Paradox of Creative Culture – Characteristics on Freedom in Norms of Sustainable Architecture

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Abstract

Contemporary challenges of sustainability are the results of civilisation action. This reveals necessity of humankind creative patterns (re)evaluation and, based on latest global tendencies, reformation into new – unprecedented – ways for anthropogenic artefacts, such as architecture, development and performance. Abundance of definitions on sustainability makes the task challenging by itself, especially, by changes in context of time and space as well as technological sophistication, interdisciplinarity. Therefore, the article, first of all, puts emphasis on finding the perception of sustainable development essence. It is explained as phased cultural characteristics aligning with range of human needs for outcomes, in terms of the study, named (re)solutions. The complex methodology, by the author formulated as technique 7R, explains the possibilities of sustainable architecture creation as freedom in norms, paradoxically, thus destining precedents and standards, such as traditions, revival rather than negligence. Review of scientific literature, documents, regulations and initiatives, in the first part of the study, serves for induction of sustainability characteristics appearing in alternative fields, such as economy, politics, knowledge, in the second part – of properties of architecture inherent to typological alternatives. Applying deduction principles, study suggests the derived means for sustainable architecture attributes, other types of human-made strategies, such as regulations on architecture. Case study of architecture examples the following findings and, argued also in non-scientific sources, serves for expertise on their authors' critical creative intentions. The results are discussed, conclusions and suggestions are made.

Keywords: paradox of creative culture, phases of sustainable culture, sustainable architecture, technique 7R, unprecedented architecture.

Introduction

The study of *Cultural Heritage Counts for Europe*, formulated in 2015, highlights the impact of human *values* on *sustainable development*. Accordingly, *culture* is suggested to be treated as equivalent domain falling into universal principles of sustainability, firstly approved by United Nations in 2005 (Sanetra-Szeliga et al., 2015). The issue, appeared as early as in 18th century by the beginnings of industrialization, yet was revealed and already urgent to cope with applying principles of Bauhaus movement a century ago (Mindrup, 2014). Lately emerging *Industry 4.0*, the *Forth Industry Revolution* (Beltrami et al., 2021), although brings new possibilities to resolve technical functionality of sustainability, continues to deplete the Earth. As follows, for the problem of sustainable human creativity the solution is still under the search, possibly, unprecedented (United

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Nations, 2023), what makes the ground for this research. The focal point for examining the issue is organized through the lens of coexistence of human *values* and technical criteria, thus formulating hierarchical perception of priorities – goals – in the study named *(re)solutions*. *Environmental*, *first* and *second phase culture* in the publication demonstrates presence of certain generalized levels of *values* system. Thus, every *phase of culture* separately is defined as unique characteristics on creation and operation, idea, "the attitudes, behaviour, opinions, etc., of a particular group of people within society"– as *Cambridge Dictionary* (Cambridge Dictionary, 2023) (further in the study – *CD*) explains the notion of *culture* – which is enabler of the *sustainable development*. The term of *economy* in the study is treated as generalized definition of outcome and tool, by *CD* means, "the system of trade and industry by which the wealth of a county is made and used", for instance, *sustainable development* in a form of architecture, organized and cultivated by *culture*. Both, *culture* and *economy*, by explanation, demonstrate engagement in interrelationship as mutual phenomenon of *cause-and-effect*. To clarify, each level of *human needs* has certain goals for creative solutions and therefore is determinant of specific *culture-and-economy*.

According to *Brundtland Report*, published in 1987, *sustainable development* is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). By universal definition, the *environmental*, *social* and *economic* capital are defined as equally inclusive in the mechanism and management of sustainability (United Nations, 2005), alternatively appears in form of *5P – people, planet, prosperity, peace, partnership* (United Nations 2015). Cultures, such as Lithuanian, has a dual meaning of *sustainable development*, determining it as the merge of *stable, long-lasting development* for change in quality means, likely *evolution*, and *development* as *growth*, *expansion* in terms of change of quantity (Valstybinė lietuvių kalbos..., 2020). Following study investigates in deeper analysis of this dual perception – the cohesion of *perpetuality* and *advancement* – so also arguing the possibilities of *sustainable development* definitions to express fully-fledged perception of concept's priorities.

Due to coexistence of both – ordinariness and novelty – concept of sustainability parallels philosophy of innovations and so also emphasizes the dynamic nature of modern economic systems (Ulgen, 2013). According to political economist Joseph Alois Schumpeter, such creation of unprecedented solutions and entrepreneurship refers to *creative destruction* (Ziemnowicz, 2013), by Frank Ulgen explained as, "creation of new ways of doing things that endogenously destroy and replace the old ways" (Ulgen, 2013). In terms of the study possibilities of such revolutionary design is explained as *freedom in norms* in the frames of *human needs*. By definition of expert of traditional architecture of Lithuania Dalė Poudžiukienė, "ethnic architecture [...] is absent of innovations, relay on traditions passed from generation to generation, cherish local sense of harmony, evolves in ordinary building manner" (Puodžiukienė, 2014). The paper expertise such controversy to reveal specific goals of sustainable design, which are accomplished inevitably for the most effective – individual – solution.

The results of the study are dedicated to formulation of leveled three-dimensional methodology of sustainable architecture creation universally applicable for evaluation. To achieve it, the research consists of two parts. First part is examination of universal domains of *sustainable development* and how architecture engages in the concept. Second part is the research of architecture sustainability characteristics in typological alternatives. Findings are compared and paralleled with other authors sustainability studies, examined in correlation with good practice of architecture case study, discussed, conclusions and suggestions are given.

