environments (perception-experience-mutual interactions, mutual belonging and so on) necessary for their survival, their continuation and the establishment of Knowledge, specific for each species. (knowledge of species). Humanity, like all other living species, has ensured survival and continuity but, unlike these, has always introduced new levels of interaction with living environments (ecosystems) generating unexpected dynamics and cyclical chains of *human perception-experience-knowledge // new knowledge, new perception-new experience//...* giving rise to a *peculiar evolutionary process of knowledge* that has involved the human species in an increasingly turbulent unstoppable becoming.

This all thanks to the capacity for abstraction that has made it possible to 'explore the world' by reaching its most extreme dimensions, to the point of recognizing or creating 'abstract entities' by exercising with B. Spinoza, the “*infinite power of thought*” to which to refer relationships gradually created in

ecosystems, enhancing the 'chain reactions' and resonances already present in nature, and thus making human ecosystems increasingly complex. So it is with art, physics, mathematics.



Fig.2 Karl Marx, *Das Kapital*

But from these abstractions has been coined a new entity not present in nature: the Money, that heavily interferes with Ecological relationships through -Economy-Finance, Money-chain reactions extraneous to Nature.

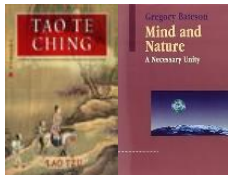


Fig.3 Lao Tze, G. Bateson

The treatment of this topic has been addressed by many scientists, philosophers, and artists from whom the 'inspirations' and stimuli to the phase of transitions of the complex disordered ecosystems in which we work come from, but it requires in-depth studies that cannot be addressed in this article.

3. THE KNOWLEDGE

The Human Knowledge, constantly and progressively stimulated by an indissoluble intertwine of arts, religions, sciences, technologies, economies, became a protagonist of many other evolutionary processes, being able to evolve autonomously, *accompanying, supporting and influencing the evolutionary dynamics of nature and its ecosystems.*

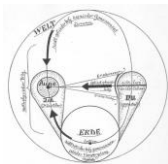


Fig.4 P.Klee, here evokes the ecotone mind/nature in which the 'appearance, the 'objects' of the earth' are related in a «cosmic common dynamics» in the sacred unity of the world . Paul Klee, *The figurating thinking* (It, 1959, vol.1, pg.67)

As we have seen the components of the aforementioned inseparable intertwining emerge from the depths of Nature and manifest themselves through the imagination and abstraction inherent to the human mind, generated within it and capable of creating new evolutionary dynamics within the “*Necessary Unity*” of our living environment. (Fig.3)

3.1 Interactions among Arts and Sciences: Relationships /Rationality and vice versa

We then wonder: what Knowledge is, what role does it play within the evolutionary processes of Nature, how it transforms and evolves within the ternary systems /Man/ Societies/ Environment? With what stimuli and modes?

In light of the countless experiences of human thought (philosophy, art, science) interconnected and mutually engaged in continuous, mutual learning processes, we could recognize Knowledge as a new ecological interface (*ecotone*) capable of stimulating new relational dynamics, complex non-linear flows and autonomous and unpredictable Mind/Nature Processes.

3.2 This Interface on its turn participates in the evolution of Ternary Ecosystems

In this sense Knowledge could be considered a *product of the relational ecosystem dynamics* characteristic of all living environments of our Planet (Product and Producer at the same time).In these living environments, all these phenomena

continually and cyclically manifest themselves as Baruch Spinoza, elaborated five centuries ago highlighting the processes that lead Human Knowledge to form and evolve.

Today Spinoza brings us to acknowledge the “*Adequate Knowledge*”, the knowledge auto produced, propagated among people, growth and cyclically implemented, as a fundamental tool to approach the evolutionary processes throughout the complex Man/Society/Environment Eco-systems

3.3 Art and Science spin and weave Relationships in Ternary Ecosystems, and evolve, with Knowledge.

Spinoza's philosophical elaborations bring to full fruition the many human adventures experienced over the centuries by a multitude of Scientists, Philosophers and Artists, as well as by a multitude of People who have taken part in the complex entanglements of our ever-growing becoming.



