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Public Culture and Sustainable Practices: Peninsula Europe from an ecodeviversity perspective, posing questions to Complexity Scientists

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[I] Peninsula Europe: Introduction¹

Peninsula Europe: The High Ground, Bringing Forth A New State of Mind² is a complex, 300 sq meter exhibition that proposes that the peninsula of Europe, as defined in this work of art, has the potential to unify Europe in a new way. The exhibition has taken place in museums in four countries and the catalogue of the exhibition is published in four languages and has been presented to the European Parliament. Colleagues in the Santa Fe Institute and several European complexity science groups have suggested that their European members would be especially interested in “Peninsula Europe” both as a project and as an aid to thought. The work of this work of art appears to have points of intersection with the work of complexity scientists.³ To emphasize these points of intersection, we set out initially to make explicit our processes of research and expression as artists and then distill the core salient features of “Peninsula Europe.” We have included related exhibitions to supply history and context. “Peninsula Europe” follows a series of projects in which we were invited, as research-based systems-thinking artists, to intervene, or rather to see anew and counter-propose to apparently intractable situations. Often but not always we are invited to address the ecological and cultural aftermath of massive resource extractions from diverse environments whose sustainability has been or will shortly be profoundly compromised. Each of those previous works proposed a response and new proposal to large eco-social systems at risk, as for example the North American Pacific Temperate Rain Forest, the Endangered Meadows of Europe, and the Green Heart of Holland.⁴ The notes below also suggest the differences between an artist’s processes of image formation and those used in the domains of complexity theory, the ecologically based sciences, and policy planning, all of which relate fundamentally to this work.

The formation of ideas about complexity appears to us as a complicated process primarily because these ideas often do not lend themselves readily to translation into other forms of communication. We suspect that complexity theorists also need more grounded modes of comprehension. Our opinion is that if complexity science groups wish to make more comprehensible and concrete the imagery of complex systems, two things are necessary. First, ennobling issues need to be taken up directly. By “ennobling” we mean envisioned actions that most people would accept as *prima facie* good to do, whether or not they believed they *could* be done. Second, we think that new language is needed that makes clear the

¹ This is the second of *Structure and Dynamics*’ thought-provoking series by research-based artists Newton and Helen Harrison (Harrison Studio) on representations of complex eco-social systems that have the iconic potential to alter cultural awareness and behavior toward sustainable human practices. This kind of work, as conceived here, provides a place for synthesis of new ways of representing complex systems science and implementing public-impact projects through art that has ecological and applied anthropology components. The conceptual language and modes of work are described and exemplified herein, with certain conversational modes and redundancies explicitly intended for the sake of comprehension. The role of cultural and behavioral change in relation to art is implicitly addressed.— [Editor’s note].

² Shrewsbury (2007). Parts of this article are a distillation of a proposal that was originally published in Harrison and Harrison (1999). The initial proposal for the work was supported by a grant from the European Union “Culture 2000”, the German Environmental Ministry and four museums in three countries.

³ WissensKünste Projekt (2007).

⁴ Harrison and Harrison (2008)

juxtaposition of culture and ecology in a way that can be easily understood in the context of everyday discourse. “Peninsula Europe” sets out to help provide such language. Thus, readers will note that the language in this work of art is not only conversational but also propositional and its expression often takes the form of a narrative. Within the context of narration the basic form is discursive but the more poetic form is often used for story-telling. These are synthesized with the scientific, particularly the ecological, information that is expressed in discursive form as well as in a narrative form of poetic prose.

We wonder how the social scientists and complexity theorists who deal with networks and large complex systems might approach the ideas expressed in “Peninsula Europe”. The remainder of this introductory section, before the actual work is expressed, is a response by the artists to a request by the editors to unpack or make explicit many of their processes of thinking and working. Hence the reader will encounter various redundancies between the explanation and the work itself. This section, then, is done discursively while the work in following sections, as in general, is presented through the use of metaphor, image and complex storytelling, which are intended to help accomplish the actual work on the ground.

Our choice of metaphor in connection with specific ecological problems is intended to help generate real world outcomes. But to achieve actual transformations or interventions, we begin by requiring an invitation to work within a cultural landscape and the promise of collaboration in networking. This starts by recognizing the present state of the cultural landscape we have been invited into and some insights into how it has been formed (i.e., the built environment is the result of what people have done in the past). We suggest that three concrete examples would shed light on our processes of work, one had the intended consequences and the others where the consequences were in good part unintended. Thirdly and most importantly is what we call the *field of play*. This is a designated place on the ground where consequences play out. Each example embodies certain principles of work, one that focuses on metaphor, another on cultural narratives. The third, the operation of the field of play (as in identifying the problem undertaken in the work), is about boundary conditions and addresses the question “How big is here?”

Any metaphor, by virtue of the beliefs embedded in it, has an implicit narrative structure. Any complex narrative has metaphors embedded in it. In the first example the principle is to work with the implicit metaphors that can be seen to guide human design as they affect the ecosystem. The idea is to identify among them those whose grounding (operation in the physical world) is most dysfunctional with respect to a given problem, and pose alternative intentional groundings. The object here is to identify and work through the consequences of a new metaphor conceived to result in actual physical work in a cultural landscape. The metaphor in this case generates new design, and the story of its working is a narrative. In the second example a new cultural narrative is developed in a series of texts and images within exhibitions that are attended by many with the express intention to modify existing beliefs about the wellbeing of a part of an eco-social system. The initial intention of the narrative is to create a new history that has the possibility of affirming beneficial feedbacks in this system that will in turn create others. The specifics of the actual developments that can emerge within this narrative are indeterminate and cannot be known in advance. The interesting

process at work here is that once a new cultural narrative comes to be accepted, a whole series of unintended consequences can become available. The concept *field of play* is the whole domain within which the cultural narrative and what we call the *metaphorical flip* play out. For instance, both of the examples given operate within watersheds or drain basins and in that sense the drain basin is the field of play. And resolving issues in the field of play is done by us as artists through the use of cultural narratives and metaphors that drive the design of a cultural landscape in new directions, presumably more felicitous, or in a larger sense, less extractive. These are by no means the only strategies employed but they are central to understanding the formation of the work, Peninsula Europe.

Metaphorical Flip in the Design of New Cultural Artifacts. The first example, then, illustrates how intended consequences need to be examined within a larger frame that allows their transformation. Achieved through the recognition of the metaphors that drive the design of any given interactive eco-social structure, this can lead to what we call the metaphorical flip. The basic insight here is that metaphor drives design. One for instance, we were asked to do work for a rather large city on dealing with flooding. Among other things we scan for guiding metaphors or dysfunctional metaphors. In this case the dysfunctional metaphor lies in the observation that if flood control is the engineering processes that generate dykes and channelization to save the city, then “flood control is the destruction of the well-being of rivers.” (i.e., the well-being of the river is traded off for that of the city.) This state of affairs, from our perspective, requires a metaphorical flip that generates an entirely new form of design. We hold that the test of the truth of the metaphor is evident by proposing alternatives. Someone might ask, “Why not choose another metaphor rather than that one?” We could say “How about flood control is the love and caring for rivers, and the maintenance of their habitat?” (laughter). In response to “dikes are about the saving of the town,” we say, we agree, “it is about the town, but it’s also about the responsibility for this river and the well-being of both.” This begins the reversal of a metaphor required to generate a new form of design. Put succinctly, the new or emergent metaphor is that if you address the well-being of both the town and the river, then “Flood control is the spreading of waters.” It’s not the controlling and the imprisoning of waters but the freeing of waters in a way that not only does not endanger but enhances the well-being of the city as well. The new design process is ecological in nature, using the monies that would be spent on diking and channelizing and repairing of the flooding itself to acquire lands in sufficient amount above the city to let the river spread the excess waters there. The outcome takes the city being away from the flood plain and gives that flood plain back to the river in a new locale. The fresh waters and restored riverine ecosystems give benefits not only back to the city, but to an ecology that is newly restored. These benefits go far beyond the benefits of dykes and channels. This is all done by the visualization processes embedded in what we mean by “flipping the metaphor.” Therefore, we note in this example that abstraction in the process of artifact-making must emerge from and be limited by an overall understanding of the concept from which it is abstracted. The more distant the abstraction from its source, the more difficult it is, from our perspective, to credibly and usefully return to the original terrain. For this reason, we attempt in our work to be continually referential to both the humanness of the creative process and to the terrain or object that it refers to. (For the terrain, see Oder River and the Ring of Many Floodplains).

Cultural Narrative and Conversational Drift. The second example illustrates how unintended consequences may emerge from the intention to create a new cultural narrative that addresses eco-political issues. For instance, we were invited to assist in the formation of a nature reserve along the Sava River (for the terrain here, see *Atempause für den Sava Fluss*). Finding this reserve already in a healthy state, though being threatened by the products of the industrialized agriculture along its banks, we chose instead to envision the whole Sava River, from above Ljubljana to its outfall in Beograd into the Danube, as a nature reserve. In so doing, we created a series of images and texts, exhibited often and repeated in diverse languages. They argued for the creation of a new history for the Sava, basically communicating that, while reasonably healthy, the Sava could move to a more pristine state by many small changes. The proposal was accepted by the Croatian Water Department. A young graduate student who was assisting us and working collaboratively with us on the river, after we were forced to leave because of the war, stayed on and then made a similar but far more complex proposal, using our model, for the Sava's sister river, the Drava. This proposal was also accepted. The first unintended consequence was that the assistant, using our model, would get a second river, quite different from the first, established as a nature reserve. The second unintended consequence was that the Sava and the Drava, collectively, gave the lower Danube almost 50% of its clean water. The third unintended consequence was that these cleaner waters, downriver, helped to partially flush the polluted Danube estuary as it flows into the Black Sea. We the artists chose to call the nature of this set of events "Conversational Drift", as the original Sava proposal was conversational rather than iconic in nature. In truth artists name things and often use metaphor in the process of naming. ("Conversational Drift" itself is a metaphor that adds to the process of communication.)