Methods

The study includes scientific and non-scientific sources. Scientific – literature, documents, regulations and initiatives – form the fundamental knowledge on laws of philosophy of sustainable development, shared in scientific databases, such as Scopus, Web of Science, official national and international organizations databases, such as Lietuvos Respublikos Seimas (Eng. Parliament of the Respublika of

Lithuania – Seimas), Kultūros vertybių registras (KVR) (Eng. Cultural heritage register) (Kultūros vertybių registras, 2023), European Commission, encyclopedias, dictionaries, such as Cambridge Dictionary (Cambridge Dictionary, 2023). Non-scientific sources – books and journals on architecture publicity, such as Archdaily, creators' portfolio, art and design galleries – serves as tools for detection and experimental study of cases in practice. These critical sources also interpret survey on authors motives on creatures to acknowledge creativity of unprecedented sustainability stage.

Expertise and formulation of essential characteristics of concept of sustainable development is based on diverse alternative logics applying induction and deduction principles (Groat and Wang, 2013, Kandelis, 2017). Theoretical hypothesis on quality of characteristics, range of universal principles of sustainability and on specific attributes of architecture is organised applying review of scientific sources. Formulation of derivatives for new objects, such as applying hypothesis to field of architecture, demonstrates safe scientific prediction (Groat and Wang, 2013) of results. As follows, sustainable architecture creation–evaluation methodology is logical prediction – unprecedented formant itself – illustrated in schemes.

Concept of sustainability and phases of cultural creativity

Concept of sustainability is constant logic of synergy of no less than tree domains despite the context for application. Such division is based on types of involved capital and, accordingly, determines hierarchy of priorities for development organisation. Economist Herman Edward Daly in *triangle from means to ends* defines levels from *science and technology*, followed by *political economy,* to, ultimately, *theology and ethics* (Meadows, 1998). In terms of knowledge, philosopher and social theorist Jürgen Habermas, parallel levels so: *empirical-analytic* and *historical-hermeneutic* sciences are determined as fundamental, i.e., *Sciences and Technology as Ideology*, which are followed by *Knowledge and Human Interest* in freedom and autonomy – *emancipatory* (Cherem, 2023). Every stage is of anthropologically deep-seated constitution, ground levels, accordingly, act as diverse nature environments of laws, only the top most domain is of individual nature – "open to Other materiality" (Čičelis, 2013: 103), "unfinished" (Cherem, 2023) or simply *else* (see Fig. 1).

Methodological Framework Study and Formulation

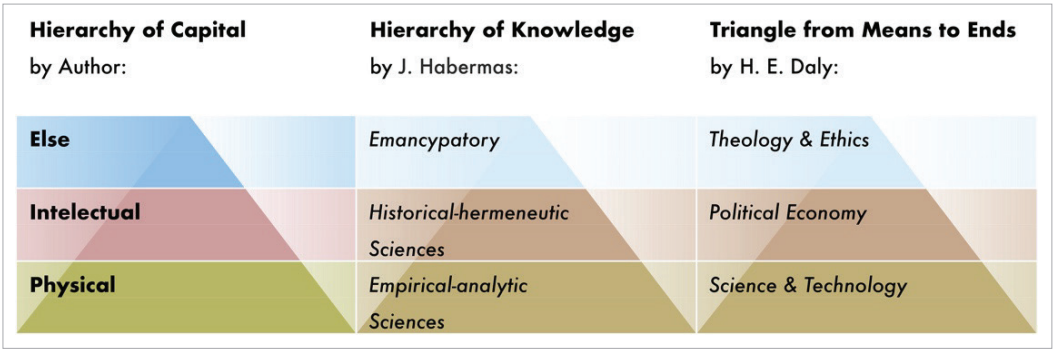


Fig. 1

The gradation of types of capital – *laws* and *else* nature – in *sustainable development*

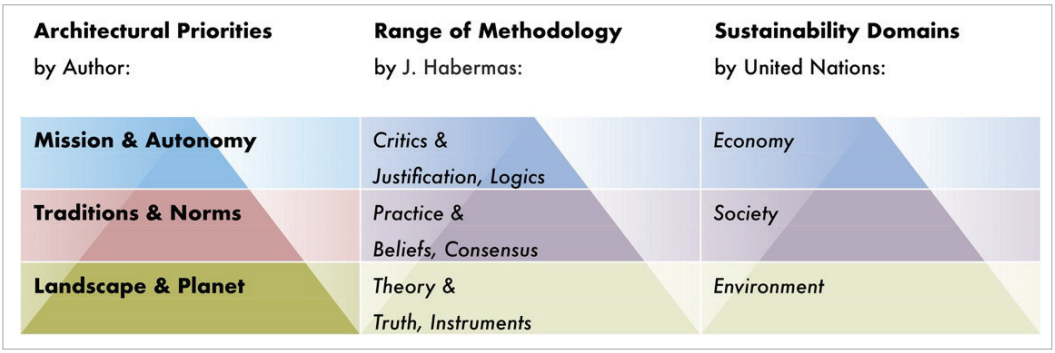


Fig. 2

Sustainable architecture constituents in correlation with logics by J. Habermas and United Nations

In terms of architecture, merging vocabularies of Habermas and United Nations on concept of *sustainable development*, the level of *environment* refers to *theory and instruments*, only beyond levels are of human-made *practice* (Cherem, 2023). Accordingly, both, upper, anthropogenic domains are dedicated to develop outcomes, *economy*, either by way of *social consensus* or by ideas on *critical identity* (see Fig. 2). None of the level can exist independently, until the lower ones are developed so demanding respect for origins likewise foundations. As follows, regulated or *traditional* building tendencies refers to coexistence of landscape identity and human-nature (Janulytė-Bernotienė, 2015), more sophisticated forms as well as autonomy are achieved by transforming the fundamentals (Rashid and Ara, 2015).