Fig.5 A recent book of G. Parisi ,2021

We must now achieve a greater awareness of Mind/Nature interactions, recognizing our membership in the ternary systems of Man/Society/Environment as part of the dynamic structures of the living world. Today, their evolutionary paths have intersected with the paths of contemporary Physics toward the recognition of the common structure of *complex disordered systems*, from physical to natural to human, as we have seen in the extraordinarily important discovery of the 2021 Nobel Prize in Physics, prof.Giorgio Parisi.



Fig.6 B. Spinoza "You see, therefore, why and in what way I believe that THE HUMAN BODY IS A PART OF NATURE. As for THE HUMAN MIND, I also consider it A PART OF NATURE because I affirm that in NATURE, there is also an INFINITE POWER OF THOUGHT, which, being infinite, objectively contains within itself ALL of NATURE, and its THOUGHTS proceed in the SAME MANNER as NATURE..."

But today the living world is threatened, just in its relational quintessence and risks to disappear.

4. THE ARTIFICIAL WORLD IN EVOLUTIONARY DYNAMICS

Now the artificial world of industrial and digital technologies pervades every ecosystem (even the biosphere) and tends to dominate the dynamics of nature by opposing :

- **Circuits of technological digital production// Cycles of nature**
- **Quantitative hierarchical differences //Interactive qualitative diversities**
- **Indoctrination imposed by hidden powers// Cyclical experiential Learning processes**
- **Power of triviality of all technologies// Potency of natural complexity**
- **Linear mechanics //Cyclical dynamics**

Nevertheless, in this condition, Art and Science, in interaction with humans, can still stimulate and generate complexity in the ongoing evolutionary processes, encouraging new relational/experiential dynamics attractive and involving towards the Ternary Ecosystems in crisis, where disorder and complexity remain at the root of their manifold becoming.

5. TOWARDS THE RESTORATION/RE-FOUNDATION OF TERNARY ECOSYSTEMS IN A CRESCENDO OF COMPLEXITY

Throughout our Human Ecology experiences we have testified that circular-ternary approach can be re-introduced into the contemporary *Systems* (political, cultural, economic, social and technological) and can be concretely experienced in a wide range of participatory processes, throughout cyclical Action Researches, modelled on each Ecosystem Man/Society/Living Environment.

Experiences, Action-Researches, new Dynamic Equilibriums, new Management Autonomies, Promotion, and Ecological Protection can re-start specific Ecosystemic Dynamics among Living Environments, Populations, and Institutions, always in tune with the rhythms and cycles of Nature, ensuring human control towards Artificial World.

Some cases of Ecosystemic Action Research, ranging from the level of the local dimension to the territorial metropolitan dimension, are presented here, and from them an additional level of Comparative Action Researches among different experienced cases could be developed.



Fig.7 People in fight

6. THE LOCAL DIMENSION OF ACTION RESEARCHES

Everyday struggles to counter environmental degradation and transformations caused by natural disasters or authoritarian political decisions are usually obstructed or ignored by Public Authorities.

For these reasons, specific Action-Researches are developed, which go beyond simple opposition and traditional Projects and Planning, towards alternative ecological approaches that bring to light new levels of ecological relationships by restoring or fostering new Ternary Human/Society/Environment Ecosystems.

On the basis of these traumatic conditions it is possible to develop an awakening of the peoples in struggle that can give rise, in addition to the assertion of their rights, to processes of ecological recomposition of the desires and tensions manifested in the affected populations, initiating and encouraging spontaneous micro activities and territorial experiences, autonomously promoted by participants encouraged by scientific-technical promoters. In this way, can be achieved unexpected ecological configurations of the Ternary Systems involved.

7. EXPERIENTIAL PROCESSES ON URBAN, RURAL LIFE ENVIRONMENTS



Fig. 8a
The ploughing.