Field of Play. How Big is Here? The concept *field of play* comes from our background training and early work in the field of art. Although vastly simplified, most early design training works with field relationships: figure/ground, field/field, perceptual training to help develop abilities in painting, sculpture and architecture. For the painter, the field of play becomes a canvas, the physical boundaries are the edge of a canvas, the conceptual boundary conditions have to do with depth perception and field perception and of course, then, formal relationships and whatever narratives the artist wishes to convey, or in some cases, reduce. This works out sculpturally in room-sized installations, and so on. We define a field of play in much the same way, except that the scale-shift is profound; measured in orders of magnitude. But, at whatever scale, the capacity of a work of art is to echo and re-echo not only as images in the mind but with what might be called the affect evoked by these images. In the two previous examples, the boundary condition of our concept of the field of play was a watershed, whose high grounds formed the boundaries.

In our way of working, the most effective and productive definition of boundary happens when the boundary is manifest physically. It is in this sense that we often use the term geophysical (as distinct from geophysics). In Peninsula Europe, a 3.3 million sq km field, the field has a water edge surrounding it, with the exception of about 30 linear km (see below: see *Seeing and Thinking*, where the definition is visually expressed). Our experience is that in any large field of play, particularly one defined by a clear set of boundaries, a pattern will emerge. From a mapping perspective in the Peninsula Europe work, we reduce the roads,

privilege the rivers, and intensify the mountains. The mountains then emerge as the principal physical pattern, within the overall field of peninsula of Europe, a boundary of which as all can see, is clearly defined for the most part by water. This phenomenon is addressed in more detail but somewhat differently in a later passage. Thereafter we begin an analysis of the information that might be embedded within this pattern. For instance, as research-based artists we discover six features that underlie all concepts laid out in “Peninsula Europe”.

These are: (1) The choice to define the high grounds as the place where the rivers begin, mostly at 300-350 meters in contrast to the present alpine definition by the tree line as the place where the trees end. When drawn and lifted off the map, a 1.46 million sq km shape emerges. (2) The shape tells us that the whole peninsula can be seen as a vast ensemble of watersheds nested within watersheds. (3) The shape has at present, discounting global warming, roughly 1,430 billion cubic meters of water falling on it yearly, approximately 1,000 of them moving downhill in the river systems. (4) We discover that there are about 2.3 million sq km of monocultural farming on the peninsula as a whole. (5) We discover that the rapidly disappearing biodiverse fabric of life is especially rich, as we move from the Carpathians to the Pyrenees, within the curvilinear shapes of these high grounds. (6) We discover that the “geo-physical” diversity (in our sense of the term) is a generator of biological diversity that has encouraged a vast cultural and linguistic diversity, also endangered. These six initial realizations or discoveries, then, become the palette that we compose with and, taken together, that embody what we mean by working with a shift of scale.



The first image sets out to place Peninsula Europe as a perceptually coherent center within the larger world. In an exhibition, the image is 10 feet tall and signals the subject matter in an iconic way.

Within this work we wish to emphasize again the poetic form, which often appears here as a method of expressing condensed information. However, our motivation is more complex than this. Poetry comes from the long oral tradition that is most evocative when designed to be spoken or read aloud. Moreover, the poetics seek metonymy between concepts that operate within a whole set of relations and everyday processes of seeing, thinking and acting. This is the intent of the internal rhyming and redundancies within our expression of concepts.

[II] Peninsula Europe: The High Grounds – A distillation by the artists of the original work

We see **Europe** as extending to the Baltic countries, to the Russian plains and to or even west of the Ural Mountains. Beyond mainland Europe, we see important extensions to the Scandinavian countries, to Great Britain and the other islands, each with their distinct “geo-physical” properties. “Peninsula Europe,” in contrast, provides a central icon or proto-icon (as illustrated towards the end of this work) based on the perception of the heartland of Europe as a peninsula extending from the Eurasian continent. One definition of a peninsula is “a body of land that is almost an island”. The European peninsula is surrounded by water on three sides, making it almost an island. Further, on the fourth side, defining an eastern boundary determined by the Vistula River flowing north from the Carpathians to the Baltic Sea and by the Dnester flowing south to the Black Sea, Peninsula Europe also can be seen as virtually surrounded by water. Although these rivers do not themselves quite meet, their tributaries are separated by about only 30 km. Marking the water boundary, these waters meet in the massive wetlands along the foot of the Carpathians to the east on the Russian plain.



Waters define the terrain of the Peninsula as a field of play connected to the Russian Plain by approximately 30 kilometers. The high grounds emerge as a pattern and salient feature. This pattern becomes first an information generator and from this, suggests transformative strategies concerning economics, ecosystems and water conservation and ultimately how societies might meet future stress.

Seen this way, a vast coherent peninsula emerges with water determining its perceptual boundaries. The salient features of this landform are the complicated, involuted high grounds formed primarily by the Pyrenees, the Alps, and the Carpathians, but also by the Apennines, the Dolomites, the French Massif Central, and lesser high grounds such as those of Spain. When this extended array of ridges and drain basins are looked at as a salient feature, an incredibly diverse and complex terrain can be seen, encompassing a far greater variety of

habitats in a compact space than almost anywhere else in the western world. This geographical complexity has permitted great biological and cultural diversity. The other five observations earlier mentioned also became apparent.

Seeing “Peninsula Europe” as an entity becomes a possibility once there is a defining boundary for its physical terrain. This, in turn, would acknowledge the emergent geographic patterns that define ecological domains, domains that have the potential to reach separate stability and sustainability. Potential domains of stability within this boundary can be defined as networks of processes that could group and cluster and feed value into each other.

A salient feature of the cultural geography of Peninsula Europe today as compared to earlier times, is that it now possesses many fewer of its original ecological sites. Market forces have imposed the same agricultural crops and procedures upon previously separate ecological areas. The overproduction of sameness has emerged in the present as an ecologically destabilizing pattern. Monocultural agriculture is obvious in the vast fields of single-crop farming and vast single-crop plantations of pine. There is sameness in the productions of goods by the international companies, in the productions of media by the multinationals, and sameness emerging in many once diverse cultural activities and forms.

We see all this as having led and leading towards the eventual loss of bio-diversity and, at the same time, leading to the loss of cultural diversity, and ultimately, cultural identity. The loss of diversity at the lowest levels will gradually erode the diversity at higher levels because the market forces at play homogenize society and culture while extracting both biota and raw materials from the overall terrain.

“Peninsula Europe” proposes an alternative future. We apply the metaphor of the loved and nurtured personal garden to the European landscape, a garden that is potentially sustainable, diverse and needing caring, tending and protecting. And we see this as merging with the public park, the historic and less modified landscapes, and those few that are close to the pristine.

The image that is transformed into a proto-icon later in this work is that of the peninsula which, with its incredibly varied terrain, has come to be understood as the heartland of Europe. The icon expressed as the high ground represents this whole terrain as a cultural landscape capable of transforming itself into a stability domain. **This domain becomes viable** on the basis of a multitude of integrated stabilizing feedback loops and interconnectedness through networks and hierarchical structures, all initially symbolized by the icon. Like even the simplest cell, this domain can take into itself what sustains it and avoid what does not.

We suggest that there is a simple formula to be understood here. That is, bio-diversity in transaction with stabilizing redundancies is able to maintain itself with indeterminacy (dynamic equilibrium) as its norm. We use the term *stability domain* as code for dynamic equilibrium. We believe dynamic equilibrium to be the highest and best possible outcome embedded in the use of the term sustainability. The example we use is the many-million acre forest that traverses different climates and geographical terrain. As exemplar, this kind of

forest has properties that refer to the definition above. They are different *forest types* that accommodate climatic and terrain conditions. There is enough *redundancy* in the forest types so that they can regenerate or sustain themselves in the face of diverse catastrophes. Hence, they may change part by part but the whole operates in dynamic equilibrium, is self-sustaining, and therefore from our perspective operates as a domain of stability.

However, it appears to us that today's trajectory of culture is towards the creation of mono-cultural behaviors in production, farming and the like, which function as positive or runaway feedback loops thereby creating both a mono-cultural mindset and a monocultural post-industrial landscape. We see this as a particularly dangerous step in the evolution of culture, particularly as we face the eco-cultural stress of probable ocean rise of several meters or more within the next 100 years and unpredictable as well as predictable climate change. Moreover, some models suggest that a Trans-European drought from the Pyrenees to mid-Germany may be profoundly effecting water supply and food production

Thus we are lead to the notion of developing a Trans-European discourse on the nature and evolution of its own future well-being. The discourse itself would, we believe, sets out to address the concept of a Peninsula Europe as a potential eco-cultural stability domain. Our process enacts several aspects of how a complex discourse like this works. This is a process, earlier expressed as conversational drift, new forms of design, and new definitions of how place can be established, expressed as fields of play.

The outcome – were the “Peninsula Europe” proposal accepted, even in part, it would encourage an emergent, complex, bio-diverse life web and the restoration of conditions that generate clean water. Also, a food-producing system that could generate –instead of destroying– topsoil and where the harvest could preserve the system could come into being. Moreover, it would lead to systems for the production of goods that were responsible for their own wastes, and cultural support systems, place by place, that taken together would counter the loss of identity and the proliferation of sameness. Towards this end, the complexity sciences community has the capacity to participate and, we believe, to add coherence and direction to the more intuitive processes that we artists work with. At present, in our opinion, the biological sciences are engaged in this discourse while the other social sciences and culture thinkers as disciplines have not found a clear place within it.⁵

Ultimately, we believe that a scale barrier needs to be overcome as expressed in our initial discussion of field of play. We believe the problems at issue must be addressed at the scale at which they exist in the cultural landscape as a whole in all of its complexity. We see this as achievable by an interaction and collaboration between the hierarchical processes that are represented in institutions where resources flow from the top down and the self-making properties that are implicit in networking that happens, place by place, when groups spontaneously organize themselves to achieve common goals. (Note the vast proliferation of NGOs is ongoing, although there appears to be little coordination between them).⁶

⁵ For a review, simulations, and exceptions, see Scott Page (2007).

⁶ Hawken (2007).

We intuit that complexity theory, as it emerges as well from network theory, is a potential bridge towards what we mean by scale shift. We believe we must find processes of thought and behavior that outweigh present patch-type thinking, present economic self-interest, and present political behavior. Above all, we move away from the belief that the marketplace solves all. We see the work of many disciplines in cooperation as a necessary condition if we are to create a cultural theory that enhances diversity and compels action in a way that takes account of the survival imperatives that arise from Global Warming and the overproductions and culture of extraction that have enabled it.



