

ATINER CONFERENCE PRESENTATION SERIES No: ARC2019-0156

ATINER's Conference Paper Proceedings Series

ARC2019-0156

Athens, 23 September 2019

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Critical Discussion of Sustainability**

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ARC2019-0156

Athens, 23 September 2019

ISSN: 2529-167X

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Critical Discussion of Sustainability**

ABSTRACT

The Earth needs protection from human activities. The phenomenon of deterioration of the physical environment has increased significantly causing major changes. Life is strongly connected to the quality of the natural environment and its alteration makes humanity permanence no longer certain, whether actions are late to be implemented. Sustainability has acquired centrality in international debates to establish new forms of development. It became urgent to rethink modalities of living, producing, moving, to ensure continuity and balance. History reveals that nature has provided humans with knowledge and resources to develop in any field. Thus, the role of nature has been crucial in creating machines which helped to improve our lives. However, the environmental crisis we are facing, shows how we failed the attempt to fully reach such advanced technology in nature, instead polluting and exploiting resources. In other words, sustainability of designs are re-questioned to tackle environmental changes and lead future challenges. The aim of this paper is to understand and investigate the relationship between the natural environment and human beings within the context of water and design. Different types and states of water enforce a variety of behaviors and effects to its surrounding. This study also aims to understand and investigate the sustainability debates within the context of inventions/sustainable inventions and the role of nature influencing these designs. This research investigates these through different case studies as well as the research of movies and works of artists that have scenes of natural environment (especially water) and design where critical discussions and debates are emphasized. These critical discussions are analyzed in order to stress the relationship and dependencies between the nature and human beings in particular to sustainability debates.

Keywords: sustainability, natural environment, water, design, behavior.

Introduction

This research aims to investigate the relationship between the natural environment and human beings within the context of water and design; and their behaviors influencing its surroundings. In addition to this the study investigates the context of design and sustainability.

This research will create an approach to address these aims through literature composed of different case studies as well as the research of movies and works of artists that have scenes of natural environment (especially water) and design where critical discussions are rising. These investigations will lead to reveal the language as a tool and to investigate the role of nature and culture influencing this formation; a state of consciousness.

The understanding that earth is where there is life in the universe blinds our consciousness on our imaginative universe. Domestication has reached out of control of the individual. The problem of today's living counters is that the power in human oriented civilizations tends to discover every habitat of the beings as a possible habitat for the word 'life'. Natural habitat is organized through a multi-disciplined social-economic structure in which the specialization determines and limits the ability of free imagination and interaction of the society and mainly the individuals in it. Self-critique, evaluation and transformation of this structure works on a different scale than the human/animal/being/ individual scale. Societies arranging their global relations on the values of power and control reduces the existence of the individual to sub-sub-sub disciplined economic sustainability, climatic sustainability, human rights sustainability, educational sustainability and similar other fields. Control as a dangerous phenomenon confronts the individual. An individual's ability to auto control and/or control over unities, society is diminished. It is important that power bonds weaken and the individual can find life.

The conceptual framework of this research includes; water and its physical qualities, water and design, water as public space, behavior, the individual being, alienation, motivational force, empty space (void), and sustainability. These are discussed around the idea of organism as well as the experiential body of design around different states and forms of water. Humor; as a balance between serious issues and unofficial situations, helps creating the consciousness of the situations met through the above mentioned concepts.

This research investigates these key concepts through different case studies as well as the research of movies and works of artists that have scenes of natural environment (especially water) and design where critical discussions and debates are emphasized. These critical discussions are analyzed in order to stress the relationship and dependencies between the nature and human beings in particular to sustainability debates.

In the conclusion section discussions are tried to be grounded on the concepts of mobility, nomadic values, open source, consciousness of the evaluation. It emphasizes the importance of the consciousness to evaluate the reality as a basic approach for the concept of sustainability in the human-nature relationship at every stage of the design phenomenon.

Literature Review

Water and its Physical Qualities

H₂O, in all its forms in nature, is undoubtedly the basic element for life existence on Earth. Water is everywhere; it is in the intracellular and extracellular fluids, separated by a thin membrane of lipids, facilitating the flow in-out of substances. The cell represents the basic structure of any organisms known, and so water performs as the principal ‘building block’ of the smallest unit, which life is made of. The human body, for instance, is composed of approximately 40 trillion of cells, containing an average of 60% of liquids, essential for the ‘body machine’ to function. Water acts indeed multiple tasks; it transports oxygen and nutrients back and forth the *small rooms*¹, it regulates the internal temperature using its high specific heat capacity, it also aids to release waste and toxins from the body (Figure 1). This basic mechanism of ‘cells and water’ is overall observed at different scales in nature. The Earth, for instance, can be considered as an extensive functional unit, covered by oceans for approximately 70% of its surface. The endless moving and transformation of water across the biosphere, from the sea to the air, through animals and plants, ensure life continuity and regeneration within the unit.