7.1-The Collective Kitchen Garden- Calenzano in Metropolitan Florentine Area

(by Roberto Menichetti, and Lorena Passerotti)

It's a reality which, concerns both safeguarding the territory and being supportive. It's the collective garden *NATURE IS*, proposed by two local associations five years ago. Today it is an important experience in vegetable production and a small solidarity market carried out in collaboration with groups of young immigrants hosted by a reception centre, and exchanges with farmers from Central Italy after earthquake 2016. The Garden promotes the protection and care of abandoned lands but also cultural and social promotion.



Fig.8 b
Working in the field

Seminars and friendly exchange and mutual learning meetings are held periodically in conjunction with cultivation and harvesting activities. Over these years, some public lands have been reclaimed and put back into production, where agricultural activities oriented towards the Ecosystemic promotion of the urban/rural living environment in the Calenzano area (Florence Plain in Tuscany) are practiced.

7.2-The La Pica Garden and urban Kitchen Garden - Mirandola -by Patrizia Casari and Giorgio Cavazza

In the small town of Mirandola (Emilia Romagna Region, North Italy) a No-Profit Association founded and realized the *La Pica Garden* and developed a *Kitchen Garden Area*, both organized around the small town Mirandola destroyed by the 2012 strong earthquake. The two experiences achieved interesting and integrated outcomes towards people, life environment and political government, playing a fundamental role towards the citizens in search of new reference points (aesthetic, cultural, social, economic) after the 2012 earthquake. Today the Garden is appreciated as a very stimulus to cultivate culture, agriculture and social consciousness, while the Kitchen Gardens became a fundamental encouragement for the renaissance of the devastated town.

A very micro revolution, towards a concrete management of the Public Common Goods is in course at any level

(solidarity, income taxes and services, mutual interaction of social works and cultural initiatives). A very autonomous Governance is still successfully developing.



Fig.9 The garden in full bloom.



Fig. 10 At School in the Garden.

8. THE TERRITORIAL METROPOLITAN LEVEL

8.1 Landscape City

The Landscape/City is intended as a new holistic configuration of Rural/Civic contemporaneous life–environments, that can be a nucleus and a mover of the in-becoming Life Environments, a place where the multiple webs of the town are closely entwined around the environmental texture.

A holistic configuration which equally involves the territory, the living spaces, the single Persons and the Social Communities reciprocally linked and ecologically balanced can emerge as an aesthetic catalyser of new Projecting Processes, toward a better quality of life.

The very Nursery of such relationship are the both, Territory and its natural aesthetic Configuration.

A complex and multiple system of Relationships where the Action–Research of Persons and Community play a fundamental role, just as reference points to their whole environmental contexts that contain and harbour both the City and the Landscape.

If in such a condition the two would be related each other and involved in reciprocal dynamics they could constitute a new

entity able to harbor and nurse an in becoming human /environmental context

Suitable examples of such a complex condition can be found along the ancient ages among a lot of Italian territories (rural and urban) spontaneously defined, designed or planned as autonomous complete settlements, usually enabled to organize their environmental resources and territorial structures as a whole organism (water, food, energy, cultivations, roads, forests, rivers, canals, aqueducts).

In Tuscany and in Italy such realities (ranging from small villages or town, to little parts of urban or metropolitan areas) are still alive and manifest throughout the habits, experiences and life styles of their citizens even if they are overwhelmed by the impelling globalization.

Within such realities a lot of Communities improve their knowledge, experiences and projects that could open the ways to different configurations of Landscape City.

On this base we consider that multiple versions of Landscape City are possible and can be realized within such socio-environmental conditions, according to various procedures, that can continuously take shape on each territorial reality throughout evolutionary participative processes

8.1.2 The Landscape City of Capannori - Tuscany

The contemporary contradictory condition of the territory of Capannori appears in comparison with the ancient Map (1846, Fig.11) the area of ancient transhumance and herd shelter has turned into sprawl in spots, even occupying many agricultural soils of a larger wetland area that is still expanding today.

The Municipality of Capannori today stretches between two high-hill areas and lowland wetlands, remnants of an ancient lake.



