Low-Tech – Freedom, Creativity & Love

Translating Erich Fromm's Psychoanalysis into Analyses of Architecture

Low-tech
Erich Fromm
narrative
psychoanalysis
architectural analysis

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An attempt to understand the idea of 'commons' in architecture requires analytical tools and a narrative which will refer to 'common values'. Yet the era of Postmodernism taught us mainly the relativism of multitudes of values, standards and paradigms. It made us used to 'it all depends' approach.

Many popular methods of describing architecture are based on analysing it in a historical or cultural context. This paper, however, proposes a perspective that refers to human needs which have arguably been universal for all the people in all historical periods in all cultures. This perspective could be useful particularly while dealing with big contemporary issues of 'commons' in architecture – togetherness, ecology, common places and agendas.

This paper proposes a framework based on the school of 'positive psychology' and in particular on the unappreciated father of the Frankfurt School and critical theory – Erich Fromm who worked all his life on his comprehensive 'theory of needs'. This paper proposes translating the concepts of this theory into architectural analyses and narrative.

If we are to understand the essence of 'commons', we need to refer to people's common needs. These are the key concepts of Fromm's model. This paper is structured around what Fromm described as three basic, common needs: freedom, creativity and love.

The analysis of low-tech movement will serve as an example illustrating how the lens of Erich Fromm's theory allows better understanding of this phenomenon. The objective of this paper is to propose a new definition and narrative of the low-tech movement which will be based on a psychological framework.

INTRODUCTION

Low-tech movement is often associated with the use of unprocessed materials such as timber, bamboo, straw bales, unfired earth or recycled products including car tires, bottles, etc. This movement is often also linked with building techniques which encourage self-built or co-operation during the building process.

Interestingly, for many reasons the movement is often ignored and under-researched, despite the fact that it experiments with the burning issues of the building industry's lack of resources and the link between architectural production and social cohesion.

Also, the definitions and the understanding of this movement have been persistently unclear and unsatisfactory. This paper proposes a way to address these problems by redefining low-tech as a movement. An alternative to current definitions will be proposed and structured according to Erich Fromm's concept of three main needs.

Erich Fromm was a key founder of the Frankfurt School, later named as one of the most unappreciated thinkers of the 20th century (Durkin, 2014:10). As philosophy historian Neil McLaughlin(1999) revealed, due to political coincidences Fromm was unfairly wiped out from the school of critical theory which he was a founding member of. This paper tests his theory by structuring paragraphs according to his models and concepts, which are translated below into the field of architecture.

UNSATISFACTORY DEFINITIONS

The Ontology of Low-Tech

The term 'low-tech' in architecture first appeared in the 1970s and referred to 'ingenious but unglamorous design' (Ball, Cox 1982) in a stark contrast with the newly born buzzword 'high-tech' – coined by Kron and Slesin's book High-Tech – the Industrial Style (1978). Morgan (1978) started to link the idea of 'low-tech buildings' with "energy conscious design and employing concepts of low embodied energy, use of thermal mass, natural materials and passive heating". In the 1980s, 'low-tech' entered popular culture thanks to the short story Johnny Mnemonic by Gibson (1981), which portrayed a dystopian future in which 'Lo Teks', a group of anti-technology outcasts, fight an unscrupulous 'high-tech' corporation. 'Low-tech' first entered the Oxford English Dictionary in 1989, still as an antithesis of the high-tech style, but 10 years later Luchsinger (1998) associated low-tech with "progressive solutions where aims are reached not by accumulating new technological tricks but by avoiding them". Daniels (1999) described low-tech as "passive methods of using the sun and natural environment". In the 1980s, low-tech started to be associated with the approach proposed by Victor Papanek who wrote about low-tech as being more of an "architectural movement" than an architectural formal style (Papanek, 1985). This was acknowledged in the definition included in the Dictionary of Architecture by Curl (1999):

"…involves the recycling of materials and components and the use of traditional construction, insulation, and natural means of heating and ventilation. Low-tech recognizes the environmental damage done by High Tech through excessive use of resources, and has been applied to the circumstances of poverty-stricken areas, where it has been termed 'alternative', 'intermediate' and even 'utopian' technology".