Habermas highlights that *Norms* meeting *Facts* "posits a tension in law itself" (Cherem, 2023), therefore transformations are inevitable for *sustainable development*. However, there are two ways of reformation: compromising and uncompromising. Compromising on changing or forgetting features are valid for matching of similar nature of normative characteristics, for example, national and regional, ethnographic, building regulations (Šiožinytė and Antuchevičienė, 2014). Uncompromising are valid by two means. First, non-appropriate is deciding to ignore or label as 'secondary' features of diverse discourses or clusters, such as absence of service for *human needs*, even if facing extreme facts, such as environmental challenges (Guy and Farmer, 2001; Woodgate and Redclift, 1998: 2-24). This refers to non-negotiable necessity of holism on spectrum of *sustainable development* constituents. Thus, transformation appears because of solution adaptation to diverse contexts, not necessarily aims for new combination of features. Second, there is no ground for compromises for *new* features because precedent of norms is created which "neglects to perceive and live in reality" (Čičelis, 2013). Such statement explains attributes in parallel with innovations as well as the *art*. The current particularity of *sustainable development* is characteristic to *aesthetics* and therefore appearance of the norms. Although exist variety of considerations between independent and reduced function of appearance of architecture (Hansson, 2005), this study explains it being crucial to achieve features of *autonomy* in *sustainable development*. Moreover, study defines that, as practical functions „are liable to change in time" (Winters, 2007), „finding a meaning in appearance itself" (Scruton 1994) is a leading magnitude over other purposes (Shiner, 2011). In such a way quality sustainable solution refers to "good practice of architecture" (Williamson et al., 2003).

Under observed characteristics of *sustainable development* two mainstream tendencies of creative *culture* characteristics emerge: features of norms and features of *freedom in norms*. Accordingly, such insights refer to differentiation of notion of the *culture*, i.e., *environmental* and *social* of two phases (Fig. 3). To illustrate in practice, evaluation of technical features instruments, for example, sustainable building assessment systems as *Leadership in Energy and Environmental Design* (LEED), *Building Research Establishment Environmental Assessment Method* (BREAM), *Lithuanian Buildings Sustainability Assessment System*, (LBSAS), are representatives of *environmental culture* and is the way of nonhuman nature guidance – pre-architecture sustainability strategy.

In 1992 by *United Nations* declared *Agenda 21* (United Nations, 1992), the international strategical plan for *environmental* protection along with *sustainable development* of *society*, is the example of ideology to determine intellectual sustainable *economy, i.e.,* human-nature *culture*. According to national situation, the document became core tool for countries, members of *United Nations*. Lithuania, for example, adopted such law "as ideology for long-term development of society" in 2003 by document of *Nacionalinė darnaus vystymosi strategija* (Eng. *National sustainable development strategy*) (Nacionalinė darnaus vystymosi..., 2003) which, accordingly, is fundamental to architecture as well.

In 2019 *European Union* (EU) created the economic strategy of *European Green Deal* and in 2021 – *New European Bauhaus*. Both tools are of continental level policies applicable to different anthropogenic stages of *sustainable development* (see Fig. 3). According to Ursula Von der Leyen, president of the *European Commission*, "If the *European Green Deal* has a soul, then it is the *New European Bauhaus* which has led to an explosion of creativity across our Union", – stated in official

website of *European Commission.* Although metaphorical, the statement is accurate in describing the duality of purpose of *sustainable development* for *freedom in norms*. For the key to most effective way to "transform the EU into a modern, resource-efficient and completive economy", emphasis is put on *beauty* in means of *enriching*, *sustainable* and *inclusive* places, practices and experiences, what in official newsfeed declares *European Commission.* Such highlights align with previously uncovered insights on mission of the *art* and quality architecture. Characteristic assimilation of international and national documents foresees possibilities to use the *EU* regulatory tools as blueprints to develop national specifics on *first* and *second phase culture*. In case of Lithuania, country has prototype of similar nature in the form of *Architektūros įstatymas* (Eng. *Statute of Architecture*). Policy already links content with *sustainable development* features, however, yet is absent of definition what the features are (Lietuvos Respublika, 2017).

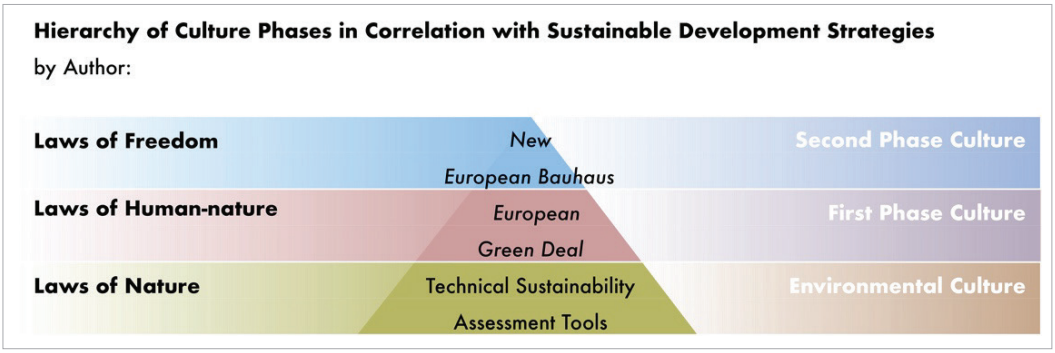


Fig. 3

Diversity of alternative means on *phases of culture* exampled in economic strategies

Following the logic, other national documents falls in the concepts of sustainability accordingly, however, such as *Statybos įstatymas* (Eng. *Statute of Building*) (Lietuvos Respublika, 1996), still lack coherence with sustainability at all, other regulations are hardly compatible with each other even at the local levels (Nacionalinė darnaus vystymosi..., 2011).