Fig.11 The rural Territory of Capannori in Tuscany , 1846



Fig. 12 Capannori plain today constitute a large rural – civic life environment, founded on a network of little ancient villages and rural areas, all related to hilly landscapes and historic Farms and Villas.



Fig. 13 The hill's Landscape is still well maintained

8.1.3 A proposal for a sustainable evolution of this territory

Today, the hilly landscapes have been protected from the aggressive recent transformations, but the plain has been progressively invaded by factories, new residences, while the ancient roads have been invaded by a dangerous traffic, (like urban motorways).

The quality of life of the local community is exasperated, while the territories became a sort of *dumping periphery* for all kinds of undesirable activities of the wider surrounding area (agriculture, traffic, industry, urban waste incineration).

Such increasing diseases provoked a lot of creative reactions among the citizens (zero waste /circular economy, alternative management of the traffic) realized by permanent spontaneous Laboratories for a responsible participation in the public management of their territories.

The re-composition/re-organization of the micro local initiatives through a communitarian territorial experience towards a new Landscape economy has been discussed and proposed by experts and participants throughout an Action – Research process (2013-2016).

Such a collaborative- responsible condition suggested the idea of a new ethic/aesthetic Life Environment, considered as a potential Common Good where solidarity, economy, beauty, reciprocal learning can be interweaved by a continuous interactive action –research practiced among Citizens, Public Bodies, other Institutions, local Owners and Operators.

As represented in Fig.14,15 we can see the town Centre, bounded in red among the two opposite green hills, the wet lands and the dispersed small rural villages. New relationships as urban rural ecotones and a mini people mover connect villages, hills and town centre (central area and people mover-arrow in red)

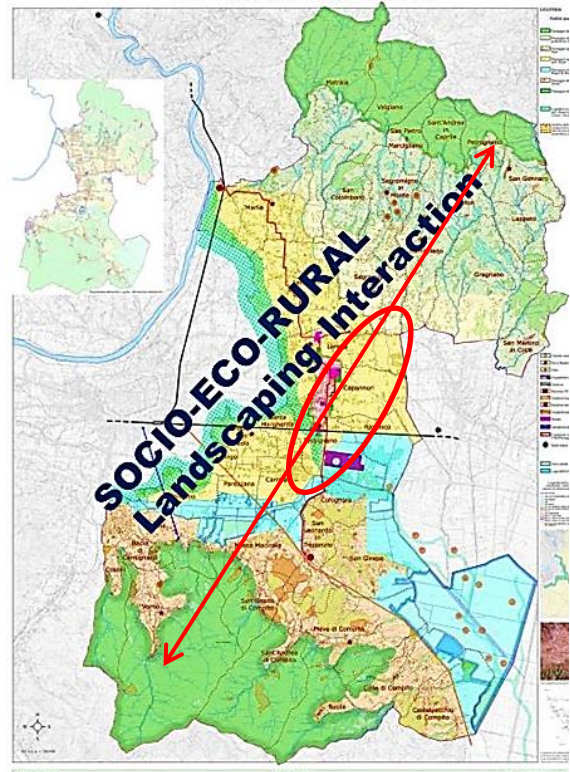


Fig.14 The town Centre, the two opposite green hills, the wet lands and the dispersed small rural villages.re-connected through new relationships