At the beginning of the new millennium, 'low tech' in architecture ceased to be a pejorative term. In 2001, Jean Dethier, director of Centre Pompidou, made a speech celebrating the meeting of bamboo, paper and earth architects in which he said: "high-tech is the past, the future belongs to low-tech".a Books such as Sustainable Architecture – Low-tech houses (Mostaedi, 2003) and Ultra Low Tech Architecture (Mira, Minguet, 2011) present low-tech projects as those that utilise unprocessed and recycled materials.

Problems of Definitions

The first problem concerning low-tech's definitions derives from the fact that it is not necessarily rated on materials or techniques only. Unprocessed materials – wood, earth, bamboo or straw – have recently become part of the vocabulary of architects which could hardly be associated with low-tech. Rammed earth walls were designed by Norman Foster at Musée de

la Romanité in Narbo Via, by Herzog & de Meuron at the Herb Centre, or Grimshaw Architects in the Eden Project. Straw became part of mainstream guidelines and is also used in technologically sophisticated prefabrication processes such as those proposed by Modcell. Renzo Piano developed bamboo architecture. Those examples could hardly be called low-tech.

The second problem is linking the movement simply with an eco-friendly architectural response. Even if this is an important part of low-tech narrative, in the 21th century sustainability has become part of an accepted paradigm of the whole mainstream building industry. On the other hand, there are plenty of examples where low-tech is driven by other ideas than sustainability: addressing problems of community or the poor, socially excluded or people affected by natural disasters.

The third problem is that the movement is often defined as a modern trend starting in the 1960s. Yet low-tech could also be presented as not historically specific. The refusal to participate in the latest, most evolved technological conveniences is by no means a recent phenomenon, and not necessarily an architectural one. Advocates of these ideas may be found in different cultures, religions and historical periods: cynics and Diogenes in ancient Greece, Francis of Assisi and his followers in Christianity, Lev Tolstoy and the Tolstoyan movement in Russia, Mahatma Ghandi in Hinduism and a multitude of other

movements which promoted a simple life and minimalism and were sceptical of luxury. In his famous book Walden or Life in the Woods, Henry Thoreau strongly identified the link between minimalist lifestyle and architecture creating a blueprint which was used by many low-tech promoters (Thoreau 2018). These timeless, cross cultural and cross historical characteristics of low-tech indicate that the essence of this movement should be sought in a more universal realm of human psychology.

LINES OF INVESTIGATIONS AND METHODOLOGY

Site visits and interviews

In order to establish an understanding of the universal character and the essence of the low-tech movement, the author has followed grounded research principles by visiting over 50 workshops and events which promoted low-tech techniques such as various methods of building out of earth, straw bales, bamboo, car-tires and paper
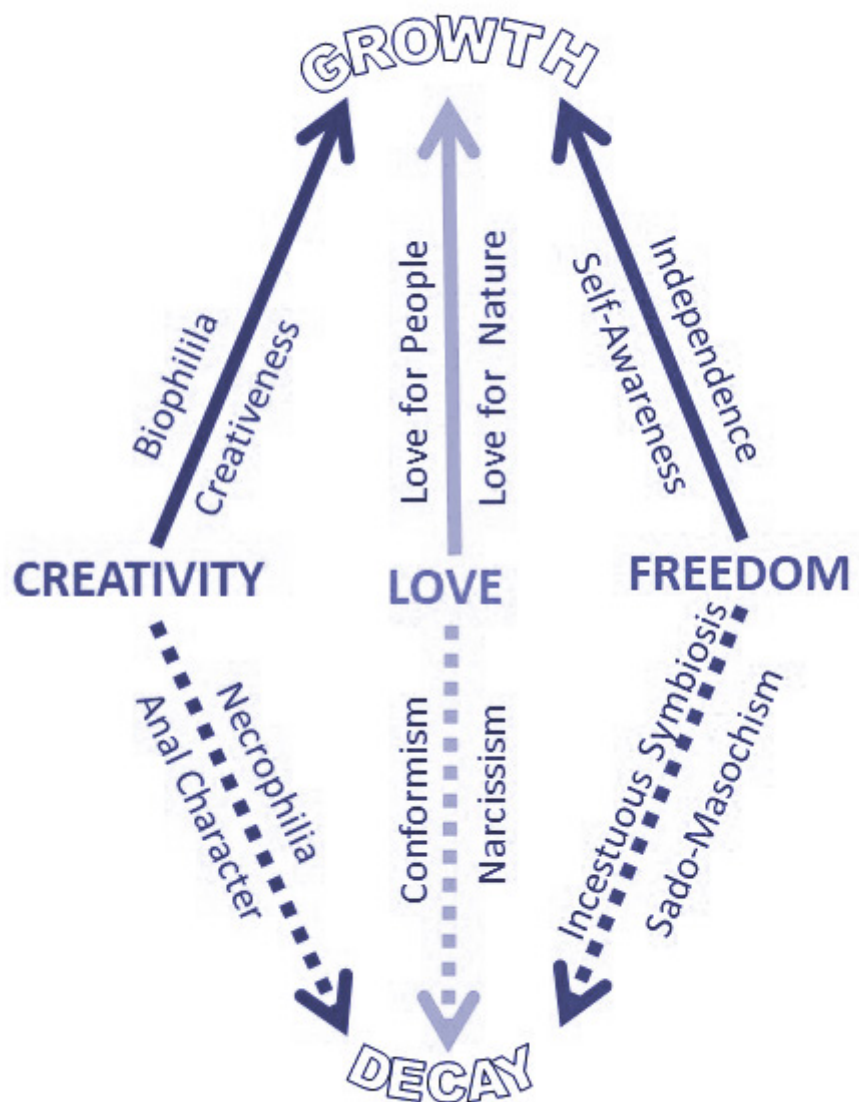