The ‘*water cycle*’ is responsible of essential phenomena and affects significantly the climate patterns among each sub-area of the Earth; for example, oceans perform a key role on temperature management. As a massive ‘*heat-retaining storage*,’ it firstly intercepts and stocks solar radiations, then it releases the warmth in the environment through a change of ‘*state of matter*’, from liquid to vapor and vice versa; in other words, evaporation and precipitation. The presence of H₂O, variable from zone to zone, strongly characterizes the living environment in all its aspects.

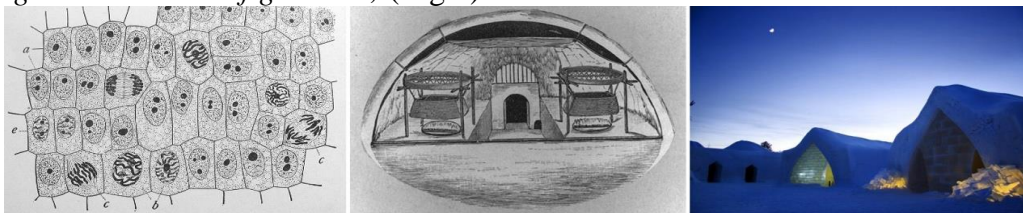
Life conditions are extremely different whether we consider the arid desert, rather than the temperate Mediterranean basin or the freezing polar regions. Hence, it truly affects climate and landform, as much as animal and vegetation, and of course humans’ activities, culture and business. Water is indeed a very essential and powerful element in nature, and represents a great challenge for the human being. Its usage consists of a long history of events and great inventions across various fields such as hunting, navigation, farming and architecture. Man has always tried to gain control over the water, to transform it, to contain it, to shape it, in order to satisfy its own needs.

Findings show that *fishing* was carried out since the Paleolithic Age, while *agriculture* developed over 10,000 years ago in the Asian and Middle Eastern regions, marking the definitive passage from nomadic to settled life, and the formation of earliest communities along the coast and internal waters. From now on, ‘*water technology*’ evolved rapidly to supply farmlands, houses and public spaces of the emerging cities, through aqueducts running across the landscape, of which we have inherited the roman type as a model of very advanced technology in ancient time. Since then, the greater availability of water, in both the rural and urban living contexts, has increased life conditions and the overall

salubrity of the environment. Its widespread diffusion was crucial for cities to grow and the development of 'water infrastructures' until the present time. Sophisticated systems of distribution and management have been implemented, while a dense network of piping flows in the substratum, and comes above to supply the access points disseminated everywhere, with the aim of reaching a wide number of users, 'democratizing' this essential resource.

Furthermore, H₂O is involved in some of the construction processes required to build up our buildings; it is indeed a basic ingredient to produce reinforced concrete massively adopted in contemporary constructions. Overall, H₂O is contained in various types of masonry works; for instance, the typical Cypriot houses in the old town of Nicosia are made of mudbricks walls laid on a perimetral stone foundation. Mudbricks have a relatively low 'environmental impact' since are composed of local materials such as clay and straw mixed by water, showing excellent thermal and acoustical insulation properties. Extreme and unique is instead the case of the 'igloo,' the type of shelter diffused in the arctic areas, where the water is employed as the primary and only component to manufacture snow blocks, then assembled by resembling the iconic paraboloid shape which ensure structural strength. Due to the snow insulation property, the inside temperature may range from -7 to 16 °C, when outside is freezing as -45 °C. The igloo is a relevant example of vernacular architecture in a tough environment, recently rediscovered for the purpose of the 'snow resorts,' mainly dislocated in the northernmost areas of the Scandinavian countries, where the Aurora Borealis is generally observed. It is a very exclusive experience of living like the arctic people, and so overturning the concept of luxury itself (Figures 2-3). Moving ahead through the topic, there are several other contexts, surrounding the sphere of the city and the leaving environment, where the natural resource is required and essential; to name a few, the production of hydropower energy, the industry of transformation of food, the religious rituals, the industrialization of products, enterprises of any sort. The water flow sustains any activities and processes necessary for the community to prosper.

Figures 1, 2, 3. (Left) *General View of Cells from a Longitudinal Section*; (Middle) *Igloo Internal Configuration*; (Right) *Artic Snow Hotel*



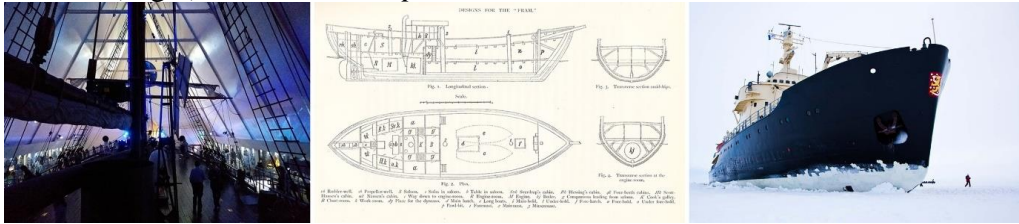
Source: (Left) Wilson, Edmund B. (1900) *The cell in Development and Inheritance*; (Middle) URL=interiorfans.com; (Right) URL=www.hotels-world.com.