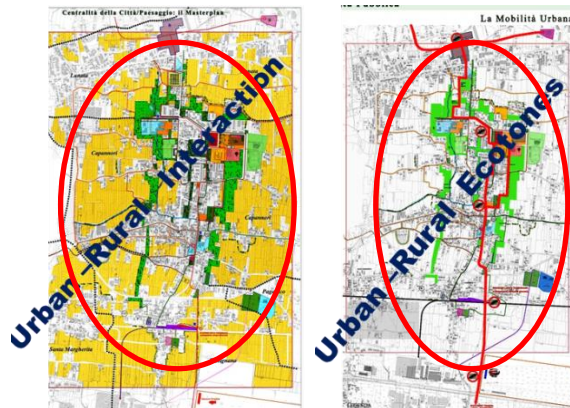


Fig.15 Rural ecotones ,(in green) establish new urban rural interactions

This holistic vision lead the Groups and their supporters to a new configuration of their Life environment as Landscape City, rural and urban at the same time, where complex social dynamics interact to turn the present situation into a new condition, where the Rural Contexts (partially abandoned or hyper exploited) and the small Urban Dwellings (peripheral urban fabric) could be re-organized as Landscape Ambits (villages, mountain, hill, plain, underground water and wet areas mutually linked and ecologically integrated) where the contemporary rurality and the urban activities co-exist and create a new quality of life within a *new evolutive Bioregion*. The Groups of citizens, expert and promoters of the *Filiera Corta Market, Zero Waste management, Alternative Mobility* could propagate and intensify their activities as territorial *Project Laboratories*, arriving to give rise to an unexpected and

appealing living environment to be built together throughout new Action Researches and Ecosystemic Relationships.

An exciting perspective!



8.2 The Panaro River/Landscape Contract-Emilia-Romagna Region, north Italy

Faced with the degradation and profound alteration of the river environment of the middle Panaro (excavations, energy plants, destructive exploitation of riparian vegetation) groups of citizens and local cultural structures (Museums, Schools, Associations) have countered a radical claim for the quality of their living environment and its rendering as ecological renewal, offering themselves as guarantors of the rediscovered river ecosystem.

From here, a Cultural, Economic, Ecosystemic process was activated, uniting the riparian Municipalities in a complex journey, the outcome of which was the establishment of a self-constructed River/Landscape Contract by the entire Group that participated. This is the outcome of the first cycle of the Group's activities that led the Public Administrations¹ and Citizen to ratify the Contract and start its management, in a new way of Governance to be exercised in the River, Rural and Urban Area identified in the course of the ecological experience gained on that territory.

Ecological and participatory approach based on culture and competence of the involved people and has been developed throughout :

- *Friendly learning*
- *Cyclical experiences*
- *Process balances Feasibility*

going to a new configuration of the River Landscape at the same time, Ecosystemic, Legal, Administrative, and Managerial that has materialized through a Landscape River Contract.



Fig.16 Citizens at work in survey



Fig.17 The local solidarity Effecorta Market



Fig. 18 The panoramic view of Panaro River

¹ The Municipalities of VIGNOLA, SAVIGNANO, SPILAMBERTO

8.2.1 Toward a new configuration of the River Landscape

The Contract is articulated from the new Structure of Relationships between Riverine Areas and Urban Structures giving rise to flows of people, economies, and nature that constitute a structure of multiple Relationships between different components. In this way a settlement mode, which we have called City/Landscape, is configured to express the deep and conscious interaction that can be structured as a Public Act of land planning guaranteed by a Statute.

The Ecosystem is the backbone of all configurations of the City/River Landscape while the Contract Statute governs the internal Relationships progressively self-generated in the Living Environment within the Contract context.

8.2.2 The friendly learning approach

All of these heterogeneous individual, social and environmental components, with their different characterizations, motivations and potentialities, flooded together and aggregated in a whole working group.



Fig.19 The Group of Participants

Through their reciprocal interaction the participative group merged, ready to start the next further activities!

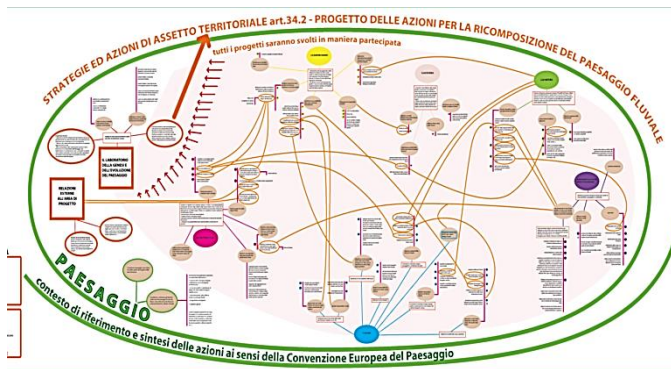


Fig.20 The Hive (l'Alveare)

In this phase the group worked intensely on the questions which were just came to light.