Diagram 1 (by author based on Fromm, 1980: 114)

tubes. During the events, over 100 structured and semi-structured interviews were conducted based mainly on two questions: "What is the main characteristic of the low-tech movement?" and "What made you get involved in the movement?". Those interviews were analysed in order to find the main repeating themes and lines of narrative.

Psychoanalytical modelling

The second line of investigation was an attempt at creating a model which would compare and contrast paradigms of the movement with other movements, in particular, the mainstream high-tech. The model has been developed based on Erich Fromm's theory of human needs. The hypothesis that 'translation' of the psychological theory into architectural syntax could be useful was suggested because of its universal character that allows bridging technical, social and psychological domains. Fromm proposed the model in The Heart of Man (1980) but was developing it throughout his life in his other works such as: The Anatomy of Human Destructiveness (1973), The Art of Loving (2005), The Fear of Freedom (2010) and others.

In The Heart of Man, Fromm proposed a model whose three key elements are 'freedom' (opportunity to develop one's own potential); 'creativity' (opportunity of active and meaningful interaction with the world) and 'love' (connection with the world and other people). Interestingly, Fromm calls those needs 'fundamental'

while Maslow (1943) in his pyramid of needs calls them 'higher' and claims that people would want to fulfil them after the basic needs are satisfied. Fromm claims otherwise, and points out that people are often ready to suffer and even commit suicide not because they are hungry or uncomfortable but because they fight for freedom and desire, love or a meaningful active life.

Fromm's model and hypothesis links the needs of Love, Freedom and Creativity with culture and political systems. He argues that different social systems promote different ways of how the needs could be fulfilled. Fromm distinguishes cultures promoting growth from those which supress it, such as slavery, totalitarianism but also the hierarchical, bureaucratic office culture (which could be 'translated' into an architectural office culture). According to Fromm (2010), in a normal, healthy environment the 'need of freedom' manifests itself in developing one's own potential but if this is impossible, if society/ environment/culture does not support this development, the same need takes the form of oppression, destruction or an apathetic pedantic approach. Analogically, according to Fromm the 'need of love', which in a supporting environment naturally develops itself as togetherness with people and nature, could be transformed by dysfunctional culture into obsessive narcissism or conformism. In a similar way, the 'need of being creative' in

a supportive society manifests itself in creativeness and 'biophilia' (the love of life), whereas in a destructive environment it could take the form of 'necrophilia' (love of dead & controllable objects like machines). Fromm put forward a hypothesis that in a supportive environment every person would rather live in peace with people, be active and be free. However, if these options are not possible because of social conditions, one can fall into the alternative options: conformist, narcissistic and destructive (see Diagram

The question remains whether the Frommian theory could be applied in any useful way in other domains such as architecture? The following paragraphs test the 'translation' of Frommian concepts into a low-tech narrative. Each 'translation' starts by forming a short explanation of one of Fromm's psychological concepts, and then suggests how it could be translated into qualities regarded within this movement as flaws or virtues.