We believe that Peninsula Europe is at a bifurcation point
At a point of change and self-transformation
After all, from the Romans through the Middle Ages
through the Renaissance
the Enlightenment
from Modernity
to the now,
that territory we call Europe
has many times rebuilt its landscape
economically

politically
culturally.

It has rebuilt its belief systems
and rebuilt its ecosystems.

Now we imagine a new set of emergent properties
suggesting this is indeed a bifurcation point in a state of becoming
a point of reorganization of its own complexities
into a new form of entityhood.

For instance, we see seven initial steps that would move the Peninsula as a whole towards
entityhood:

Peninsula Europe moves towards entityhood
when a many leveled trans-European discourse
on the nature and development
of its future
moves past fragmentation.

Peninsula Europe moves towards entityhood
when its boundary conditions become
more permeable
to what it understands
as contributing to its well-being
and
less permeable
to what does not.

Peninsula Europe moves towards entityhood
when its discourse
can focus on the carrying capacity of its terrain
for industry, farming, fishing
information production
and cultural divergence.

Peninsula Europe moves towards entityhood
as it transforms its wastes
into that which is useful and valuable
while successively reducing the wastes
that are damaging to itself.
and when
its organic waste disposal
becomes a vast topsoil regenerating system
insuring green farming
remodeling its food production systems
on natural systems.

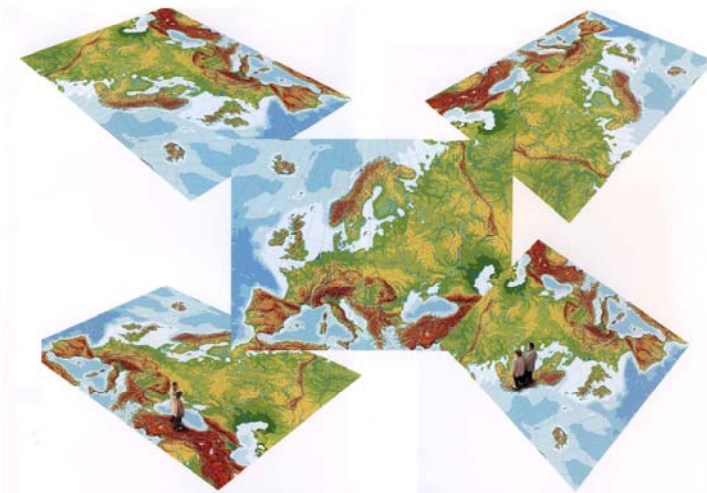
Peninsula Europe moves towards entityhood when its rivers systems estuaries ocean edges forests wetlands meadow lands and eco-corridors are valued sufficiently and enabled to co-join into a complex biodiverse life web self-sustaining in nature an econet of the whole. And its highground, grassland, forest communities contribute ecological redundancy, continuity and mass at a continental scale.

Peninsula Europe moves towards entityhood when its diversity of cultures are protected valued for themselves and are encouraged to be seen as self-creating entities adding improvisation and creativity diversity and uniqueness to the cultural web

Entityhood happens when each part feeds value to the whole and the whole complicates itself following the natural laws of self-organization and creating a complex many-part identity.

Our concept proposes that the Peninsula is sufficiently complex to reorganize itself as a dissipative structure, a structure that survives by continuously regenerating itself, rejecting what is bad for itself and taking in what is good for itself. We wonder whether an eco-cultural entity like the peninsula of Europe can behave in the way that living systems nest within each other in mutual support and what eco-social design can learn from such nestings. We argue that this possibility becomes co-equally driven, probably or improbably, by climate change, but the tipping point is upon us.

[III] **Seeing:** where a multiperspectival view is insisted upon



Seeing

The geo-physical heartland of Europe
As a peninsula
Extending from the continent of Eurasia
With ocean boundaries
Cojoined by the Dnestr and Vistula Rivers
separating it from the Russian plain
making it almost an island

Peninsula Europe

Contemplating its domain
The high grounds emerge
As both pattern and icon

From a bird's eye view
no matter which way you look
the forms of the Russian plain
are distinct and separate from
those of the European peninsula.

Continuing to look

the heartland of Europe is surrounded by waters
with its eastern boundary
divided from the Russian plain
by the Dnester River
flowing south from the Carpathians down to the Black Sea
and with the Vistula flowing northward to the Baltic.
These rivers form a boundary
leaving a physical land connection to the Russian plain
of perhaps only thirty kilometers.

Focusing on the Peninsula alone
the high grounds emerge as figure
the lowlands as field
the waters as frame.

Contemplating the pattern
Reflecting on the properties of its
domain
I said,
"It's an array of drain basins cradled by the mountains
formed by the pouring forth of the rivers
that begin in the high grounds."
You said,
"Most of Europe's water begins there."
I said,
"If the forests were left to re grow

and the grasslands released from overgrazing
Then the resulting bio-mass
Could help to purify
The outpouring of water.”
And you said,
“Then biodiversity ribbons again can grow
across the high grounds from the Pyrénées
to the Carpathians
I asked,
“Where would you begin?”
And you said,
“Where the terrain permits and the will exists

Choose your mountain.”

Accepting a grant from the eco ministry of Saxon Anhalt
Working with a team from Bauhaus Dessau
Getting to know the distress in this river
in this place
In this watershed
by meeting with many
by driving the tributaries.
Seeing the effect of the Tagebau at Bitterfeld
understanding that the river was burdened
by unprocessed
or minimally processed wastes.
Understanding that the Muldeau
carried such a density of heavy metals
that the milk of the cows that fed there
had to be taken to the toxic waste dump.
Thinking about one hundred and fifty years of chemical industry
leaving perhaps a hundred thousand cubic meters
of not well charted toxic earth in the region around Bitterfeld.
Looking at the toxicity left by the Russian military.
Wondering about the radioactive waste at Aue.
Calling meetings with water people and ecology people
from the east in Sachsen and the west in Sachsen Anhalt
who also shared this drain basin.

I asked or you asked
Is there one clean section of the river?"
And the answer was
Yes.
There was the little Floha Mulde
a tributary of the Mulde River
a drain basin within a drain basin
perhaps three hundred square kilometers all told.
I said
If it rains a meter and a half
and a third of a meter percolates down into the forest earth.
then one can imagine clean waters emerging
equivalent to those that might come from a lake
one hundred square kilometers in dimension
one meter deep.



This attitude towards eco systemic thinking offers a self-making form of water purification applicable to lowland rivers. For example, the Mulde River is perhaps the most polluted river in Germany. Serving as a model for polluted lowland rivers, the purification of high-ground watersheds can be understood as a regenerative process.

You said

“It would be a beginning.”

While the process of looking, seeing, and evaluating offers solutions to flood control in the Oder, that same process, carried out in any other large-scale drain basin within the Peninsula, could provide a model for other equally creative acts. In some cases an individual watershed form has the potential to act as a domain of stability but only if the ecological carrying capacity of the particular drain basin has not been already exceeded.

[IV] A Ring of Many Floodplains for the Oder River

Thinking about the Oder River and a work we agreed to do there. Studying a complex conceptual design put together by the WorldWide Fund for Nature (WWF) for the whole length of the river. It appeared to propose wetland reclamation projects where possible and to widen the riverbed here and there if possible. But the river, almost completely canalized, left no large areas within which the floodwaters could spread without damage. To our surprise, this plan did not appear to deal with the problems of flooding in any significant way.

We met a very knowledgeable man – politically and ecologically. He knew many people up and down the river. He told us many amusing stories. Perhaps the most amusing was one about the dikes that run along the river. It appeared that the Poles, particularly up river, never had the money to take care of their dykes as well as the Germans did. The river therefore is far more prone to flooding on the Polish Side. He said that if the Poles improved their dikes, then the probability of flooding downstream in German territory would become considerably greater. And, he said that Poland had just received extensive funding for such repairs! So we told him our idea of a ring of many floodplains; a concept based on substitution.

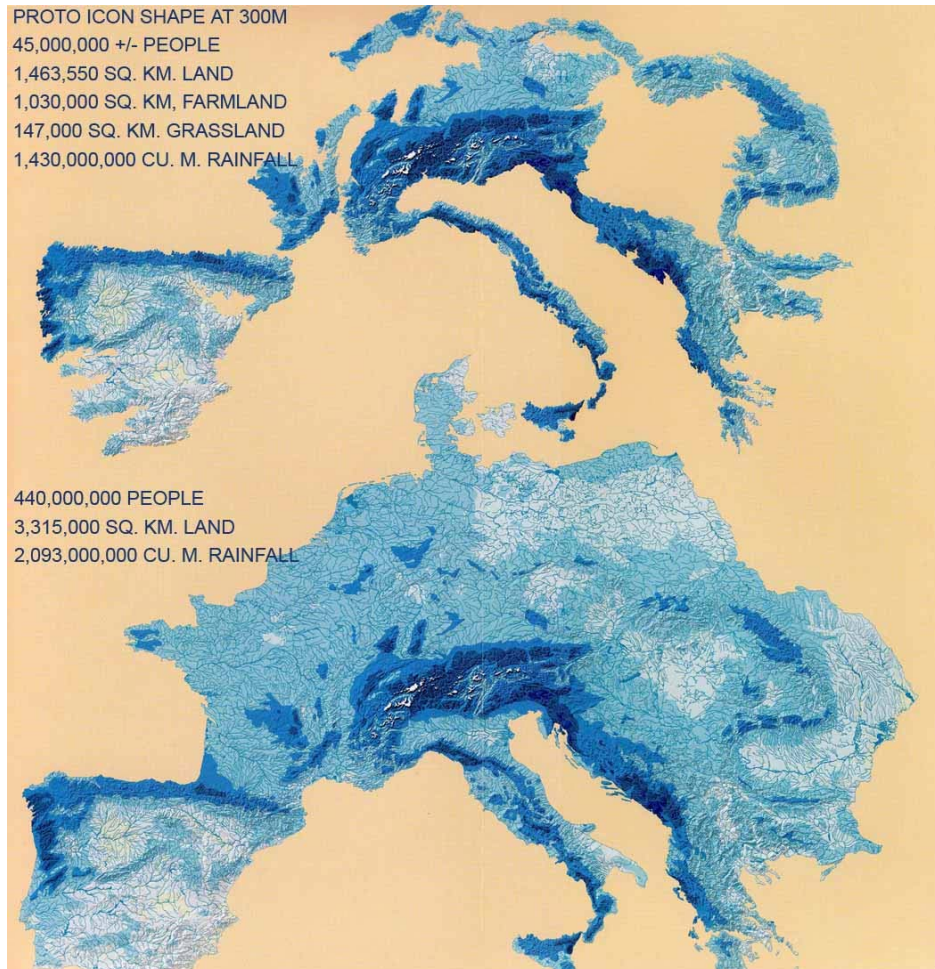
The basic notion would be to buy available land in spaces as close as possible to the place where the tributaries flow into the river, creating areas that can serve as small floodplains. These could collectively behave as a single large one. This then would save the money required for massive dikes along the Oder, ending the danger and costs of massive flooding, while creating an array of wetland parks, purifying waters and adding ecological and social value to place. I said, “From an economic perspective, it probably costs less to do than not to do.” You said, “Three questions would answer this. They are simple calculations: 1. How many sq km does the hundred-year flood need to express itself without great damage? 2. What is the cost of land per hectare? 3. What is the cost of a major flood?” He answered, “Call my friends at the ministry and they will help you.”