To illustrate the correlation between levels of sustainability and *phases of culture*, three cases of creatures from Lithuanian context are analyzed (see **Fig. 4**). Case A is for *human needs* of recreation adapted piece of the present site of *Žalieji Ežerai* (Eng. *Green Lakes*) landscape reservation in Vilnius. It is natural environment, the source of material and knowledge applicable for instruments development as well as techniques for performance. Quality sustainable solutions, technically, mean no less then absolute alignment with the patterns of the nature or doing it better (Akhimien et al., 2020). In such terms, *Environmental Culture* (*EC*) are technical properties of building, accordingly, solution of healthy and secure – ensuring basic living creatures *needs* – space for humankind in terms of *values*. From artistic point of view, the site of *Žalieji Ežerai* is source of inspiration and creative ideas in variety of playful manners on cast of sun and shadows, colors, shapes and materiality (see **Fig. 4** illustration of *EC*).

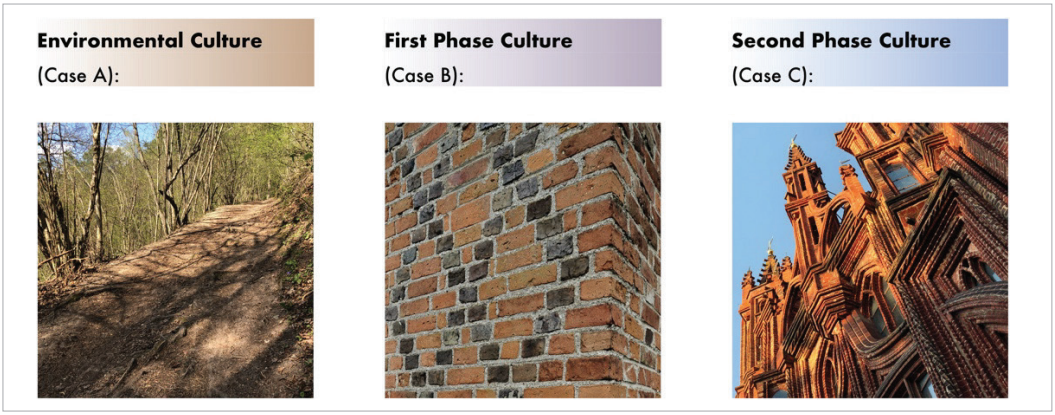


Fig. 4

Left – fragment of *Žalieji Ežerai* landscape reservation (photo by Author); middle – fragment of overbaked clay brick ornament in the wall of *st. Jurgis* church (photo retrieved from *Valdovų Rūmai* official website); right – fragment of *st. Anna* church (photo by Author)

Case B – *st. Jurgis* church in Kėdainiai built by unknown, constructed in 15th century – is primitive example of architectural solutions of Lithuanian culture, standard in similar way to other cultures, for instance, North of Germany, as specifics of global Gothic tendencies. Overbaked clay brick is illustration of reuse of originally waste or leftover as it naturally appears over process of the production. Even crashed pieces of bricks were put in concrete to technically strengthen the wall, sometimes overbaked bricks were imitated by colouring (Minkevičius, 1988). Bricklaying in ornament is universal, similar rhombus, zigzags, other shapes and combinations, as used in *st. Jurgis* church, is also standard, inherent to numerous walls of public as well as private dwellings. This is example of *first phase culture* (*1PC*) (see Fig. 4 case B) creative tendencies, *traditional*. In terms of *human needs*, the solution demonstrates acquired capabilities to interpret signs and laws of nature due to believes, social consensus and belonging. As solution technically, i.e., example of circular economy, illustrates basic *values* of intellectual kin.

Case C – *st. Anne* church designed by unknown, built in 17th century in Vilnius – is another example of rich roots of Lithuanian *traditions* and *the second phase culture* (*2PC*) (see Fig. 4 case C). Facade of the *st. Anne's* church is the masterpiece of three-dimensional ornamentation of asymmetric rhombus, zigzags and other forms, thus organic in manner and in cast of sun and shadow similar to case A. Appearance of the building also reminds of silhouettes of queen of Lithuania Barbora Barvilaitė, crown, *Columns of Gediminas* or *Pillars of Gediminas*, Grand Duce of Lithuania. These are attributes of building resilience of national identity (Reklaitė, 2015). However, the perception of build-in symbolism may vary dependent on individual attitude, season of the year and other factors so determining timeless integration in diverse physical and intellectual contexts. From 1995, the church of *st. Anne* (*KVR* unique object code 17308), as well as *st. Jurgis* church (*KVR* unique object code 978) from 1992, is officially objects of *Lithuanian Cultural Heritage* and examples of innovation of both: technology and art. As unique way of cohesion of tradition and Gothic building technique and materials the churches are precedents for even more sophisticated forms in future – *new norms*. After so many ages church of *st. Anne* still remains *autonomy* representative, iconic, signature architecture. In terms of *values,* it is demonstration of individual solution to engage in beyond one-self realities, resolve standard possibilities to perceive the space.

All cases – A, B, C – are representatives of Lithuanian local landscape and human-nature coexistence, share universal technical patterns. However, every of the creatures demonstrate specific appearance and applied methodologies to echo the laws of nature, pragmatism and artistic motives, i.e., *human needs*.