A constructive exchange led us to a progressive valuation of the multiple potentialities of the context (ecological, cultural, scientific, educational, economic). Such potentialities were recognized in their mutual Relationships and referred to specific Territorial River Areas as a dynamic interactive network of Landscape-Actions. This interactive network assumed a specific configuration –spatial, temporal, programmatic and relational at the same time- to represent the collaborative conditions - cyclical, dynamic, and *operose*- as the ones of a *living creative Hive*.

In this *Hive* Thematic Actions, Program Processes, Public and Social Operators, everyone with his activity, capability and helpfulness, suggestions and proposal, could be placed .

In this way the dynamic network of activities, locations and interactions were mapped.

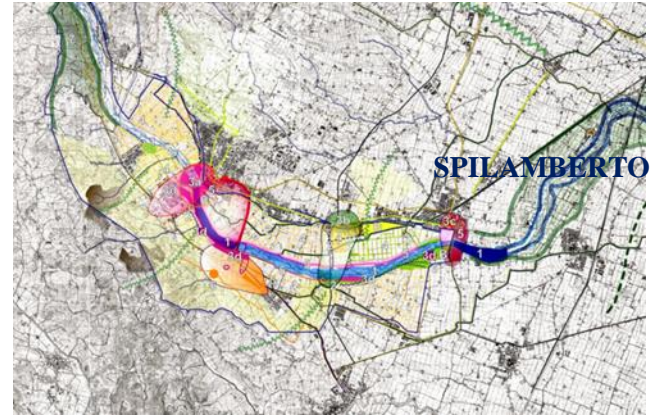


Fig. 21 From the creative Hive toward the territory. Location and propagation of the network on the river-landscape valley, expanded, like a rhizome.

-All the actions mentioned above have been concretely related to the significant or problematic places along the River territory, as we represented on the territorial map (Fig.21). In this depiction natural conditions, and human activities form a double interweaving structure

From this interweaving a new Action/Place Context came to light to constitute a new contemporary Fluvial Map where the landscape processes ramify and can be triggered.

The Map of such Action/Place Contexts shows the dynamic character of the whole project, where a wide range of Landscaping Actions and their multiple strategies are focused and located on the following different places.

See the picture (Fig.21) from the left to the right:

- The requalification of the river
- The reorganization of rural areas
- The new relationships between the urban peripheries, the river, by new public green bridges and fringes
- The eco-public services of phito-depuration
- The revaluation of the ancient Medieval Canals
- The activation of relationships between Schools and River
- The protection of the Fluvial Biodiversity and Ecological Networks
- Solidarity Markets Agriculture for organic foods
- Archaeological rediscovery itineraries

All of these Landscaping Actions have been conceived as the very *movers* of the Contract, able to work in a reciprocal continuous synergy and coherence. Such a figurative depiction of the whole participative activity included a suitable graphic elaboration to facilitate both the acknowledgement and self-appreciation of *all of the* participants (Technicians, Experts, Groups of Citizens) who had taken part in the experience.

On this non-conventional Map they could recognize the accomplishment of the whole common activity in terms of Values, Strategic Choices, Landscaping Actions, going on to focus the Objectives of the Contract.

To make the Contract effective and concrete we needed some further elaborations, in order to refer the in becoming Landscaping Action-Researches to *specific procedures* and *defined places*. Such elaborations have been developed in two ways: *Thematic Actions* and *Project Matrices*



Fig.22 a PROJECT MATRIX graphic SAMPLE: The green bridge between the SPILAMBERTO Centre and the river

The thematic actions referred to the crucial cross areas between towns and river have been specified and exemplified more in depth by specific Project Matrices

descriptions dedicated to these areas

All of the Thematic Lines and Project Matrices have been discussed with Participants to verify their feasibility and the opportunities of Social Management related to Public Works, Urban Planning and Financial Problematic.