His friend from the ministry wrote back that the information he was sharing with us was proprietary, which we found surprising as we thought such information would be a matter of

public record. He said to contact people in Poland. He explained that for the main part of the Oder River, 89 % of the watershed was in Poland while only 5% was in Germany, with the rest in the Czech republic.

I asked another ecologist, “How many sq km would one need for such a floodplain?” He said, “About 500 sq km more or less, to handle the 100 year flood.” Now farmlands cost about 2,500 Euros per hectare at their most expensive, so for roughly 500 sq km of floodplain, the cost of land alone would be about 125 million Euros. But it would almost certainly cost much less in Poland and the Czech republic, which share the Oder floodplain with Germany. (Gregory Bateson used to call this reframing the problem).

I said, “Looking at the cost of flooding in the three countries as an ensemble, it appears that the cost of acquiring new floodplain lands and doing the appropriate design and the earth-shaping technical and ecological operations altogether would cost about 5 times less than the last big flood.” **“Yes,” you said**, “It looks like the cost of the hundred year flood could be 5 times more than the cost of the land needed to prevent it. Even so, a friend of ours asked, “Where will the money come from right now to build this ring of many floodplains?” I asked in return, “Where did the money come from to repair the damages from the last flood?”



Why the high grounds? What are the high grounds? We choose to define the high grounds as the land that begins where the rivers begin as opposed to where the tree cover ends under Alpine definition. Under this definition, we find a shape that is iconic in nature. Moreover, this shape, emerging as a pattern, as will be shown later, literally and figuratively develops a voice of its own. The high ground form is particularly attractive as it already contains most of the peninsular forest cover, 550,000 of 650,000 sq km. Also, while having over 40% of the land it has only 10% of the European population.

Before we received the European Union Grant, the Schweisfurth Stiftung called a small conference on the concept of “Peninsula Europe” to test its viability. This was attended by a diverse group of people: several ecologists with a particular focus on transmontaine ecosystems, an economist, and a high-level bureaucrat from the European Union involved in environmental protection, and a person from an independent environmental organization from Hamburg whose focus was on environmental economics and generating systems of production that tuned to natural systems. With the usual maps on the wall, we made the following presentation. We said that we saw “Peninsula Europe: the High Ground” as a trans-European eco-cultural form at great scale wanting to happen. Trans-European biodiversity ribbons can reestablish the biomass and redundancy of multiconnectivity necessary for the well-being of large eco-systems, such as existed formerly but are no longer part of the current cultural landscape. We believe this new forest/meadow system has the potential of protecting the top end of every river within its domain. Therefore, most of the countries of Europe would gain a pure water downhill flow of great magnitude at a time when the water crisis across Europe will begin to become acute in the next fifty or sixty years, perhaps sooner. All agreed but the EU representative, who stopped us here, asking where the money would come from, and how would EU interests be served, and how would such a system be sustained over time?

You said, “Think of the waters. About 1430 billion cubic meters of water fall on the High Grounds of Europe, which we take as an icon. At least a thousand billion flow downhill. The rest remains in the mountains because of percolation and evapo-transpiration. So we are looking at about a thousand billion cubic meters of water yearly.” Then I said, “Everybody pays at least one Euro, and sometimes two or three times that downstream, for clean water.” So we are looking at a trans-peninsula expense pattern of perhaps 1 trillion Euros yearly assuming all downhill flow is used at least once. As the gross transnational product appears to be about 8 trillion Euros, a rough calculation suggests that a modest water tax of about 3/5ths of a percent would yield close to a 100 million Euros a year; this assumes that 10% or 100 Million cubic meters are captured. Projecting this over a 15 year period that amount of money would go a long way to putting this system in place. Once in place the system would move to self-maintenance and therefore costs would drop significantly.” Also, if 100,000,000 cubic meters of clean water are captured in the higher grounds at flood times this capture, worth a 100,000,000 euro itself, could also act as a trans-European flood control measure of considerable value.

Thereafter the gentleman from the EU said, “Go for an EU grant.”

[V] Reflecting on Big Numbers

REFUSING TO BE INTIMIDATED LOOKING FOR A MIDDLE WAY

Here we argue for what is basically a Trans-European, if possible, extra-national organization for the protection and regeneration of the high ground for the benefit of all (See *Peninsula Europe – The Rising of Waters and the Warming of Land*).

A Few Figures Writ Large Upon the Land

The Peninsula

420,000,000 population
3,315,000 square kilometers of land
2,300,000 square kilometers farmland
340,000 square kilometers of grassland
650,000 square kilometers of forest
25,000 square kilometers of urban land
2,693 cubic kilometers of rainfall per year
2,693,000,000 cubic meters of rainfall per year
500 kilo average organic waste per person
210,000,000 metric tons of organic waste per year

A Few Figures Writ large Upon the Icon

40-45,000,000 population
1,463,550 square kilometers of land averaging 300-600 meters
1,030,000 square kilometers of farmland
147,000 square kilometers of grassland
565,000 square kilometers of forest
3,000 square kilometers of glacier
2,100 square kilometers of urban land
1,430 cubic kilometers of rainfall above 300 meters per year
1,430,000,000 cubic meters of rainfall above 300 meters per year
1,185 cubic kilometers of rainfall above 350 meters per year
1,185,000,000 cubic meters of rainfall above 300 meters per year

REFLECTING
ON FRAGMENTATION AND THE CONDITIONS FOR UNITY
ON THE HEALTH AND WELLBEING OF THE HIGH GROUNDS
AND ITS LIFE WEB
REFLECTING ON THE WILL OF CIVILIZATION TO FRAGMENT
WHEN ITS SURVIVAL
AND THAT OF THE ECOLOGY UPON WHICH IT DEPENDS

REQUIRE CERTAIN UNITIES

REFLECTING ON REFRAMING THE CONVERSATION
BY WHICH CULTURE RECREATES ITSELF
MOMENT BY MOMENT

FOR INSTANCE

HOW CAN THE PROCESS OF FRAGMENTATION BE MEDIATED
AND THE PROCESS OF ECOLOGICAL REUNIFICATION BEGUN?

FOR

IF

THE PROCESS OF FRAGMENTATION REFLECTS
THE WAYS IN WHICH HUMAN AUTHORITY DIVIDES ITSELF AS
INTO TOWNSHIPS AND CITIES

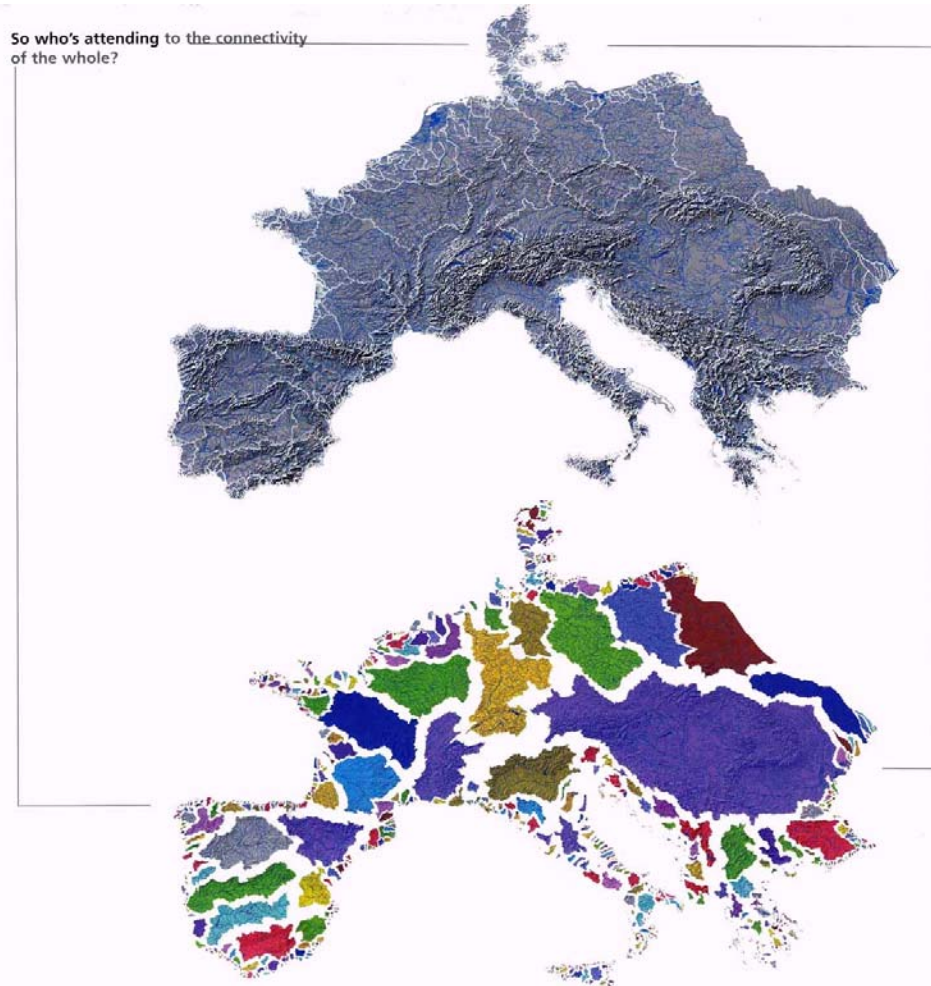
AUTHORITIES AND BUSINESSES AND INDUSTRIES

PUBLIC LANDS AND PRIVATE LANDS

WITH EACH DIVISION LOOKING TO THE INTEREST OF ITS PART

THEN

WHO IS THERE TO LOOK AT THE HIGHGROUNDS AS A WHOLE ?