Characteristics of the culture: typological alternatives of attributes of sustainability

Following the framework of in previous chapter uncovered characteristics of the levels of sustainable *culture*, purpose of this stage is to explore if / how the tendencies appears in alternatives of architecture. The similar studies of other authors, such as Simon Guy and Graham Farmer (2001), suggest that by attributes of sustainability, architectural solutions distinguish oneself in six types: *eco-technic, eco-centric, eco-aesthetic, eco-cultural, eco-medical* and *eco-social*. The study in case of this article is of opposite manner, i.e., under pool of different attributes of architectural types seeks of crystalizing basic criteria appropriate specifically to notion of *culture*. Found and studied no less than in seven scientific sources six types of architecture, i.e., *vernacular*, *green*, *biotechnological*, *autonomous*, *resilient* and *adaptive,* are put under experiment. First overview of properties, suggested six clusters of similar characteristics: *vitality, systematicity, adaptation, optimization, resilience* and *values.* Such attributes for chosen classification are universally inherent to *sustainable development* in alternative fields, such as urban (Liu et al., 2021; Linghua et al., 2022) or space (Olson, 2018) design and politics, education (Wells and Claxton, 2008), innovative technologies (Ray and Shaw, 2022). First five groups of characteristics originally are determined

as representatives of environmental–technical features, *values* exclusively are social features; criteria are illustrated in unprecedented cases in Fig. 5. In the study these characteristics are exposed as formulations of derived versions of seven core elements, further named *technique 7R*, of sustainability, applicable in architecture and appearing specifically in alternative types of architecture.

Fig. 5

Range of *sustainable development* attributes–purposes illustrated in unprecedented cases of: top left – *Même Meadows* (photo by ©Kengo Kuma and Associates), top center– *Silk Pavilion* (photo by ©Kayser Works), top right – *Hair Spikes Cattail Turkeyfoot* (photo by ©Architizer), bottom left – *Nebulosus* (photo by ©Authos), bottom center – *How Wine Became Modern* (photo by ©Matthew Millman), bottom right – *Being Human Being* (photo by ©Liedeke Kruk)

Raising – the purpose of feature is to *support life*. As derivative of *vitality*, "the power or ability to continue in existance, live, or grow" (Collins Dictionary, 2023) (for further definitions in this part of the study see reference of *Cambridge Dictionary* if citation is not specified), *raising* is more convenient for contemporary *sustainable development* in terms of attempt "to lift something to a higher position". Modern philosophy of *upcycle* (McDonough and Braungart, 2013) is relevant example to this notion. According to authors under study of *traditional* and / or *vernacular* building specifics, *raising* reveals by use of local capital, i.e., landscape materials, masters, techniques, which are evolving likewise nature. *Green* energy, such as wind, sun, water, and materials are determinants of *life supporting* properties of *green* architecture; compared to *vernacular*, use surrogates, not necessarily in-situ. Biomaterials and biocomponents used for *biotechnology* share similar characteristics of *rising* with other eco-typologies, however, are extremely sensitive to environment, necessarily are bio-natural. Properties of *autonomous* technologies, in general, are representatives of *regeneration* in terms of „reduce, reuse, recycle" (Akhimien et al., 2020), inclusive in, for instance, *green* techniques. To illustrate, according to architect Kengo Kuma, contemporary sustainable architecture should focus on solving challenges where all tools – synthetic and natural – are acceptable if effective (Kuma, 2011). Recycled plastic bottles for light-pass-through walls is in autonomous way reorganized *traditional* Japanese building technique invented for living house of *Même Meadows* (see Fig. 5) in Hirogun, Hokkaido, Japan, completed in 2011, by the author together with Takumi Saikawa (McDonald, 2015). In terms of *resilient* architecture *life supporting*

patterns are defined as universal characteristics of recoverability of structures in social, technical, organizational and economic levels. *Raising* of *adaptive* solutions is perceived as universal feature in terms of technology to imitate behavior of live organism by responsiveness to environmental, social, economic factors in space and over time. To conclude, *raising* is not necessarily the attribute of alive, natural creature, but also interpretation of it in variety of forms, means and fields.

Reaction. Relying on contemporary goals of sustainability, such as effect on climate, architecture is either *active* or *passive* (re)actor. Therefore, arguing the universal attribute of *systematicity*, separate parts *reactively* engage. The *CD* explains the notion of *reaction* as "behaviour, a feeling or action that is a direct result of something else". To prove, perception of *systematicity* in cognitive architecture, given by Steven Philips and William H. Wilson (2016), is formulated so: "the basic processes and modes of composition that together afford cognitive capacity [...]. Systematicity is generally considered to involve a capacity to represent/ process common structural relations among the equivalently cognizable entities". To simplify, *systemic* – "relating to or involving a whole system" – is *holistic* approach on purpose of *synergy*. For example, *vernacular* architecture, activates *holism* by accurate integrity of all phases of the cycles, such as time of the day, seasons of the year, and is multidisciplinary, i.e., interconnecting concepts and methodologies, such as of geography, art history, anthropology, archeology, landscape architecture. In terms of *reaction* every part – phase – inevitably adds uniqueness to shaping outcome and, accordingly, gives feedback to creator and user, landscape and universe. As *green* architecture focuses on maintaining healthy environmental patterns for both Planet and human, *reaction* is created over technical performance of the building. *Biotechnological* solutions, form viewpoint of ecology, is specific sort of *green* solutions; both types are pure technical instruments unless *react* with / respond to *human needs* for development of *economy*. To illustrate, *Silk Pavilion* (see Fig. 5), designed by research group of Markus Kayser et al. at Cambridge, Massachussetts, United States, in 2013, is examined. It is a dome-shape *biotechnological* artistic installation and manifest of creativity to quality co-living with inhabitants – silk worms – applying "sustainable and humane methods for harvesting, spinning and weaving silk-based products and structures", – as explains co-author Prof. Neri Oxman in his portfolio. *Autonomous* type architecture, for instance, applies technologies of closed loop systems for heating and cooling, *Net Zero* solutions, what, in general, is the most effective way of *reaction* between involved. *Resilient* solutions, in general, mean inclusiveness of diverse states of formation; *adaptative* – relationship between cause-and-effect in terms of solution-fitting-purpose, predictable *reaction*, not accidental happening. To conclude, *reaction* is conscious involvement of all constituents, inseparable to determine success of the sustainable goal.