FREEDOM

Incestuous Ties vs. Oedipus' Rebellion (Following the mainstream vs. escaping it)

Fromm defines freedom as a condition in which individual potential can be developed (Fromm 2001). Since everyone's potential is different, the same concept of freedom could apply to people regardless of their different qualities. The first step to be free is to realise that one could be free. Fromm claims that in order to develop, one must break 'incestuous ties'

Fig. 1 Drop City – architectural manifestation of low-tech rebellion against establishment: unconventional form, material and organization (Photo: Clark Richert)

– a toddler must realise his/her own independence from the mother, a teenager from the family. In the world of design, we can extrapolate this into metaphorically breaking incestuous ties between the designer and conventions.

Fromm adopted the Freudian concept of the Oedipal complex, but gave it an unfreudian interpretation. This complex is not so much a negative urge to kill the father, but rather a positive rebellion against authoritarianism which limits one's own development – i.e., reinforcing freedom (2003 p. 117-118).

Low-tech Narrative:

Modern technology promises a lot of freedom but under one condition: keeping strong 'ties' with technocratic manufacturers posing as 'freedom providers'. Fromm's concepts can be translated both as a metaphor and narrative, but they also go deeper. Fromm emphasized the fact that the development of freedom (developing individual potential) is conditioned by exposure to 'external systems' such as culture and the socio-economic environment. In architecture, it could again be interpreted as relations with clients or the professional architectural milieu, which manifest itself in fashions and social expectations. A hypothesis might be suggested that low-tech creators could be understood as 'oedipal rebels' against 'incestuous ties' imposed by systems. Many low-tech promoters defy authority in their own way. This was the case in 1960s in Drop City (Ebert, 1981) and in today's 'ecovillages' in which young people contribute towards a new culture which is often manifested by alien, unfamiliar architecture. "It was kind of rebellion against important people and totalitarianism" – says founder of the Drop City (Grossman 2012).

Many low-tech architects were initially driven by the desire to escape the system which they found oppressive or unfulfilling and, in the process, decided to give up potentially 'successful careers'. Gernot Minke left work at the successful practice of Otto Freib; Hassan Fathy turned away from the path of a respectable modernist architect to later be nicknamed the "mad architect of mud" and Mike Reynolds was attributed the role of an "architectural outlaw" and "Garbage Warrior" (2009). This rebellion towards low-tech represents arguments against mainstream styles, manufacturers and energy suppliers using rational and emotional justification. In these circles everything that is 'off' or 'alternative' becomes a virtue: "off mainstream", "alternative", "off grid", or "autonomous house" all have a positive connotation for creators not only in these circles but often also in wider culture.

Some questions inspired by Fromm's concept of Oedipal Rebellion are: "Does a given technology allow you to rebel – to come out of your comfort zone?"; "Does it encourage you to leave the comfortable nest and fly?" or "Does it tighten the ties and seduce you by 'external potential'?"

Frommian Perspective:

A hypothesis may thus be suggested that low-tech could perhaps be better understood not as a result of hatred against modern technology as such, but as a longing for independence, the first step to which is the 'oedipal rebellion'.

Fig. 2 Construction of Lincoln Hexagonium: each builder makes their own mark. This is what makes this building unique and what is a unique value of low-tech

Identification vs. Identity (Identification with Fashion and Techno-culture vs. Identity Through Unique & Contextual Design)

Fromm claims that an individual that has already managed to detach themselves from "incestuous ties" (mother, family, conventions etc.) needs to identify that they have – in other words to find their own potential and identity. In Man or Himself (2003), Fromm draws on the humanist tradition to show that the quest for self-consciousness lies in the core message of thinkers in various cultures: Buddha said 'Be ye lamps unto yourselves (p. I), Master Eckhart 'I am I is only mine and belongs to me and nobody else' (p. 27), Spinoza 'the man is an end-in-himself' (p. 19), and Kant 'man should be an end of himself and never a means only' (p. 90). For Fromm, respect for identity is the sine qua non of freedom: "Man's main task in life is to give birth to himself, to become

what he potentially is. The most important product of his effort is his own personality" (p. 177).