The proximity of settlements to the ocean and waterways, characterized instead the aptitude of people toward sailing, fishing, boat building, etc. The sea represents indeed a great source of nutrients and products to trade, the place to go for pleasure, the means of acquiring knowledge. There is a strong and durable relationship between 'man and sea', studded of remarkable discoveries

and adventures, catastrophic wars and memorable races. The first, determined to get control over the second, learning its secrets and dangers, improving the way to cross safely. In this regard, '*ships*' are the result of human intellect aiming to '*conquer*' the sea and its ecosystems, perhaps '*crossing like fishes*'. Surely the hydrodynamic environment influences forms and behavior of ships, as much as for marine organisms. The aerodynamic body, strong chest and fins are typical features of excellent swimmer, of the pelagic domain, while fishes living at the benthonic level are flattened with small fins and tail. Studies proved that their swim efficiency is higher whether the shape and diving style are appropriated for their speed. Similarly, the meteorological conditions of a specific area of navigation, are crucial for the characterization of the performances of a vessel in term of seakeeping, speed, structural configuration, etc. These factors can be defined within the design process, taking into account the unpredictability of the ocean. There are several types of vessels, for instance, submarines operating underwater, hydrofoil flying over the surface, sail yachts crossing between two fluids, air and water, taking advantage of wind kinetic energy to convert into motion. The latest reminds the natural behavior of the '*flying fish*', who can glide short distances out of the water. The attempt to find analogies between ships and sea organisms is intended merely at a conceptual level, to understand human aptitude toward imitating the nature. Digressing a while, the fish skeleton and the structural frame of boats share a similar configuration, which consists of a central spine, the '*keel*', and side bones or '*frames*' in marine language. In both cases, it performs a similar job by protecting the internal parts, and support the outer skin, overall ensuring strength and flexibility to oppose to external stresses and atmospheric agents. Moreover, the orientation fore-aft of the motion which is generated by a propulsion system developed backward, represents a further element of comparison.

Coming back to the main topic, in the context of polar navigation, icebreakers are the evidence of the great influence that water plays on the definition of the *hull*² forms; for instance, the '*Fram*' is a ship employed for the expeditions in the Arctic and Antarctic regions by the end of the 19th and the beginning of the 20th century exhibited in the Fram Museum of Oslo (Figure 4). It was a three masted schooner originally equipped with a steam engine. The ship was relatively short, characterized by a solid and thick structural frame to resist the ice crushing pressure. The hull was conceived by Nansen's theories, the expeditioner appointed to lead the design, who suggested an innovative '*egg shape*' composed of rounded sides and bottom enabling the vessel to rise on top of the pack ice when stressed by the pressure of the ice itself, avoiding the possibility to get crushed or trapped (Figure 5). Nowadays, shipbreakers use their inertia combined with the propulsive thrust to ride over the ice slabs, then using the rounded and solid bow to break them by landing with all weight (Figure 6).

Figures 4, 5, 6. (Left) *View from the Deck of the Fram at the Fram Museum in Oslo;* (Middle) *The Fram Body Plan Showing the ‘Egg Shape’ on the Cross Section;* (Right) *Icebreaker Sampo*



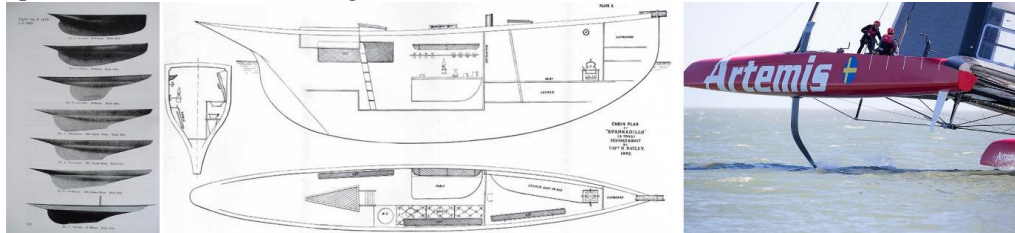
Source: Nansen, Fridtjof: *Farthest North*, Vol I p. 61, Constable & Co, London 1897; (Right) URL=www.kakslauttanen.fi.

Furthermore, the ‘fluid friction’, due to the physical properties of water, truly affects the overall performance of ships in motion. The geometry of the portion of the hull under the ‘water line’ is decisive to define stability, and comfort, as well as speed and energy consumption.