THEREFORE
WE RISK A PROPOSAL FOR THE WHOLE
WE PROPOSE AN EXTRANATIONAL DRAIN BASIN AUTHORITY
TO LOOK AFTER THE WELL BEING OF THE HIGH GROUNDS
A PROPOSAL BASED ON A FUTURE NECESSITY
FOR AN AUTHORITY
WHO WILL LOOK TO THE HEALTH OF THE WATERS THE RIVERS
THE FOREST
THE MEADOWS
THE CROPLANDS AND
THE PARKS
DRAIN BASIN BY DRAIN BASIN

WHO WILL LOOK TO ESTABLISH VIABLE BALANCES
BETWEEN MULTI-USE FORESTS
AND SUCCESSION FOREST
AND MONOCULTURE
AND ADDRESS SUCH QUESTIONS
AS HOW MUCH FARM AND HOW MUCH INDUSTRY
AND HOW MANY INHABITANTS
CAN EXIST IN AN AREA
AND HOW TO COMPENSATE
FOR OVERPOPULATION OF PLACE
WEIGHED AGAINST HOW MUCH MEADOW
AND WOODLAND
AND FOREST AND WETLAND
ARE NEEDED TO SUSTAIN THE CREATIVITY OF THE DRAIN BASIN

THUS THE WATERSHED AUTHORITY WOULD BE
THE AUTHORITY WHOSE CONCERN
IS THE ECO-SECURITY OF THE WHOLE

AND WHO WILL LOOK TO
THE PURITY OF THE WATERS
AND
WHO WILL LOOK TOWARDS THE PREVENTION
OF THE DUMPING OF TOXIC WASTE
INTO THE RIVERS OR NEAR THEM
AND
WHO WILL LOOK TO THE PREVENTION OF LIVESTOCK
GRAZING TOO CLOSE TO THE RIVER
AND
WHO WILL LOOK TO THE REGULATION OF DAMS
AND THE REMOVAL OF SOME
AND THE BUILDING OF FISH PASSAGES
WHERE DAMS CANNOT EASILY BE REMOVED
WHO WILL LOOK TO THE BUILDING OF OFFSTREAM STORAGE
OF WATERS

FOR FLOOD CONTROL
FOR HABITAT
AND FOR WETLAND PURIFICATION

WHO WILL LOOK TOWARDS THE RECONNECTING
OF WOODLANDS
AND THE DEVELOPMENT OF FOREST MASS

WHO WILL LOOK TO THE BUILDING OF CORRIDORS FOR WILDLIFE
IN WATERS, MEADOWS AND FOREST
AND WHO WILL ASSIST THE COLLABORATION BETWEEN DRAIN BASINS
AT THE RIDGELINES AND ELSEWHERE

WHOSE WORK WILL BE FUNDED FROM A CHARGE THAT ALL
WHO USE THE LAND AND WATERS PAY
SO THAT THE ACTIVITIES OF THE ENTIRE SYSTEM MAY CONTINUE
IN REASONABLE AND SUSTAINABLE BALANCE

AN ECO-SECURITY SYSTEM FOR THE HIGHGROUNDS

AND PENINSULA EUROPE
PRESENTLY HAPPENING IN FRAGMENTS
HAS THE POTENTIAL TO COME FORTH
AS A POETRY OF THE WHOLE
AND THE CO-EVOLUTION OF BIODIVERSITY
AND CULTURAL DIVERSITY
WILL BE SERVED THEREBY.

[VI] On Icons, Networks, Feedback Loops and Stability Domains

Early icons, from the prehistoric fertility figures to the religious images of the Renaissance, to the present, are information-saturated but depend for understanding on a text or narrative that preexist in people's minds. Thus the icon was read variously by the differences in narrative and layers of narrative that the viewer brought to it. None-the-less, story and image were always associated. For instance, Saint Francis lived seven hundred years ago, and the Saint Francis icon, although now viewed from a different mindscape, is readily available to most, at least in western culture, and to those who know the canonical text associated with his life. Although the Buddha lived more than two thousand years ago, the icon still carries a text that is apprehensible in our time with believers in the hundreds of millions. Icons of this type carry with them many-layered sets of beliefs, ethical in nature, that express a worldview about how one might conduct one's life. Both images are dealt with in texts and information embedded in contemporary religious practices and so are current and therefore meaningful today. The interpretation of the text itself may undergo revision generation by generation but it is not necessary, nor perhaps even possible, to grasp the full meaning of the text in order to get what we believe is the sense of the message. Icons such as the hammer and sickle have an active life as long as the political system for which it is a signifier is viable.

THE FIELD OF PLAY



THE EMERGENT PATTERN



THE ICON CAN BE EXPRESSED AS A 3" DRAWING (LOGO SIZE)



THE ICON CAN BE EXPRESSED AS A 36" DRAWING (BILLBOARD SIZE)



We call the icons that we make *proto* or initiating icons. We do so because there is no preexisting narrative in the culture they refer to. Therefore we, as artists, supply text and story in poetic form so that the word/image or, better, the text/image oscillation may do its work. We evoke the oldest of imagistic forms (e.g., cave art presumably associated with spoken words for chanting) with its perhaps forty-thousand-year history in transaction with some of the newest forms of thought available to ourselves. (We are committed to the belief that it is old wisdom, combined with new information, which can guide us out of the predicament we find ourselves in.)

“Peninsula Europe” explores what we call an eco-cultural icon. The intention is to put on the table a potential new pattern at a scale that we, as artists, perceive to be imperative for many to experience. The discipline is to create a text-image ensemble whereby extremely complex issues, layered and interdependent, can be grasped, thought about, and responded to in a very short period of time.

[VII] On a Stability Domain

We envision a potential stability domain as an emergent form in the cultural landscape/mindscape. “It may require the continual (ongoing) embodiment of its systems pattern of organization.” This concept operates by variously mapping new patterns with the potential to emerge in a presently chaotic state of images. The icon is a presentation of the initial elements that we suggest may become self-sustaining and self-regenerating and self-enlarging feedback loops. Over time and with cultural consensus, their potential is to self-complicate and bifurcate, participating in the self-making process or processes that we have come to believe can become common to bio-cultural entities that are mindful of the well-being of all life within them.

We suggest that a “sustainability icon”, at least for this region, if understood by many and enacted on the ground, makes manifest a process of continual co-creation and co-evolution. Therefore, for us the question is, “Can visionary works of art be also thought of as self-organizing patterns beginning to happen, in this case for people, initially generated as survival responses to perceived threats to their own well-being? Further, can the information and values saturated in such icons help to set the terms for retrofitting biodiversity into rather heavily stressed cultural landscapes to protect and be protected by the diverse cultural elements with which it shares the terrain?”

AND On Contradiction and Redundancy

There is no inherent contradiction between the mindless “I know better but I do it anyway” (that phenomena that pervades western culture and ourselves and even this work) and the concept of “Peninsula Europe” which we express here, and its potential, given the redundancy built into it, to come into being; enfolding into itself, elaborating, and disregarding contradiction as it will.

Moreover, we have come to believe that inconsistency and contradiction are generated by the processes of cognition, thinking, and doing, and have the important role to play of stimulating and evoking creativity and improvisation, which are inherent in the processes of mind that have led us to do this work.

We believe a vision, such as that embodied in “Peninsula Europe”, must have the power, the clarity, the timelessness, the openness of structure, and the ambiguity that will permit others to grasp it and work with it and test it, to create with it, to play with it, to improvise with it. A vision must also, in many senses, be *prima facie* a valuable thing to be enacting. It often has embedded in it its reverse image, which is a reflection on the outcomes of not doing it. Moreover, it must have sufficient ambiguity so that there are alternative ways to enact it. In whatever form it takes, envisioning is a process that can never complete itself, as every act, in the process that follows, feeds back to and affects the perceived shape of the vision as first stated. The envisioning we have done in presenting “Peninsula Europe” as a work in process must create a consensus among many that it has intrinsic value for diverse people and cultures. If it is too authoritarian, or too idealistic, or too unfamiliar in that the ideas have no precedent, or if it seems too fantastic or too far from possible, the vision will be put aside as simply one more curiosity. Moreover, a vision of the sort we propose in “Peninsula Europe” will not work if it is wholly new information. The parts, although fragmented, disassociated from each other, must none-the-less exist in visible measure somewhere in the discourse of activities in a place. In the Peninsula Europe work we propose that a new pattern can emerge by envisioning a new set of relationships between that which already exists in reality or in plans or in visions of others and in visions of our own. Both conceptually and on the ground this translates as more of this, less of that, in continuing exploration and practices.

There remains the question of how over 445 million people in the Peninsula of Europe might be enabled to voice opinion or choose a course of action. For instance, what course of action would four hundred and forty-five million people have voted for in response to ethnic cleansing? Or, if given the choice, how would they vote on proposals to preserve the environment, if the appropriate economic incentives were in place?

The vision of *Peninsula Europe* (subtitled overall *The Future Garden: Bringing Forth A New State of Mind*) is intended to suggest that a new synthesis is available, a re balancing of the parts wherein, if different relationships form, a new pattern of organization will emerge. This is a pattern wherein each part, self-nourishing and self-sustaining in its own right, acts in support of a whole, which in turn will complicate itself in ways valuable to its own well-being, but as yet unknowable in the now of its beginnings.