Low-tech Narrative:

In order to draw parallels with the low-tech building movement, it is vital to realise the extent to which modern technology contributes to identity. People are encouraged by adverts and cultural pressure to identify with the latest fashion or high-tech products as a way of creating individual images or improving credibility. Similarly in architecture, the latest technology is used as a way of raising status. Fromm warns against this loss of individual identity and encourages people to search for their own unique faculties.

A collective of testimonies of low-tech creators e.g. Kahn (2000, 2004), Olsen (2012) and others, show that sometimes low-tech is a way for people to find their own identity, value system, or own design path: Hugh Brown, the tree house

builder, who decided to move to Honduras to take up what he called a "solitary life sufficiency removed from anywhere especially the United States", was conscious this trip was not the aim but only a means of finding his identity: "I knew I would not spend the rest of my life there… When the time came I returned" (Khan 2000, p. 94). Exactly such enjoyment of simple work as a way of developing one's own skills was a key concept of the arch-critic of modern technology and Fromm's collaborator – Ivan Illitch (2001).

The involvement with low-tech is described by almost all professionals as a personal turning point and a relief from the bureaucratic environment in office work: "My psychosomatic hatred to office work was so bad that once they had to call an ambulance. After this incident, I decided to spend several months in Asia studying Tibetan construction techniques. After returning to Europe, I found straw bale movement which encapsulated for me a similar respect to nature."

Simple materials such as earth or straw also allow every creator to make their individual marks in the form of ornamentation or personalized solutions. Paulina Wojciechowska, founder of "Earth Hands and Houses", and author of Building with Earth, sees this as a particularly significant value of natural architecture and encourages every participating builder/volunteer "to feel joy, play and make such a mark on her buildings" (Wojciechowska

2001, p.148).

In Fromm's psychological perspective, respecting one's own identity goes hand-in-hand with respecting the identity of others. This explains why such importance is accorded to respecting the surroundings in low-tech. Christopher Day (2002) calls it the 'Spirit of the Place'. The use of simple local materials and vernacular techniques helps to emphasize the identity of the surroundings. This attitude contrasts strikingly with the approach of modern architecture and prefabrication, which imposes external systems and coordinates indifferent to the spirit of a place.

Frommian Perspective:

For Fromm, the 'need for identity' is common to all people, but it can be substituted by identification with external logos, gadgetry, and fashions for the latest technology. It may be argued that it is the aversion to those 'fashions', and not to technological development itself which is a characteristic of low-tech movement.

'Freedom from' vs 'Freedom to' (Decadent design vs. Developing human potential)

In The Fear of Freedom (2001), Fromm analysed the history of the concept of 'freedom' from the Renaissance, when the idea started to play a crucial role in Western culture, up until the 20th century, when central Europe gave up freedom by embracing fascism. In this seminal work, Fromm introduced a key distinction between the concept of 'freedom to', which gives meaning and makes it possible to develop one's own potential, and 'freedom from', which only frees a human from various ties and obligations. According to Fromm, the former could lead to passion, the latter to fears and anxiety, which could push people to accepting dependence and authoritarianism.

Using this differentiation, it may be argued that modern sophisticated technology promises freedom from dangers, toil and others, but

Fromm asks 'what does it offer instead?' Freedom from constraints could be interpreted as 'decadent design' ('know how' without 'knowing what for').

Low-tech Narrative:

Many low-tech promoters are sceptical about technology offering 'freedom from' toil without developing meaningful independence. "I am happy that I do not need all those new materials to feel free and creative," said Professor Gernot Minke.b

If we agree with Fromm that freedom is a 'possibility to develop individual potential', then we can also make sense of the main drawcard that attracts people to low-tech workshops. These events are orientated largely towards developing individual skills, knowledge, and networking. The testimonies of self-builders show that they are often convinced that the greatest freedom comes from satisfying the basic needs of here-and-now (such as dwelling). "People think of the word 'primitive' as

Fig. 3 Interior and exterior of a private house designed by Gernot Minke for himself which encapsulates the low-tech idea if independence from processed materials. "I am happy that I do not need all those new materials to feel free and creative".[b]

derogative. For me it derives from 'prime', fundamental and if a building has good foundations then you can be free and creative and you can sculpture the walls as you want," said Paulina Wojciechowska.[d]

Frommian Perspective:

Thus, the reluctance towards sophisticated technology in the low-tech movement may not really be a criticism of technology as such, but could rather be understood as reluctance towards technology that makes people dependent on external systems. In this sense, the low-tech paradigm shift would be in the direction of 'freedom to'.