The proposal of the Contract has been appreciated by the whole Group of Participants as the only suitable means to assure the continuity of the participative Learning Action-Research, which has been unanimously considered a fundamental achievement of the whole activity.

The thematic actions constitute the Core of the Contract in terms of Programmatic Governance.

Each thematic action is dedicated to defined activities (realizable, feasible or in course) practicable by different Social or Public Bodies.

In this way all of the thematic lines (water management, ecological network, agriculture production, sustainable mobility, environmental rehabilitation of urban peripheries, encouragement of social and cultural activities) can be directly promoted or encouraged by the Participants.

Social Groups, Municipalities, Public Managers, Schools, Museums, are equally engaged to guarantee the coherent development of the Contract and its sustainability.

All of these participants are going to constitute the Board which will become the Official Staff of The Contract .

In this perspective we accomplished our final strategic step to guarantee the continuity of the process which we had been developed together: the Landscape River Contract.

9. BEYOND THE ILLUSTRATED EXPERIENCES, TOWARDS A FURTHER EVOLUTION OF KNOWLEDGE IN TERNARY ECO SYSTEMS.

In the last point of our proposal we highlighted the need for a cyclical verification of the development of the activated processes operated through an internal Balance Sheet within each experience. From the different Balances carried out within each experience, we extrapolated the common elements and acquisitions to assess the development of the activated processes and their potentials -evolutionary and propagation- in the different contemporary contexts with respect to the World of Ternary Ecosystems (of self-produced M/S/E Relations)- and the Digital World (of Technologies, Finance, Economics, Artificial Intelligence) influencing Nature and Human Mind, as illustrated in the following point.