For instance, the history of boat racing is wide and rich of significant projects, where the relationship between ‘water and hull shapes’, has constantly produced innovation. Since the first regatta was run, approximately in the middle of the 18th century in Wales, British has developed know-how in design and construction of fast sail yachts, focusing on relevant hydrodynamic studies which have led to the experimentation of a large number of hulls (Figure 7), sometimes extreme such as the series “deep and narrow” of which *Spankardillo* launched in 1882 represents an interesting example of design mainly oriented to speed rather than cruising (Figure 8). Along time, the aptitude of pushing forward the limits, typical of the world of racing, has stimulated an incessant process of renovation of design models and technologies. Recently, we have seen the transition from monohull to multihull, a new generation of fast sail boats able to fly over the water surface by using hydrofoils (Figure 9).

Overall, vessels are complex objects combining more than one function, for instance the peculiarities of a means of transportation with the qualities of the human living environment. The external shell supports and protects all the internal components, systems and consists of a smart skin to contrast the action of the atmospheric agents. Operating simultaneously in the water and the air, boats respond to fluid dynamics laws, which contribute to define their shapes, aesthetic and motion performances. To conclude, ships are living units and machines in a wet environment, where the endurance of the entire system and inhabitants is ensured still by water flowing in, to supply vital functions such as cooling, refreshing, cleaning, etc.

Figures 7, 8, 9. (Left) *Hull Shapes Developed between 1879-1909*; 1882 Cutter *Spankardillo*; *Artemis Racing AC72*



Source: (Left & middle) C. Sciarelli “Lo Yacht”; (Right) URL= yourcruisingeditor.wordpress.com.

Water and Different Behaviors

Controllable and uncontrollable states of water make it easier for us to examine the relationship between design and formation. As water varies with different forms, it creates a special environment for design. More precisely, the design builds the idea of the environment in itself.

We consider ‘water’ as a medium or idea where we can experience the design. We examine the works (constructions) of literature, art, crafts and etc. which holds obvious or metaphorical relation with water. This research aims to create a sustainable perspective with the concepts that we have touched on this path. In the following sections we will focus on nomadic values and skills that break conservative, consuming approaches.

Water as a Metaphorical and Physical Element to Reveal the Universality in Designs and the Design Consciousness in the Universe

Having water as the unknown terrain for transformed life forms (having their previous natural structure) encounter to form the object and evolve in the new nature of its own. We take this process as design. To understand about the change or the equilibrium we aim to investigate the individual being of any kind.

Human expression plays an important role in the civilization. The healthy growth of the civilization lies within the richness and the variety of expressions. They do not have to follow a former grammar but should transform through the self-encountering the reality, which can be called as the consciousness (Jarmusch, J. 2013).

Vian’s quote also supports the contradiction between rules and individual expression: “... It turns out in fact that the masses are wrong and that individuals are always right. One must be careful not to infer rules of conduct: they do not need to be formulated to be followed...” (Vian, B., 2013).

In ‘Breaking the Waves’, (Trier, L., 1996) *unusual young woman’s*¹ reality was not empathized and accepted by the mass culture. The film with its Dogma 95 approach reveals the imagined and conceived reality of the individual’s pure love. Although her expressions and acts were harmless to anyone, she was still

¹Description of the main character of the film in <https://bit.ly/2l00eM1>.

considered as an opposition for the mass culture. Dogma collective was breaking the large industry's and monopolies managing a form of the human expression; and aiming to purify the filmmaking. One of the Dogma rules 'the director must not be credited' was pointing out the breaks in differentiation among the creator, observer, the subject happening in the event, the fiction or the documentary (Dogma goals and rules). Technological developments in filmmaking and especially in knowledge-share mediums opened up the possibilities of the individual's expression.

When Hiroshige was making wood block prints on the Japanese trade roads, merchants were low on social status, and traveling artists had even lower social status; because merchants were using the fruits of others' efforts and artists were picturing or acting or revealing the events happening. With the spread of print paintings, the flow of information and the increase in cultural interaction, the traveling artist gained a valued social status because they were creating something for the social-economic life.

Like the late 20th century in filmmaking, in 18th century, personal expression under the constraint of oppression and means becomes free. During Hiroshige period, with the influence of the European science as the relations develop between Japan and Netherlands (western anatomy, anatomical structure, vanishing point perspective), the artist reveals a new value and personal expression on his observations. This value spreads out to the culture due to the availability and accessibility of the printing technique (Schlombs, A., 2019).