Rightness. In terms of sustainability only non to positive impact matters, accordingly, everything of less quality, such as "doing more good and less bad" (McDonough and Braungard, 2013), is out of considerations. As follows, universal attribute of *adaptation*, "the process of changing to suit different conditions", does not ensure the condition. *Rightness* or simply *right,* therefore, in means of "the state of being morally or legally correct", is sustainable characteristic's derived version of original, more accurate. *Vernacular* architecture is *right* to suit to *indigenous* and *traditional* contexts, accordingly, resulting repetitive processes as well as solutions. *Green* architecture, as individual type, is modern, relatively new, version of *vernacular* technical particularities, free to suit *right* in various contexts, reflect diverse social attitudes as well as engage in vast spectrum of levels of sophistication. For example, *Hair Spikes Cattail Turkeyfoot* (see Fig. 5) by WH Vivian Lee, located in *Matthaei Botanical Gardens*, Michigan, United Stated in 2011, is design and assembly of a temporary thatch pavilion as experimentation on digital technologies. It is solution "that redefines the construction set as a sequence of operations rather than an illustration of finished assemblies", – describes Journal of *Architizer* in 2011. The creature is hybrid of *traditional* roof construction technology, inherent to such countries as England or Lithuania, and of *green* – environmental – features. Such innovation suit more *right* in present contexts than its separate

parts alone in typical ways. *Biotechnology* is one of the most novel building tools, still emerging, experimental field, therefore, itself is former of *rightness* in present contexts and changes in *traditional* economy. *Autonomous* buildings technologically are sensitively aligning with location and climate likely *indigenous*, in such a way is embodiment of smart, intellectual attempts to mimic and engage in *right* qualities of nature. Performance of such creatures is molded by: shape, materiality and position of the building; maximal use of mental and minimal use of physical capital. *Resilient* structures are characteristic in capabilities of maintenance of constitution, for example, national identity, meanwhile admitting and integral in contextual changes. To illustrate, in *Doha Tower*, designed by Jean Nouvel, built in Doha, Quatar, during 2007-2013, *traditional* symbolism of Islam became pattern for sun blockers in façade of building. Shape of building thus embodies modern interpretation of *hijab*, *traditional* Muslim head covering, *right* monumental of identity, as described by Karen Cilento in journal of *Archdaily*, in 2010, and in multiple other prints, such as documentary collections of case of architecture in series by Philip Jodidio (2015). *Adaptive* solutions demonstrate tolerance to diversity and gradual change, such as, development in stages, eventually rethinking use of most effective tools and strategies for creation process *rightness*. To conclude, *rightness* of the solution is ability to suit in various – specific, diverse and / or changing – contexts by matching or heightening the quality between creature and surroundings.

Rationalization. Universal *sustainable development* attribute of *optimization* – "the act of making something as good as possible" in original terms is of environmental nature. Biologist Janine Benyus specify, *optimal* means calibrated to use only what and how is needed (Benyus, 2002). Due to this study specifics primarily based on *human needs*, Author suggests to use the notion of *rationalization* which manifests characteristic links with intellectual goals: "an attempt to find reasons for behaviour, decisions, etc.". However, *rationalization* in such case is determinant of ability to manage laws of nature to serve humanity, not excuse for ignorance or disrespect toward them. To illustrate, *vernacular* architecture is typical solutions, precisely developed under long-term practice of trial and error, so selecting only most effective techniques as *rational*. *Green* solutions precisely follow laws of nature. *Biotechnological* design is prototypical, creative attempts to evolve and *rationalize* industrial processes, building materials, as well as techniques of environmental self-(re)creation. To illustrate, to balance deficiency of oxygen and surplus of carbon dioxide is task for air-purifying micro-algae *AirBubble*, created by, Claudia Pasquero and Marco Poletto (*eco-LogicStudio*). The artificial machine is demonstrated in *Glasgow Science Centre*, Scotland, United Kingdom, in 2021 and described in portfolio of the authors'. The effectiveness of the solution also lies in joyful method to activate mechanism – is the way of recreation for children and adults. *Autonomous* architecture, for example, is representative of avoidance of surplus, i.e., uses only what and how much resources produces, in such way is not dependent on government or communal supply systems. Alternatively, therefore, called *self-sufficient*, such systems cost more to develop and integrate, however in long term solutions pays off. *Resilient* solutions are safety guaranteeing, pre-assessing phenomena, such as flooding, tsunami or other type of disasters – physical as well as mental – what determines the most *rational* form of architecture, development strategies, such as movement of *Metabolism*. To illustrate, *resilient* development, case of *Cardboard Cathedral*, designed by Shigeru Bau, in Christchurch, in 2013, is examined. Construction is built from low-cost recyclable carton tubes what is *non-traditional* to monumental building. However, therefore construction prevents humans from catastrophic consequences of earthquakes typical in the region as explained by Karissa Rosenfield in journal of *Archdaily* in 2013. The most *rational* form of *adaptive* solutions appears in features of hybridity – complexity of functions as well as ability of changes in color, texture, quality of physical shape. To illustrate, AUTHOS.ch and Stella Speziali present unique spatial intervention at Zurich Design Biennale 2021. "Using mist as an intangible, ephemeral material, their immersive 'structure' – called NEBULOSUS (see Fig. 5) – provides an ultra-sensory, spatial boundary-exploring experience for visitors" is explained in journal of

Archello. It demonstrates bionic features in vapor cloud transforming into digital phenomenon. To conclude, *rationalization* is the principle of creating balance between involved parts, however hierarchy of priorities exist, such as human follows nature as fundamental.