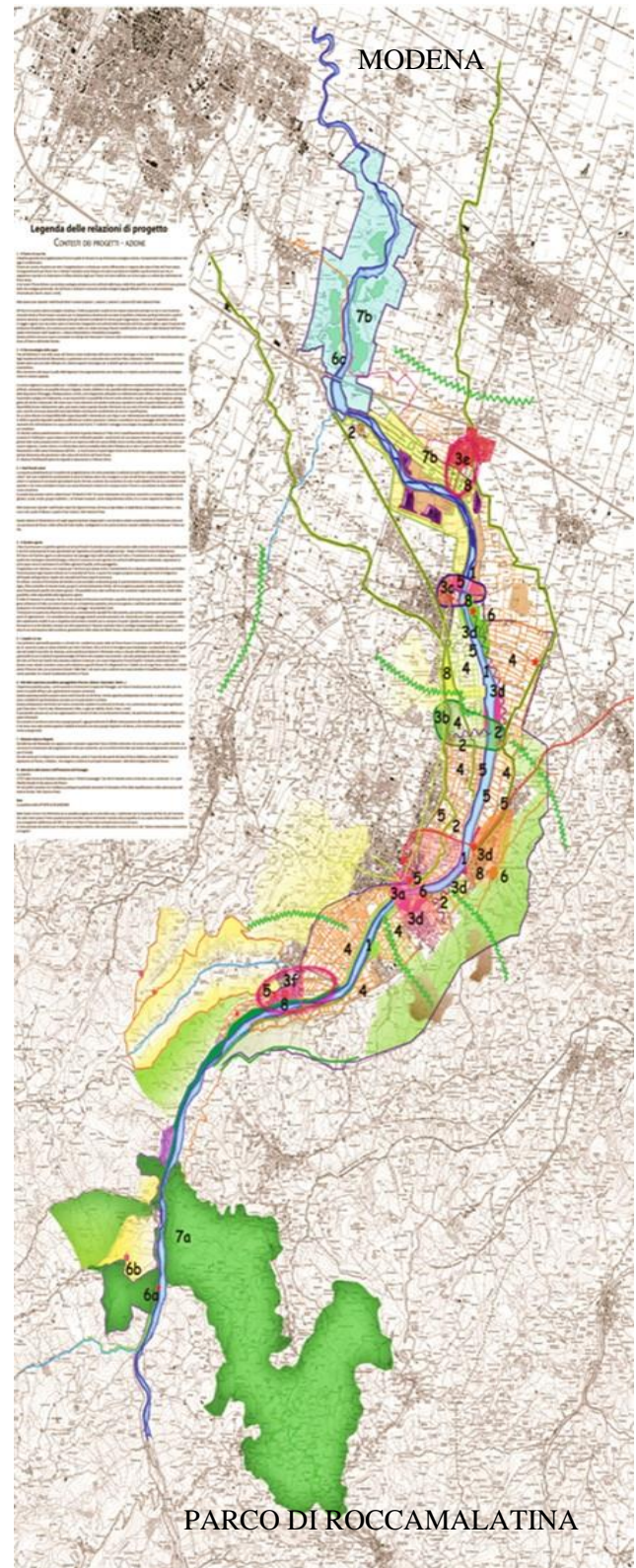


Fig.23 The latest map of the extended RIVER CITY/LANDSCAPE has matured in the becoming of the River Contract, which now encompasses the entire Middle Panaro area, with its five river municipalities Marano, Vignola, Savignano, Spilamberto, and San Cesareo, between the city of Modena and the Malatina Park at the base of the Apennines.

The Processes we have illustrated highlight a kind of constellation of experiences in a labyrinth of Relationships from which a multiplicity of Ternary Ecosystems can emerge. These ecosystems -though qualitatively and quantitatively differentiated- manifest the same prerogatives and evolutionary potential.

These ecosystems are also variable, as each expresses its own openings to becoming that have matured in its process. And, as happened in nature before us, the configurations produced in each system are variable and original, enduring or more ephemeral, capable of generating new transitional phases, always different and continuous over time in relation to external conditions and stimuli, or constraints, always different.

As we have seen, "inspirations" (stimuli) from the Arts and Sciences remain fundamental in nurturing the intrinsic dynamics of any Ecosystem.

In other contexts (IIAS, 2000-2022; Cognitonics, 2011-2022, WMSCI, 2023) we have seen that everything that is happening and can happen in Contemporary Ternary Ecosystems takes place in the incumbent presence of the Artificial World.

In such a World the dominant forces (Political Powers, Finance, Money, Digital Powers and Artificial Intelligence) are now profoundly conditioning these Ecosystems by attacking them not only in their integrity, but also by affecting their vital quintessence of which they are being dispossessed in order to subject them to the Digital Financial Domain.

For these reasons, we have placed Ternary Man/Society/Environment Systems at the center of our work by bringing to light their original and still recoverable Prerogatives (of producing new Relationships - new levels of Complexity).

All this appears urgent in order to reconstitute - within these Ecosystems - not only new life dynamics, but to identify new dynamics of coexistence between the Ecosystemic World - Mind/Nature - and the Digital/Artificial World, without being overwhelmed but protecting and promoting the intrinsic Prerogatives of life.

Art, Science and Human beings participate with us in these Action-Research processes that unfold freely and creatively in the continuous flowing of their becoming.

REFERENCES

- G.Bateson, **Mind and nature**, u.k. 1980
G.Deleuze, F.Guattari **Capitalism and Schizophrenia**.u.k. 1980
V.Fomichov, O.Fomichova, **International Conference on Cognitonics, 2011-2022, Proceedings** .
K.Hiwaki, **Culture and Economy In the Global Community**, u.k., 2010
Paul Klee, **The figurating thinking** (It, 1959, vol.1)
Micarelli, G.Pizziolo, **L'arte delle Relazioni, Dai margini del caos, l'ecologia del progettare** 2 vols It, 2003
G.Parisi, **In un volo di storni, le meraviglie dei sistemi complessi** It, 2021
M.Pascucci, **Causa Sui**, It, 2009

ACKNOWLEDGEMENTS

We Thank the colleagues who have shared and discussed our experiences; K.Hiwaki, V.Fomichov, O.Fomichova, M.Pascucci, and writing their evaluations: F. .Gravagno, L. Saija, G. Pappalardo