Finally, the “Peninsula Europe” work sets out to create its own presence. As a text-image ensemble alone it is insufficiently powerful to reverberate within the culture so as to achieve the power of a *proto* or initiating icon, and to ground itself within and for a changing culture. To land on the ground in this way would require many other people and disciplines to contribute ideation, text, and imagery. Within the context of large systems and information density, for instance, we would hope for involvement with the ever-growing community of social and complexity scientists and theorists. We would hope that the three parts of the work

presented here would evoke responses that we as artists cannot predict. We believe, however, that such responses could well become part of the enabling of this work. For instance, it is also true *prima facie* that without participation from scientific community, particularly ecologists, hydrologists, and geographers, the elements of previous work leading to “Peninsula Europe” would not have been successful, and that without this participation the present work would not “land” in an iconic grounding that is useful both in the culture and in terms of conceptions that unite scientific understanding and practical paths of action. It is easily appreciated, however, that without the creative powers of cultural image-makers in collaboration with others, this work would not land on billboards, posters, or video and therefore the mass communication aspect that is so necessary would not come into being. Finally, we are imagining the networking powers of community groups, place-by-place evoking locally top-down responses both fiscally and conceptually from diverse places, groups, institutions, and levels of government, and bottom-up responses as well.

Peninsula Europe Exhibition Installation images- Aachen



Peninsula Europe Part II: The Rising of Waters, the Warming of Lands

Peninsula Europe: The Rising of Waters, The Warming of Lands

As can be seen on the left mapping, the European peninsula is clearly surrounded by water on three sides making it almost an island. However, it can be understood as almost surrounded by water on the fourth side when the eastern boundary is determined by the Vistula River flowing north from the Carpathians to the Baltic Sea and the Dnester River flowing south from the Carpathians to the Black Sea. These rivers do not themselves quite meet, but their tributaries are separated by only about 30 kilometers. Thus, defined by the waters, we see the Peninsula of Europe as a field of play.

A salient feature of this whole cultural landscape of everybody's creation now well over 400 million people is that it now exists with few of its original ecosystems remaining

For instance
looking at Peninsula Europe as a cultural landscape
the overproduction of sameness emerges as
dangerous
a potentially de-stabilizing pattern
Mono-cultural farming becomes obvious in the vast fields of single crops
Mono-cultural forestry becomes obvious in the vast plantations of pine
There is obvious sameness in the production of goods
and in the productions of media by the multinationals
and sameness emerges
from the blending of the many once diverse cultural patterns

Now a disturbing question emerges
If diversity helps ensure survival
then
Can this sameness be the best possible state of things
as the Peninsula
and all on it
face the changing of climates,
the rising of waters
the warming of lands

Looking at the mapping to the right
Seeing the waters' rise noted as about 5 meters
an extreme but nonetheless possible
prediction for the next hundred or so years
Seeing 95 thousand square kilometers of land disappear
Much of it indefensible
So that 23 million people will have to move upward
as the world ocean begins reshaping the Peninsula
How can endangered but necessary means of production
be moved to high ground
Wondering where the amount of energy necessary might come from
when flooded power plants become dysfunctional
Wondering whether the endless array of truncated road and railroad systems
really need to be replicated

Becoming certain that many governing and planning systems
must recreate themselves in new ways within the Peninsula
in order to permit whole systems wellbeing
Thinking that apparent catastrophe may lead to unforeseen opportunity
Despite the stress expected by the predictions of drought
Spreading northward from Spain

Noting the water mark of 15 meters
about equal to that which would happen
if much of the Greenland and Arctic ice shelves melt
When almost 160 thousand square kilometers
will be claimed by the oceans
and over 38 million people will have to move upward
If reacting to the 5 meter rise is urgent now
Then reacting to a 15 meter rise will become imperative sooner not later

Someone said
where will the money for this come from
And I said or you said
Since the Gross Domestic Product of the Peninsula appears
to be about 12.8 trillion(dollars) (CIA figures)
And if this Gross Transnational Product were to be taxed
at a rate of 1 percent yearly
Then in one year
about 125 billion dollars could be sequestered
In twenty years about 2.5 trillion dollars could so be
This should be enough to support the first wave of people moving upward
and the first lines of defense created
and every twenty years could support another wave

Then someone else asked
How do we begin
Then you said or I said
By taking 100th of one percent of the gross transnational product yearly
and founding the initial group that could imagine
the rising of waters as opportunity
that could create
that could improvise
that could participate in creating the new cultural landscape
which even now is changing
responding to drought and flood

It appears that Peninsula Europe is again at a bifurcation point
At a point of change and self-transformation
After all, from the Romans through the Middle Ages
through the Renaissance, the Enlightenment
from Modernity to the now
that territory we are calling Peninsula Europe
has many times rebuilt its landscape
economically politically culturally
It has rebuilt its belief systems
and rebuilt its ecosystems

Now we imagine a new set of emergent properties
driven by the rising of waters
and the dramatic changes of landscape production
and the availability of resources
suggesting this is indeed a bifurcation point in a state of becoming
A point of reorganization of its own complexities
into a new form of entityhood
and if so
Peninsula Europe becomes a center of the changing world

Helen Mayer Harrison
Newton Harrison
May 2007

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Peninsula Europe: The Rising of Waters the Warming of Lands, is a sketch of a new work, suggesting that it is imperative to fund and form grounded thinking-acting groups (one or many) that would take up—through high-level abstraction linked to concrete grounded (project) embodiment—the broadest range of issues and proposals, and offer possible solutions as human responses to the cultural and ecological shockwaves that will be coming upon us.



Water
rising,
land
subtracted

Peninsula Europe Part III: Draft Proposal

A concept by Helen Mayer Harrison and Newton Harrison ©

A proposal for research that would enable the Peninsula Europe High Ground concept to be tested on the ground both as a pure water generator and as a buffer against Global Warming, drain basin by drain basin.

The Synopsis

The goal of the project is to invent a new trans-European forest that can move across the high grounds of the European Peninsula from Portugal and Spain, over the Pyrenees, across the Central Massif, to the Carpathians and somewhat beyond. The reasons behind inventing a forest is to test a concept. The concept suggests that complex, mixed forests can create a strong enough sponge phenomena in the available earths to replace, in some measure, the waters once supplied to rivers and the lands by slow glacial melt. The forest we envision is not a single forest, but an array of forest types that might live under the new conditions that Global Warming will afford to the high grounds of Europe. Present models indicate a warming and drought trend in Europe that, over the next 50 to 100 years, will move from Spain, across France and the Central Massif, affecting parts of Germany. Such a drought would obviously negatively impact food production, ecosystemic health and energy production, as well as the social structures that underlie the wellbeing of many.

The research recognizes that the complex weather system at issue is unpredictable in detail, but probable in the outcome, which would be drought moving across parts of Europe. The outcome of drought is the melting of glaciers. The outcome of glacial melt is that water flow in rivers becomes erratic, adding another layer of systemic unpredictability. This work proposes an intervention that has the intention of moving the whole geophysical system toward greater ecological stability, which would in turn enhance cultural stability.

This is a request to bring us together with a small group of very distinguished scientists to produce a working research design that would address trans-European sustainability. The perspective of the work would be maintaining water supply and continuing carbon sequestration and encouraging biodiversity in the face of the stresses of climate change. Our proposal suggests that a large-scale vision, commensurate to the large-scale Global Warming outcomes that are presently predicted, needs to be put in place. It is our intention to generate a design in sufficient detail to warrant a much larger and much more detailed funding request for the actual experimental designs.

The site and research design

At present, the best models that we know suggest drought, erratic weather, intermittent heavy storms with erosion and flooding to be outcomes of the warming phenomena. Although the models appear to change yearly as they are refined, the changes are rarely for the better. The intention of this initial proposal is to explore a methodology that might demonstrate how to

buffer, from drought and erratic weather, what amounts to be 1.4 million square kilometers of the high grounds of Europe. (The high ground is defined as the land above the 300-350 meter height, which is where the rivers begin and the shapes of watersheds begin to manifest. See maps.)

The High Ground Shape at 300-350 meters



The trajectory of the drought. At a 5 meter ocean rise, approximately 95 thousand kilometers of land will be displaced and 23 million people will need to move upward, unless there is construction of massive defense systems. Also, a significant fraction of 2.3 million square kilometers of farming will be affected.



The intention, from an ecological perspective, is to address the Global Warming problem on the scale at which it exists. Work at such a scale has never been conceived, let alone attempted, thus the initial funding request has a “blue sky” aspect, unlike normal requests. Neither we as artists, nor the scientists we will work with, have a clear idea of the answers, although we all have the same belief that the answers in the affirmative are available and the intention is both laudable and workable.

On Research and Why

We argue to make a study that has a number of parts to it. The resolution, as far as the emerging Global Warming situation will permit, is basically ecological in nature.

The study will seek to answer such questions as; what would the consequences to the weather be if 60-70% of the high ground drain basins were reforested and the remaining areas, that are not infrastructure, urban or otherwise, be regenerated as productive, diverse grasslands? Fundamentally we are talking about developing a complex, partially open canopy forest grassland ecosystem. The reasons for formulating this idea at all are that forests sequester carbon, create topsoil and their root structures developed the sponge phenomenon that holds water, slowly releasing it over time into river systems. The concept is that properly designed forest ecosystems with well considered arboreal triads, understory and ground plane have the greatest probability of responding well to drought, and sequestering waters from sudden heavy rains that once fell as snow that maintained the original glacial river system balance that is so rapidly disappearing.

Research Design

We believe that two forms of research need to be done simultaneously and in transaction with each other. The first is paleobotanical. We mean to research the geological record, particularly the time between the Pliocene and Pleistocene periods, where the weather conditions, such as we might expect in the foreseeable future in the high grounds, prevailed with generally higher temperatures (3-5 degrees Celsius or more). The research would seek out forest species and types that did well under those conditions with an eye toward their trans-location, place-by-place. While such species may or may not exist now, relatives can be found that still exist in the now.