Figure 10. *In Hiroshige's Wood Press Painting Dead Fishes with their Anatomical Structure, a Poem as a Tribute to their Soul and the Flow of the Motion is Composing a New Nature. Trout, from an Untitled Series Known as Large Fish, 1832-33*

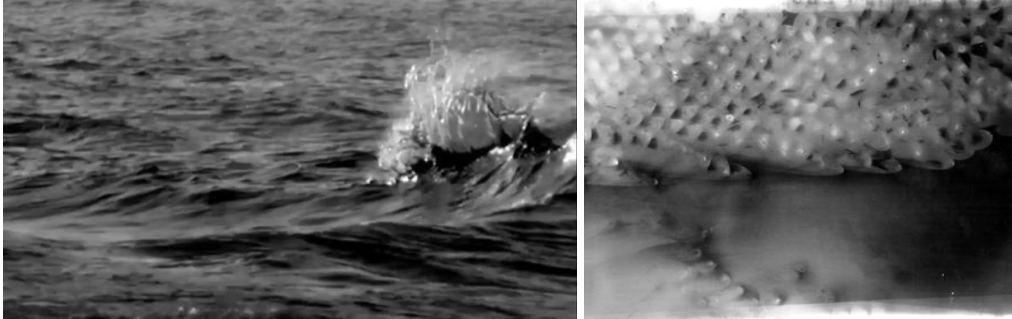


Source: Hiroshige, 1832-33.

Mur is a video produced through a two year process of diary formation and periodically expression of these as part of audio-visual band (AV4, 2009) performances to the public. The storyboard was formed through interaction of different forms of expression and different technological mediums (electronics,

interactive computing). Through these performances the movie was regenerating itself.

Figure 11. *Mur, Yardimci, C., Experimental Video, 2013*



Source: URL=<https://vimeo.com/63988356>.

In the formation of the video, nomadic participation which is creating placeless and timeless base reveals happenings. As remembering and forgetting is a powerful act of the memory, things resonate to perceive the conceived image (Send To Space, 2018). There is a flow but not a narration; like water finds its way. Video starts with a filmic contraction/spasm of *laughter*² of a new born child.

*“... sound thinks, Bosphorus, fall (! dream),
My tongue tickling, Loose, ... wall,
Forget:
One can act to watch,
One can think as-to remember the film.
Hitchhiking is to remember the way...”*³

We believe the reason Fellini was called the maestro is for his polyphonic imaginary being composed of individualities. The improvisation and spontaneity in a form of realization in his films is the key behavioral act for the work of human expression. He as a director (realizer) creates the suitable space-environment for birth (Fellini, F. in: Fellini: Je suis un grand menteur, Damian Pettigrew, 2002).

This is an important statement for architecture. As the director starts to direct the film (the work as an alienation), the film starts to direct. Within this alienation, the other is the design; the work of art... It is the timeless and placeless act of the transformation. The power of design in sustainability manner is to rationalize the non-designed.

The ‘alienation’ is related to the other which is totally belongs to a different system / organism. Markos Novak describes ‘alloselves’ as they have reflexes, as they contain themselves in and they act with the medium affecting them. Alienation offers a self-referential consciousness (Markos Novak, 2002).

Solaris, a philosophical science fiction novel, written by Stanislaw Lem, consciously creates the ocean as an alien to prevent any personification. By

²just born child does not cry; it laughs.

³Notes of the realizer of the video.

doing so self finds themselves in their embodied memory. As Lem quote, "The peculiarity of those phenomena seems to suggest that we observe a kind of rational activity, but the meaning of this seemingly rational activity of the Solarian Ocean is beyond the reach of human beings" (Stanisław Lem, 1989).

"As *Solaris*' author I shall allow myself to repeat that I only wanted to create a vision of a human encounter with something that certainly exists, in a mighty manner perhaps, but cannot be reduced to human concepts, ideas or images." (Lem, Stanisław, December 8, 2002).

Lem, in his critique on the films⁴ realized based on the novel 'Solaris', states that the films were structured on the human being as the protagonist, and according to the human being's perception (Stanisław, L., 2002). Analyzing this novel and the 3 films related to this novel, there is only one way referential transformation during this encounter. The following paragraphs will be investigating this threshold, questioning the sources and forces of transformation.

Water, Design and Beings of Transformation

Act, silence and darkness seems to be opening up other senses as well as they keep the value of their non-existence of the source; such as silence; the non-existence of sound; darkness; non-existence of light (for a blind; light is still light depending on the source's physical experiential properties); act; non-existence of language.

The source in the idea is questioned as in the works of following artists. When Tanizaki is talking about the locality of innovation he questions what if the Japanese were to design the pen; it would definitely have a brush at the tip. While talking about the value of the dimmed light on objects and in the space he brings out the idea and the value of the Japanese & Chinese paper being absorbent, on the contrary A4 paper being reflective (Tanizaki, J., 1933). In Samuel Beckett's play 'Not I' (1973) the source of the light and sound is the mouth (the act itself). And the play is dimmed through our experience.

Figures 12 & 13. (Left) *The Theater Play Not I* by Samuel Beckett, 1973 (Right) *A Caption from the film Spring, Summer, Fall, Winter and Spring* by Kim Ki-duk, 2003



Source: (Left) Beckett, S. 1973. (Right) Ki-duk, K. 2003.