Revival. Originally attribute of *resilience* is "the ability of a substance to return to its usual shape after being bent, stretched, or pressed" or, to simplify, the ability of the architecture to restore and maintain the *status quo*. However, in terms of creativity, what examples epoch of *Renaissance*, discussed characteristics draws perception of interpreted *revival*. *Vernacular* or *rural* architecture is *resistant* rather than *flexible* to global issues, other external factors. For example, even cultures that are relative, such as Aukštaitija, Dzūkija, Žemaitija in Lithuania, each is rich in exclusively unique system of symbolic forms appropriate to particular nation identity. In terms of *revival*, every craftsman determines individual manner in expression of constants, repetition destines perfection, i.e., rise of quality of sustained framework. By using exclusive methods, such as bacteria to turn the sand into millstone, as in case of *Dunes* by Magnus Larson (2010), *traditional* building [underground] technique is radically transformed, *revives* way beyond limits of norms. G*reen* solution, to illustrate *revival*, is implement to maintain steady-state of the Planet and, based on latest *human seeks*, accelerate restoration to regeneration processes (Brown et al., 2018). In such case *green* solution *are* technologies, such as *newspaper wood* – innovative building material of recycled newspapers managed by *NewspaperWood Holding BV* – or titanium dioxide, i.e., 'smog-eating' material presented by Jon Astbury in journal of *Dezeen* in 2022. *Biotechnological* architecture is alternative strategy to reduce consumerism of *traditional* building materials and this way *revive* the environment. Method for *self-sufficiency* of *autonomous* structure is to ensure supply of capital. To illustrate, *autonomous* building saves, accumulates recourses, such as collecting and storing energy which is used during night or wintertime. *Resilience* of architecture is alternative attribute in human-nature what Meagan Shand parallels with principles of *environmental ecology*. Process of creation of the art, creative experiences, in general, recovers body and mind (Shand, 2014). To ensure community *revival*, for example, is task for *Lumen*, artistic-technical solution for energy harvesting by *Jenny Sabin Studio*. It protects visitors from overheat at daytime transforming-*reviving* at night into illuminator of the site, as is described by Kim Megson, in 2017, in journal of *CLADnews*. *Revival* of *adaptive* solutions is achieved in touch with stimulus in variety of forms: internal, external, mental, such as individual needs, opportunities, or economic imperatives, physical, such as temperature, humidity, sound, radiation, bionic organisms, including humans. To illustrate, *How Wine Became Modern* (see Fig. 5) was commissioned by the San Francisco *Museum of Modern Art* by *Diller Scofidio + Renfro* and exhibited in the museum in 2010. In such case, "a "smell wall" that allows visitors to inhale from flasks of wine" – as explained in authors official portfolio – was the contemporary solution of sensority achieved and recreated every time only via human and technology interaction. To conclude, *revival* is capacity to regain characteristics / solve challenges in new framework and / or quality.

(Re)solution. The universal *sustainable development* attribute under notion of *values,* by *Oxford Learners Dictionary* (2023) defined as "beliefs about what is right and wrong and what is important in life", refers exclusively to human-nature criteria. The study of *Human Values and Believes: A Cross-Cultural Sourcebook*, by Ronald Inglehart et al., first published in 1998, explains fifteen categories of social *values* (284 in total) (Inglehart et al., 1998). This is expanded range of American psychologist's Abraham Harold Maslow's model of *hierarchy of human needs*, formulated in 1943 (Bergman, 2012). In this study, diverse nature categories of *human needs* are treated as alternatives to domains, researched in first part of the publication. However, what this case specifies, domains: 1) may be divided into minor steps; 2) are conditional in diverse contexts, and, as follows, by creativity motives, in terms of this study, named *(re)solutions. Vernacular* architecture

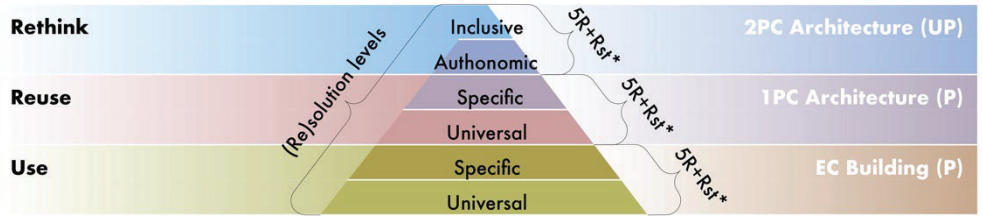
in shapes, materiality and symbolism embodies the system of *traditional* habits and perception on life and living. So, it is representative of *1PC* – universal to specific *communal*, *social-nature* solutions. *Green* architecture is embodiment of environmentalism which „seeks to protect the quality of the natural environment through changes to environmentally harmful human activities" – as explained in *Encyclopædia Britannica* – over political, economic and social organization models. Accordingly, *green* solutions are demonstration of *EC*, based on universal to specific *laws of nature*. *Biotechnological* architecture shares similar to *green* solutions system of *values – EC*, focusing specifically on respecting and cultivating biodiversity. Relations with living organisms and parts of it demands expanded system of norms on morality. For example, artistic solution *I promised you the sea* by Lorie Ballage, exposed in 2016 in Norway, include nail, hair and skin particles, as explained in official portfolio of the author. The artist Lilibeth Cuenca Rasmussen in Nikolaj Kunsthal, Copenhagen, 2014, organized live performance of *Being Human Being* (see Fig. 5) where the author herself became live component of masterpiece and present the work in her official portfolio. Both examples are illustrations of respect for norms of *EC*, however, treating it as pure instrument, applied to form *critical* solution. In such a way *biotechnology* is destined to level up beyond social *standards* (*1PC*), creates appearance of *new* materiality – *2PC*. *Autonomic* architecture demonstrates independence, democracy, as core principle of belief system what is manifestation of *2PC*; if in terms of pure technological pattern, non-architectural features, *autonomic* solution is creature of *EC*. To add, Christian Kerez, describing project of *Incidental space* of Swiss pavilion at Venice Biennale, at 15*th* architecture exhibition, explains "autonomy is not to be understood as the self-referential l'art pour l'art, but as a protected opportunity for deviance, a pre-requisite for the success of new forms of socialbility in a highly technologicalized world of such complexity that no one can have a sole overview anymore", – as formulated by Natasha Kwok, in 2016, and published in journal of *Designboom*. This example also points importance of time factor, which, brings change in priorities for *values* in everyday and political organizations (Jankevičienė, 1994), accordingly, for tendencies of typology of architecture to emerge or extinct. *Resilient* architecture is focused on solving safety and reliability issues along with integral methods and tools. *Adaptive* architecture is representative of diversity likewise attribute of ecosystem, organic community, engine of change, life and living, socialization. Technically *resilient* and *adaptive* patterns originate in EC, but in correlation with higher *human needs*, applicable in *1PC* as well as *2PC*. To conclude, system of *values – (re)solutions* – is pivotal factor to determine way of use and appearance of other *sustainable development* characteristics which, from technical perspective, all before discussed (*raising*, *reaction*, *rightness, rationalization, revival*, i.e., *5R*), by default originates in level of *EC*.