The second area of investigation we are suggesting presupposes that it is also entirely possible that species living in the now, whose relatives did not exist in these regions, might be appropriate in a potential emerging ecological community. One might call this research, translatitudinal. In this case, one might research the results of a series of experiments in assisting migration of species from this translatitudinal perspective into the forest. The earliest choices would need to be species that can live under present conditions as well as the more extreme conditions described above. These choices would, of course, be determined by species groups' ability to withstand drought while maintaining the sponge phenomenon and

restoring the carbon in the topsoil and do so in a way that integrates with a larger ecological community.

From a diachronic perspective, the paleobotanical research going back in time several million years, in order to project systems change that will be valuable in the next 50 to 300 years, operates in intersection with translatitudinal research. Both lines of research, one spatial and one temporal, need to intersect before useful outcomes can be projected in the extremely complex and unpredictable weather systems.

The Goal(s)

The goal is to initiate a whole systems approach to a whole systems problem. At present, response to systemic changes that are upon us is piecemeal, or fragmented. As its attempts are most likely to be market-driven, such research takes too narrow a view, hence, this trans-European proposal to address a trans-European problem. The peninsula has, after all, 3.3 million square kilometers with somewhat over 1.4 million square kilometers in the high grounds, which as said earlier we define as at the 300-350 meter mark, where the rivers begin.

On Economics

From an economic perspective, we have chosen one of a number of models that might be available. The model we choose is based upon the prediction that the price of carbon sequestering may well reach a value of €50 per ton. The present discourse underlying carbon market thinking is €20 per ton. Generally speaking, 1 hectare of forest can sequester 4 tons of carbon yearly or a yield of €80 per hectare.

We note that the farming community may well resist these ideas in their entirety, for the very obvious reasons that shifting farmland to forestland dramatically affects their livelihood. As replacement we will suggest, in the long term, the formation of an eco-security system much like the present social security systems. Such a system subsidizes the farmlands as they are transformed into forest and meadow until they mature. We suggest the subsidy would be for the EU to match carbon sequestered, with the present suggested subsidy of €20 per ton, until they reach €75 per ton or €300 per hectare. Therefore, in the process of decarbonizing the earth, a million hectares of forest could also sequester 4 million tons of carbon and would therefore generate a €300 million yearly cash payment. The question here is; if you take away subsidies and add drought, how much do farmers really make per hectare? And is €300/hectare given in perpetuity really an adequate recompense? For instance, a 200-hectare farm would sequester 800 tons of carbon with no overhead and a yield of €60,000.

The long-term outcomes appear to be rather remarkable. When a forest matures over a 200-300 year period, the growth cycle in the trees tends to stabilize, reducing the ability to sequester carbon. At this point one could begin harvesting, opening up canopy and increasing biodiversity. Now, assuming a larger 1000-hectare farm, in 200 years the future owner will be able to harvest 5 hectares per year of profitable diverse woodland species.

The Specificity of Focus

More specific focus will emerge from the initial research design and the small group that puts it together. At core, it is our intention to create a work of art that is a work of science, and a work of science that is a work of art. By this we mean that the artist/scientist collective intends to co-create both the research design and the aesthetic design simultaneously and in transaction. The initial group has a history of doing just this. Dr. Douglas White, with the University of California Irvine and a fellow of the Santa Fe Institute as well a leading complexity theorist, (see complexity journal- Structure and Dynamics). Dr. Schneider Jacoby, one of the leading figures in Euronatur, has worked with us on *Atempause fur den Sava Fluss*, *Peninsula Europe* and *The Endangered Meadows of Europe*. Dr. Grabherr, a professor with the Department of Conservation Biology, Vegetation and Landscape Ecology at the University of Vienna, was also involved with *Peninsula Europe*, *Endangered Meadows* as well as in collaboration with us on *Greenhouse Bonn*. Dr. Barthlott, a professor with the Nees-Institute for Biodiversity of Plants and the Director of the Bonn Botanical Gardens, also worked on *Endangered Meadows* and *Greenhouse Bonn*. Dr. Franz Theo Gottwald, Director of the Schweisfurth Stiftung, whose Institute first enabled the book “Groene Landschaften-Vision Die Welt als Garten” and thereafter, helped us get the EU grant and supported the exhibition, “Peninsula Europe.”

The Presentation

The form of presentation will be determined in good part by the discovery process that develops from the initial research. Given our history, we believe that there will be art exhibitions, scientific papers and media type events seeking the largest possible trans-European audience. There is no way at present to detail this kind of an outcome, since the process of discovery will inform the processes of presentation, which will in turn inform its ability to outreach. We are working in a domain that is, what we call, post-categorical. It concerns Global Warming, experimental forestry, a search for new ecosystems, new ways to secure water supply, the movement of population and the conditions when arable land is diminished. We do not wish to create the impression that this work will literally solve all the problems that it addresses. We would, however, expect the presentation to carry a lucid and unique whole-systems expression that is dramatic from an aesthetic perspective. We would also expect it to generate a new cultural narrative, which would inform and would also set the stage for a unified effort by the European Union as a whole, since Peninsula Europe and the EU occupy almost the same terrain.

In conclusion

The Schweisfurth Stiftung, with whom we have worked for many years, has agreed to house the project, offering meeting space and supplying the umbrella of a distinguished NGO. The scientists involved are also people we have worked with over many years. Our request for funding is modest given the scale of issues involved. The basic intention is to explore the viability of the concepts expressed. Thereafter, we would seek much larger grant monies to enlarge the group we work with in order to make the appropriate presentations both

scientifically and artistically. Finally we are most interested in the processes that would permit us to make the type of presentations that generate a trans-European discourse. We would expect that discourse to suggest the policies that would need to be put in place for a unified vision of the high ground to protect its own wellbeing in the manner described in this proposal.

This proposal was invited by the Bavarian Research Alliance, who have agreed to assist in developing it.

ADDENDA

A. Necessary Conditions for the Formation of Stability Domains

These are our first tentative approximations of what appear to us necessary conditions for the formation of domains of stability:

1. New stability domains in this period of instabilities will only emerge when resources are available to meet a collectively perceived crisis in the environment. The formation of groups dedicated to the creation of stability domains, however, may generate new resources or may make unrecognized resources visible.
2. A stability domain will only develop when the culture or cultures involved, however different, are sufficiently in tune or in agreement that well-being, economically, environmentally or culturally, is profoundly endangered and it is clear something needs to be done.
3. A stability domain will only develop when a coherent simply-stated vision is put on the table that explains what it is, why it needs to be, and the consequences of it not happening. The vision itself must have certain properties
 - A. It must emerge from and be supported by culturally credible sources.
 - B. The values expressed in the vision must be perceived as advantageous on many levels and the perceived disadvantages manageable.
 - C. It must be free of personal self interest and able to undergo public scrutiny and comment and be modified within the context of its structure.
 - D. It cannot emerge exclusively from the internal operation of the culture itself.
 - E. It must clearly address issues at the scale they exist and the proposed transformation must be visible (i.e. cognizable) to or by all who so desire.
 - F. The scale must be large enough and have sufficient redundancy to tolerate ambiguity, stress, and dissonance without negating the organizing pattern.
 - G. The opportunities for creativity or new invention must be visible.
 - H. It must be only minimally critical in nature and must work with existing systems and diversities.
5. A stability domain will not emerge from even the most complex probable solutions made from a single discipline or point of view. A first look suggests that for a pattern of stability to emerge on the ground, the following elements must come together in a single image or a grouped set of images that we have called sustainability icons which present a new perception of place as a domain of stability.

- A. The images must be iconic in nature, and reflect the boundary conditions of the whole discourse, while echoing the discourse of the companion icons that make up the whole.
- B. Each sustainability icon, while expressing its individual subject-matter, operates with or is nested into, one or more other icons of its kind.
- C. Each sustainability icon must have structural flexibility so that, when enacted, it can move on the ground or in relationship to other systems within which it is nested as long as the pattern maintains its stability.
- D. Each sustainability icon is complex in its own function and in its relationship to others of its kind.
- E. Each sustainability icon must allow for infrastructural growth, constancy and/or shrinkage.
- F. A sustainability icon must address economic issues directly.
- G. A sustainability icon must allow for the restatement of or preservation of ecosystemic values, tuned to making clean air, clean waters and healthy earth available to all.
- H. A sustainability icon has embedded in it the capability of preserving cultural and subcultural entities within the whole.
- I. A sustainability icon of necessity carries with it feeling tones of affirmation, caring and nurture.

B. Projects leading to “Peninsula Europe”⁷

The 6 works below lead up in various ways to the “Peninsula Europe” exhibition. They include one grassland work, “The Endangered Meadows”, and five watershed works. Four of the watershed works are individual drain basins. The fifth, entitled “The Serpentine Lattice,” addresses the whole Pacific Northwest Fog Forest. In the past 50 years, 50,000 sq miles of this national treasure was harvested, mostly by clear-cut. Moreover, about 70,000 miles of river and stream were also damaged, some irreparably. It is the icon and scale that emerge in the Serpentine Lattice that made it easy for us to see the value and possibilities of the European High Grounds.

Greenhouse Britain 2006-present Commissioned by DEFRA, the Harrison Studio argued that the waters would rise gracefully and then posed the question, “How might one withdraw

⁷ The Editor asked us to evaluate and if possibly quantify the effect that each of these works has on the environment, on public awareness, and on policy. It is virtually impossible to do so and would require applying the tools of sociology, submitting questionnaires, documenting responses, and doing statistical analysis, analyzing environments before and after the work, and looking at long-term responses. We are neither funded nor equipped to do such things. It would be awfully nice to have a team approaching our work from this perspective. However, in our opinion there are outcomes. Much, but by no means all, of the evidence for the outcomes is anecdotal. So, here is our best shot at answering your questions.

with equal grace?" and "How might one defend?" The proposal is in process of development into 4 exhibitions to be simultaneously expressed in 4 venues in 2008.

Greenhouse Britain is in process. The most original aspect of this work, the upward movement of people, will be presented in November in several venues. And it is too early to tell what will happen.

The Santa Fe Watershed: Lessons from the Genius of Place 2002-2005

A 4,00 sq meter exhibition. We, the artists, were pressed to work with water, which was scarce in the region. Instead, we argued that water was scarce because the topsoil was so damaged by earlier massive overgrazing that it could not act as a sponge. Therefore, the exhibition made 5 proposals for topsoil restoration and called for a 4 million dollar river restoration, which is now in the city plan.