⁴Solaris (1972) by Andrei Tarkovski, Solaris (2002) by Steven Soderbergh.

Light dimmed through the space while it reflects as being absorbed, tracing shadows and transferring as in transparency are seen in the absorbent elements. When materials work with different conditions (suitable for their characteristics) they can adjust, transform; they live. The object becomes the source; it brings the values of the source alive. In a way, the body is a transmitter as the chameleons transmits the waves of light, resonations we see is the change of the color. Woody Allens' *Zelig* (1983) person becomes the transmitter of the psychological, cultural, timeless encounters of self-referential contradictions.

In the scenes from *Ki-duk*, Spring, Summer, Fall, Winter and Spring (Figures 14 & 15), fiction is the metaphorical wall we go through. Matters are bound together as they also float, like the tree, the boat, the gate, the place and indoor vs outdoor.

Figures 14 & 15. *Two Scenes from the Movie Spring, Summer, Fall, Winter and Spring*



Source: Ki-duk, K., 2003

Powerful elements in these films are forming smallest form of meaning unities which is an architectural space value. Haiku are also the smallest form of meaning unities which by its structure and nature does not direct you; they place you in a state of mind or a happening in which it holds the clues about the psychological, cultural and physical environment.

The Use of Existence of Water as an Element in Different Design Proposals/ Works

There is similar relation among the art work and the artist; the building and the architect. Ali Demirel, in his trilogy observes and discusses about life forming in the abundant buildings. Once these buildings had their functions, they were designed for the human needs; the pier, the cistern and the factory. Inhabitant becomes the wild nature. Through different phases of water; 'The Pier' (Ali Demirel, 2015) in the middle of the open sea, 'Kuyu' (Demirel, 2017) a stable pond, 'The Plant' (Demirel 2018) draining and dripping; building slowly desolves. In his observed apocalyptic state he points out that the buildings are becoming free (Ali Demirel, 2018).

Figures 16, 17, 18. (From left to right) *Images from the Videos: The Pier, The Pond (Kuyu) and The Plant*



Source: Demirel, A. 2018.

We want to mention similar motivational forces on both designs below (Figures 19 & 20) the idea developed on the flow (on the cord) of the water, and (in the exhibition) of the people. The flow depicted in the video ‘Hortum’ (2000) in which Demirel focuses on the details of the body of watering pipe, becomes the spiral cord which moves with the exhausted water while in the corridor installation (The Isle, 2018) ‘the flow’ becomes the spiral cord of the exhibition which orients the choices of the visitor. Thus the exhibition turns into an experience, an installation.

Figures 19 & 20. *Spiral Cord of Two Different Design Elements; (left) From The Video ‘Hortum’ (2000) and (Right) From The Exhibition ‘The Isle’ (2018)*



Source: Demirel, A. 2000 and 2018.

In a different work, a monologue scene by Tarkovski’s movie called *Stalker*, there is a vertical frozen flow where thick columns step on and a weld dives in the skin (Figures 21 & 22). Like a late echo of the stone that he throws in the weld, *Stalker* stands up. His monologue turns into a dialogue with the viewer. The audience or the viewer comes across with a number of important concepts and contradictions: different scales, protagonist & the viewer, texture & memory, knowledge & history, time & present. These collide as the fiction reveals the experiential space of the film. *Stalker* is actually coming back where the two is going while he guides. The voyage is the library of the stalker.

Figures 21 & 22. *Monologue Scenes of the Movie Stalker by Andrei Tarkovski, 1979*



Source: Tarkovski, A. 1979.

Altered States of Objects

The following three works of artists are important works to realize life associations working with living organism. Furthermore, the process of these works is related to these encounters. The main concepts discussed in these works are machine, body, alienation, art work, and survival methods.

The first work is a wooden boulder (Figures 23-25) by David Nash. Through the journey of carrying the wooden mass to the studio Nash decides to leave the object alone in the wild. The journey was an art work itself. For 35 years of observation he finds the answers for his questions through the wooden boulder itself.

Figures 23, 24, 25. *Wooden Boulder, David Nash, Following 35 Years after 1978*

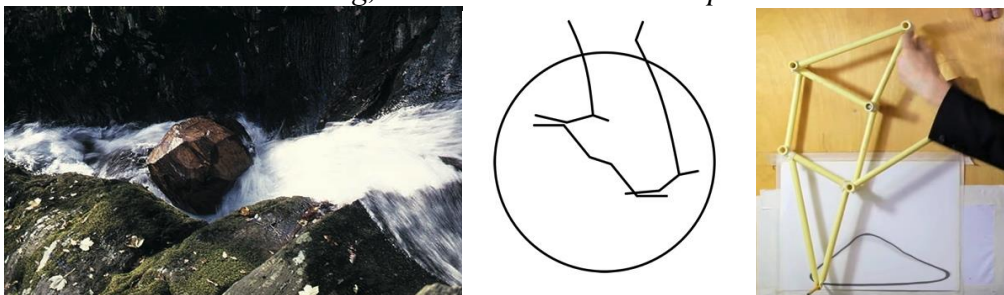


Source: Nash, D. 1978.