Results: criteria range and particularities of technique 7R

Experiment on clustering characteristics of typological alternatives of architecture proves the hypothesis that each *phase of culture* corelates with attributes on certain motives for creation of solution, i.e. *(re)solutions*. Despite typology, every case of architecture has unlabeled range of technical criteria: *raising*, *reaction*, *rightness, rationalization, revival*, i.e., *5R*. As follows, technical criteria *5R* are characteristic to every type of *(re)solution*, which changes depending on space and time context, by the Author suggested to name *relevant time-space* (*Rst**). These are treated as three dimensions of *technique 7R* illustrated in Fig. 6. According to the nature of every *phase of culture*, Author suggests *EC* to name, accordingly, destining building, *1PC* and *2PC* – architectural solutions. Following the logics of intellectual steps, minor levels of the model for definable laws sorts so: *specific* under *universal*; *laws of freedom* follow opposite direction. Based on case study of architecture, precedent (P) is the representative of *1PC*, unprecedented (UP) – *2PC*. Under logics on laws reorganization, *1PC* is technical buildings UP.

Fig. 6

Creation–evaluation methodology of precedent building (*EC* – using laws of nature), architecture (*1PC* – reusing laws of nature), unprecedented architecture (*2PC* – rethinking laws of human-nature)



In parallel with study of S. Guy and G. Farmer, this experiment highlights importance of *sustainable development* social criteria hierarchy undetected in authors' study. This form radical architecture shift in possibilities on how to act in the role of (re)former rather than only follower of *human needs*.

Conclusions, discussion and suggestions

The notions on *sustainable development*, defined diversely in scientific and documentary sources, do not match: prioritizes either social or technical parameters, the criteria of time is marginally highlighted. As follows, none of the sources present fully-fledged perception on essence of *sustainable development*, although urges, is absent of the explanation on precedential and unprecedented creation models. As follows, the *technique 7R*, formulated in the study, is the precedent itself.

The study treats human *values*, i.e., levels of *(re)solutions*, as parallel to domains of sustainability. So, every model of sustainability is universal range of *values.* In terms of three-dimensional methodology, social criteria represent *first dimension.* Creation motives destine either precedent or unprecedented solution which appearance matters. Due to phenomenon of *culture-and-economy*, in other words*, goal-and-tool,* every *phase of culture* universally includes all domains in instrumental means, in case of the study, uncovered as range of *5R* (*second dimension*). Such double inclusiveness of *sustainable development* principles is representative of *double universality* of the philosophy constituent parts. Each case is characteristic to unique context, in terms of the study, named *relevant time-space* (*third dimension – Rst**).

Concept of *sustainable development*, as strict set of rules, in the publication uncovered as the universal tool to be used in alternative fields. Evaluation of the level of sustainable architecture, allow to determine if development is: 1) solution for steady-state of environment (*EC*); 2) resolution of environmental performance (*1PC*); 3) resolution in cause of environmental performance (mentality) (*2PC*). Such findings are addressed to educational (Ada, 2020) and regulatory organizations at local, national and international levels, for example, sustainable architecture competitions, sustainable building assessment systems, *State Territorial Planning and Construction Inspectorate under the Ministry of Environment in Lithuania, European Commission*, *United Nations* politics, etc. This is ground for the further researches for developing specifics for successful application of the *technique 7R* in such fields.

From the viewpoint of evolution, the crucial contemporary needs to overleap the gradual investments in developing and evolving standards, such as *traditional* architecture, are unacceptable – translate negligence towards logics, respect for laws of hierarchy. Paradoxically, what this article uncovers, it is possible under two basic criteria of creator's capabilities: 1) structures are perceived in universal means (induction); 2) is rich in unlimited believes to apply the structures in new materiality (deduction). Such principles on thinking, in general, allows to use already existing knowledge to convert it in any other form and vice versa. This is the ultimate goal of contemporary creative culture what this paper considers as *Paradox of Creative Culture – Characteristics on Freedom in Norms of Sustainable Architecture.*

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