In Santa Fe Watershed: Lessons From the Genius of Place – 87 mini ecosystems were planted at the top of 87 principal arroyos in the Santa Fe Drain Basin. These gardens were designed to let their seeds wash down the arroyos during the rainy season thereby increasing biodiversity and reducing erosion. No measurement systems were implemented. A second outcome is the acceptance of our concept to the restoration of a seven-mile stretch of the Santa Fe River by the city. As far as we know this concept is in the city plan and the plan is in process.

A Vision for the Green Heart of Holland 1994-1995 - Commissioned by the Cultural Council of Southern Holland and the Province of South Holland. A vision for the large green historic agricultural area that centers the Randstat. Undefined borders had let development continuously disturb and diminish it. We proposed the first ecological corridor 1-2 km wide, in the shape of a ring that, by its borders, defines both the Randstat and the Green Heart while serving as an ecological transition zone between urban-horticultural and agricultural-historic areas. This corridor appears on the map as a giant sun-sign with rays representing the proposed park spaces that would separate the Randstat cities and thereby permit each of them to maintain its unique identity. Most important economically, future development and the area for building 600,000 new homes, instead of filling the green heart, will be situated by infilling the ring of cities and offering desirable housing that borders on park areas without the need for a vast new infrastructure. The monies involved would flow to the local communities instead of to the international one. Ultimately the line was accepted as a boundary. Development was placed elsewhere and the Green Heart was preserved.

Greenheart of Holland. Before our work the "Greenheart" was not defined. After our work was exhibited, the Greenheart, as we defined it in our images, appeared on the map of Holland. Development was not permitted beyond this line in their planning processes. Presently, the Greenheart as we delineated it had been declared one of the 7 great open spaces in need of continued preservation in Europe. Originally the Greenheart was going to be developed with over 600,000 houses. This was a 150 billion economic engine. Our work of art redirected this project.

Future Garden, Part I: The Endangered Meadows of Europe 1994-1998 – The title of this work refers to the endangered meadow mosaic of Europe. Commissioned by the Kunst- und Ausstellungshalle der Bundesrepublik Deutschland, in Bonn Germany. On the 2 acres of roof garden on top of the museum, we transplanted a 400-year old meadow that was being replaced by a highway and told the story of the meadow and its value as a model of cooperation between human needs and a bio-diverse habitat. Ultimately, 3 other endangered meadows were installed, thereby generating the most complex meadow biotope in Europe. Thereafter it became the subject of biological research. The exhibition lasted for 2 years after its opening date in June 1996, and 220,000 people came. The Meadow on the roof was then transferred through hay and seed to the parks of the city of Bonn on the Rhine.

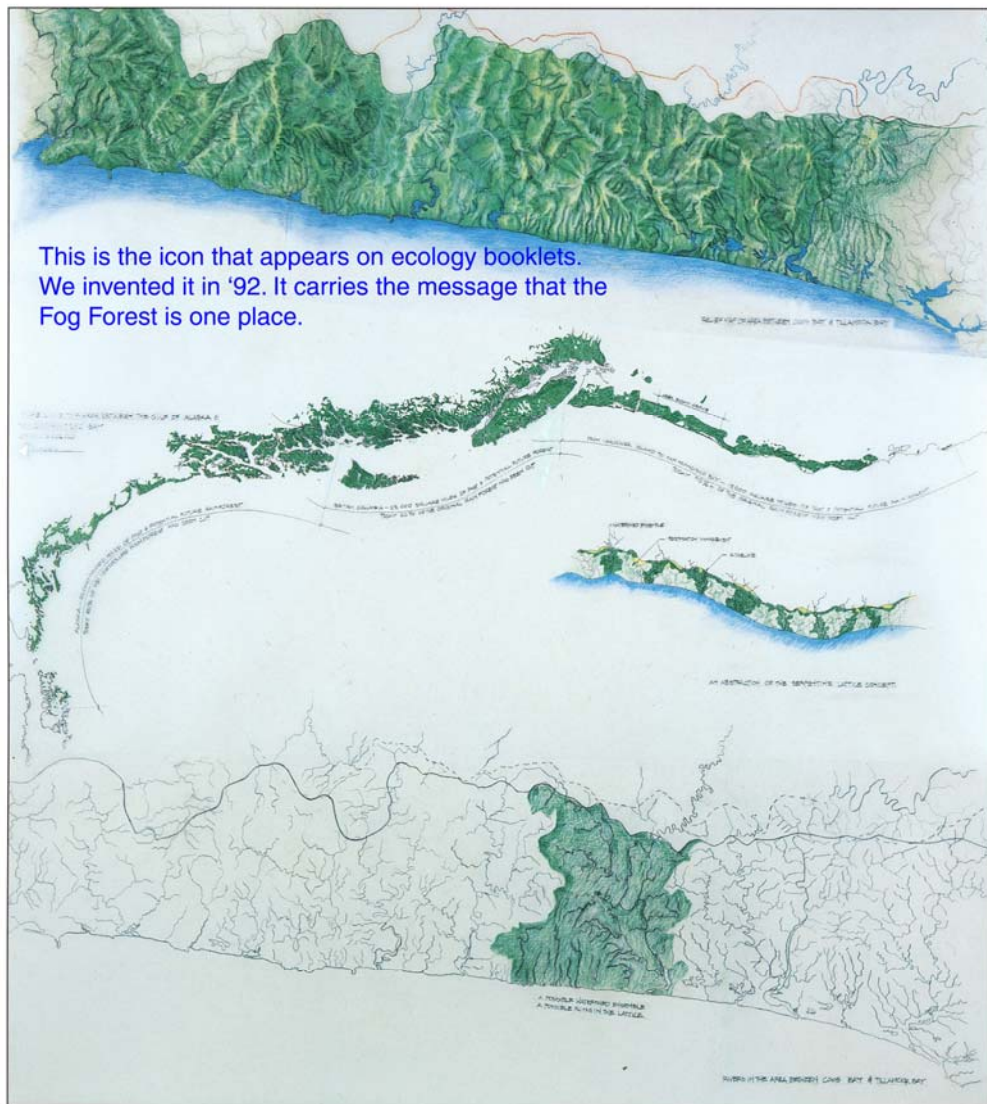
Future Garden. The work was opened by Angela Merkel, the then environmental Minister of Germany, now Chancellor. 250,000 people came. Biodiverse meadows were then planted throughout the city of Bonn, reintroducing its original ecosystem, increasing biodiversity, while decreasing maintenance costs. We are told that this has been repeated in other cities.

Serpentine Lattice -1993- Installation 10'x36' dissolving-slide mural of the disappearing North American Pacific Coast Temperate Rain Forest. 95% of the old growth has been harvested and the clear-cutting has left perhaps 75 thousand miles of damaged stream and river. Includes a 12'x36' hand drawn map, text and forest image photo panels. Commissioned by the Douglas F. Cooley Memorial Art Gallery of Reed College. A conceptual design that would create scaffolding for the sustainable reclamation of that Pacific North West Temperate Coastal Rain Forest. Exhibition catalog. German translation. In traveling exhibition, "Creative Solutions to Ecological Issues". Catalog.

Serpentine Lattice. The basic icon drawing expressed the idea that the Pacific Northwest could be seen as one place and worked with as one place. At the time of this work no one thought this way. If you look at the iconography on the pamphlets of the various ecological groups you will see this icon with minor variations appearing again and again. We consider this as pretty good evidence that a powerful icon can help create a text in the culture in a way that nothing else can.

The Serpentine Lattice icon below shows its origin as a modest drawing on the cover of the catalog. It follows our icon rule, that it can be printed small or large (a button or a billboard). The catalog also shows our large image, which is about 30 feet long and hand-drawn. The icon stands for the Pacific Coast Fog Forest that extends from above San Francisco to Alaska. When we first did this work, there was no text in the culture and the ecologists were all working with small patches, not whole systems. What others have done is taken this drawing and somewhat elaborated it. About 7 or 8 years later, a number of the organizations began to work with whole rivers and watersheds and recently, people are seeing the Pacific Northwest as a unity. What's interesting to us is that the text is building itself in the culture and therefore, the basic narrative underlying the icon is becoming much more fully formed.

THE SERPENTINE LATTICE



NEWTON HARRISON AND HELEN MAYER HARRISON

Atempause für den Save Fluss -1988-1990 Performance and 140 foot photomural and text installation. Commissioned by the Neuer Berliner Kunstverein and the Moderna Galeria of Ljubljana. Supported by the Berliner Künstlerprogramm of the DAAD and the Water Department of Croatia in Zagreb. Originally responding to a request to help establish a nature reserve on the flood plain of the Sava River, the work instead argued that a reserve would be continually shrinking from the assault of the factory farms and proposed instead a nature corridor than ran the length of the river from its initiation in the mountains of Slovenia until it emptied into the Danube at Belgrade, supplying the lower Danube with one third of its water. Translated into 6 languages, this project won Second Prize in Artec '91, the Nagoya Biennial at Nagoya, Japan. Its exhibition opened the Biodiversity Conference at Penn State University in 1991. Exhibition Catalog in German and English, with 16 color pages and an edition in Slovenian.

Atempause für dem Save Fluss (Sava River work). Our proposal for the restoration of the river itself was accepted in principle by the Croatian water department. Our assistant, Martin Schneider Jacoby, now a very important watershed ecologist in Europe, took 4 years to get 4 countries to agree to keep the Drava River, which is the sister river to the Sava, in a pure state. He did so while continuing to work with the Sava River after we left. He was successful in both cases. The Sava and the Drava collectively give the lower Danube 50% of its clean water. The outcome of this was to help flush the polluted estuary of the Danube River as it flowed into the Black Sea. We call this process conversational drift. We do so because the images and narration, fundamentally conversational in nature, although poetically written, reshaped the original discourse around the Sava River. The outcomes for the Drava and the Danube, we believe, would not have happened without this original conversation. So, at least, Dr. Schneider Jacoby explained to us. The telling metaphor in the Sava River work, for instance, was the text that dealt with the shape of catastrophe becoming the shape of opportunity.

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