The following work in progress by Theo Jansen simulates a first person in the art work. He describes the individual itself becomes the tool for evolution (Theo Jansen in *The Great Pretender*, 2007).

In his ‘Strandbeest’ Jansen, builds a mechanical transfer between the step, efficient movement and the road. In the advanced designs of his kinematic monsters produced from simple everyday materials, he examines the survival strategies and their independent nature through the skills such as being able to escape not to drown in the water, to stabilize itself in strong wind and wait for the storm to pass over, to store its energy for the windless air (Jansen, T., 1991).

Figure 26, 27, 28. (Left) *Wooden Boulder Stuck in a Water Fall Bed*; (middle) *Step and Wheel Drawing of a Mono Cycle*; (right) *Prototype Development of Step and Continuous Road Tuning; ‘Strandbeest’ Kinetic Sculptures*



Source: (Left) Nash, D. 1978; (middle) Yardimci, C., 2019; (right), Jansen, T., 1990.

The poem below by Lao Tzu (Daode Jing, translated into English by Thomas Meyer), which Anita Roy referred to Nash’s Wooden Boulder in her article (*Speaking in Wood*, September 2018) emphasizes the empty space and the metaphor of space as an object.

“ *thirty spokes share one hub
but empty space makes the wheel practical*

*kneading clay creates a bowl
but empty space makes the bowl useful*

*hacking out a door or window builds a room
but empty space makes the room work*

*so that what is there has value
but what is not is the tool* ”⁵

Lao Tzu

The following figure (Figure 29) shows an image of a page from a novel. This is an image that can be related to the metaphoric boat challenging the organism.

⁵Lao Tzu; Daode Jing, translated into English by Thomas Meyer.

In the 'Elephant's Journey', Saramago merges the dialogues (without a form) with in the story telling. By the absence of 'dot' and use of capital letter when the speaker within the conversation changes; the reader subconsciously defines the events, conversations, and portrayals. Metaphorically this is the boat in the novel, regenerating its structure through an absence of former structure/ grammar of the design.

Figure 29. Structural Twist in the Story Telling Form

şimdi uyuyor, onu uyandırır sak sinirli olur ve kesinlikle sorun çıkartır, Peki ama nasıl ayakta uyur, diye inanmayarak sordu komutan, Uyumak için yattığı da olur ama genellikle ayakta uyur, Sanırım filleri hiçbir zaman anlayamayacağım, Biliyor musunuz, ben doğduğumdan beri fillerle yaşıyorum ve onları anlamayı başaramadım, Neden, Belki de fil, bir filden çok daha fazlası olduğu içindir, Bu kadar gevezelik yeter, Sizinle paylaşmak istediğim bir düşüncem daha var komutanım, Bir başka düşünce daha mı, diye güldü asker, sen bir fil terbiyecisi değil de, cornucopiae¹ olmayasın sakın, Çok kibarsınız efendim, Şu pek özel kafan şimdi ne üretti bakalım, Bana kalırsa siz askerlerinle kervanın arkasından gelerseniz daha iyi ilerleyeceğiz, en önde de kağıt gidecek, böylece yürüyüş hızı belirlenmiş olacak, sonra fil ile ben geleceğiz, sonra yayalar ve hemen artlarından da levazım arabası. İşte fikir diye buna derim. Bana da öyle

Source: Saramago, J., 2008, p. 37.

Surviving on the Water

The six images below (Figures 30-35) show different situations and spaces they occupy through their psychological, real, literal or forced journeys. 'Lookfar' (Figure 32) is the boat's name in the book of Earthsea by Le Guin. In Le Guin's fictional universe, to know the true name of an object or a person is to have power over it.

In international news, from the point of a mass controlled reference, refugees are accepted as fugitives, which means their existence turns into an illegal existence. The refugees wait for their unknown situation on open water, fit in a no space boat.

Figures 30-35. *The Spaces they Occupy through their Psychological, Real, Literal or Forced Journeys*



Source: Left to right from top: Sestini, M., 2014; Kaurismaki, A., 1992; middle: Le Guin, U.; Yardimci, C., 2016; bottom: Besson, L., 1988; Godard, J.L., 1963.

In Figure 33 two person catamaran is made of kayaks and sails demountable. The demountable structural idea also creates storage places and strategies as the mountain climbers attach their living conditions on the rock. The need for 'on the go' (like small powered engine, water, food, clothes, equipment for the maintenance, etc.) is hanged on the structure of the kayaks and the sail. The possible route⁶ is after being launched on the Blacksea through the Bosphorus(s) to the Marmara Sea, Aegean Sea and then to Mediterranean Sea. One of the other possible routes; the hardest one is from the open seas to Mediterranean, to Aegean, to Marmara then to Blacksea. Now it is parked in Bebek bay of Bosphorus, Istanbul (2016).

On the Threshold

The following three images, two from different movies, another from an architectural project shares the natural formation and design concept of threshold. A boat with the deck turns into a shelter (Figure 36); a free coast line that the design works with the tide (Figure 38); a pool as a cut away framed water; a

⁶We traced the route on the German flag and type of the catamaran.

house as a petrified boat tied to the sea by its pathways (Figure 37). In the film *Mepris* (Godard, j. 1963) Casa Malaparte (Libera, A. 1937) works as a station for a personal caravan journey.

Figures 36-38. *Design Showing Thresholds and Water*



Source: (Left to right) Bergman, I., 1953; Godard, J.L., 1963; Siza, A., 1966.

Transformation of Space through Water, Bridge Designs and Passages in Creating Public Spaces

We encounter different needs, different technologies (primitive or high-tech), different construction processes and variety of functions. Below there are three different bridges forming an experience of passage through different structural ideas. One using the life of a natural organism (the tree) (Figure 39), the next using transportation elements (boats) (Figure 40) is a collaboration for the need; once it is there; then it is not there. The third uses industrial technology and designing multi-functional public space (Figure 41) called Mur Island by creating a crack in the bridge. These images provide a basis for discussions about the concepts of temporary and permanent beings. The natural environment is an important part of the maintenance of the design habitat.

Figures 39-41. (Left to right) *Living Root Bridge in North-East India, on the Bank of the River Rubber Ficus; Boat Bridge on the Buriganga River, Bangladesh; Mur Island By Acconci, V.*



Source: (Left to right) URL= <https://mymodernmet.com/india-s-fascinating-tree-roots-bridges-grow-stronger-every-year>; URL=<http://apexplanet.blogspot.com/2012/09/amazing-boat-bridge.html>; Acconci, V. 2003.

Water, Transportation and Public Space

Ship is a delicate structure composed of sustainable details, materials, building processes and maintenance; while on land, similar sized voids are turning into a consumption of masses by the authorities (Figure 45).

Figures 42-45. (Up left to right) *Bosphorus Ships; Exhibition on the Ship;* (Bottom left to right) *Halic Shipyard; Scale Difference of a Mass Production Building in Istanbul*



Source: (Left to right) Yardimci, C. 2016, Uluç, Ö., 2007; URL= <https://www.yatvitirini.Com/halic-tersanesi-deniz-araclari-muzesi-olsun-onerisi?pageID=128>; Yardimci, C. 2015.

Bosphorus ships have always been used very densely. They used to stop running only under heavy fog or stormy weather conditions. Outside use of the ship spatially the ring around the closed indoor close to the sea level is one of the most used interactive public spaces in Istanbul if you consider that there is a small deck-port in every town.

As Ömer Uluç was pointing out that ‘once you sense that speed one image runs after the other, one piece runs after the other, half runs after the other, a whole body runs after the arm, the arm runs after the body, a color runs after the other, fast as it can be; everything runs after the other and change places’ (Uluç, Ö., 2009). His sculptures were traveling with the public as the musicians did so.

One of the most important industrial heritages is the Haliç shipyard, because of its place, being on the sea-land threshold in the center of the city and the use of its technology. Due to production and maintenance had stopped the land became an economic opportunity for the authorities and the investors. Its value as an industrial heritage and its public use is uncertain.

Conclusions

In the past, sustainability was a part of domestication where the human-environment relationship was stronger. Today, since domestication is ruled by global mass relations, human-environment relationship has weakened. Thus, wild life tends to become the only way for sustainability. These discussions appear within the designs of artists in different ways. The examination of these designs shows that dealing with natural environment and particularly with water, consciously or unconsciously, uploads an important role in improving public know-how. The idea of sustainability is hidden within the timeless and placeless design consciousness. The sustainability has been also apparent in many of the artists' works during the process if not in the end product. In addition to this, through the designs and works of artists, it becomes obvious that natural habitat is organized through a multi-disciplined social-economic structure in which the specialization determines and limits the ability of free imagination and interaction of the society and mainly the individuals in it. The human referenced understanding that earth is only where there is life in the universe blinds our consciousness on our imaginative universe.

In a simple boat design, there are levels of complex design issues such as; the skin, the interior, the movement direction, the movement speed, the weight, the solid and void relationships among other complex evaluations. The water has a unique chemistry, where different forms and behaviors can exist. Designing with water, around water, in water, on water and under water brings out variety of different situations and discussions such as immigration, transportation, thresholds to name a few. Thus, important concepts and contradictions come forward. Timeless and placeless act of transformation, emphasizing the non-designed, alienation offering a self-referential consciousness becomes significant within sustainability.

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