Sadomasochism vs. Independence (Standardisation vs. Experimentation)

Highly complex technological systems require hierarchically organised processes and structures. Fromm claims that socio-cultural and technological structures in which individuals feel subordinate or superior to others, push the human psyche towards what he calls a 'sadomasochistic character' and thus blocks growth, which needs a balanced partnership.

Low-tech technologies could thus be seen as a direct reaction against this "sadomasochistic dependency" – limiting oneself to simple techniques reduces concerns around access to expensive materials, and reduces the need for external experts and a rigid system of standardisation. As a result, it encourages experimentation and direct contact. It reduces the distance between the creator and the object of design: it allows for touching and feeling the material. At the same time, it is worth noting that such a close relationship between the designer and the environment could positively impact the 'ecology of design' if, indeed, ecology is understood as a derivative of a 'relationship'.

Low-tech Narrative:

In promoting untypical building methods, low-tech approaches could encourage cooperation and partnership. Sarah Wigglesworth, the architect of Stock Orchard Street office in London, famous for her use of untypical materials, claimed in an interview that the "introduction of those techniques deconstructs macho relationships on the building site and encourages cooperative problem solving".d Maurice Mitchell (1998) seems to agree with her when he says that "technology using unfamiliar materials" has a power to generate skills, techniques and understanding of other cultures. Mitchell claims that experimenting is an effective way of developing individual potential.

The value of such experiments could be illustrated by a designer who said: "It is not important if the objects are low- or high-tech. I am interested in voyage, experimentation. Mistakes help me to discover new paths".[f] He is by no means motivated by an aversion to sophisticated technology, rather the low-tech approach allows him to be more creative.

In Anatomy of Human Destructiveness, Fromm introduced the concept of a sadomasochistic relationship, which resulted from a mindset of people for whom everything needed to be in a strict hierarchy and each thing had to be subordinated to another, preventing partnership.

Fig. 4 Workshop 'Unfamiliar Materials and Structures' at the Centre for Alternative Technology in the UK run by Maurice Mitchell, who values the fact that low-tech materials invite unpredictable solutions which could unleash hidden architectural skill of their creators.

Figure 5 Earth Dome in Hill-Holt Wood covered in car tires and a vault by Shigeru Ban supported by paper tubes. Both projects were possible because of low-tech's distinctive feature which is encouragement of self-built and experimentation with cheap non-standard materials.

Frommian Perspective:

Thus, it could be suggested that low-tech practitioners avoid highly technological processes not because they do not appreciate technology as such, but because they try to avoid hierarchical environments, which Fromm relates to sadomasochistic culture ("either you tell me what to do or I tell you what to do").

CREATIVITY

Workaholism vs. Active Life (Mass-produced off-shelf architecture vs. self-build)

When talking about 'creativeness', Fromm referred to the state of being active as an ability to change the environment and one's own self (2002: 35-37). In Creative Attitude, he emphasized that creativity is an attitude to life and not merely an artistic endeavour: "To be creative means to consider the whole process of life as a process of birth and not to take any stage of life as a final stage" (Fromm 1959: 44).

The technology that has been developed since the Industrial Revolution never fulfilled the promise of liberating mankind from mentally unsatisfying labour. Work that is alienating and 'deprived of joy' has been criticised by critics of technology from John Ruskin (2004) to Ivan Illitch (2001). Fromm discusses the problem of workaholism, which he describes as an antithesis of creativity – a result of stress and anxiety. Comments of architects who changed their environment from conventional to low-tech often emphasize the lack of creativity in mainstream practices: "'Being creative' is merely a privilege of a very small number of well-publicised individuals (e.g., star architects) whilst the stress related to deadlines, quality, finance, or increasing productivity are typical factors affecting other more general architectural workers." In the Frommian sense, despite the fact that it 'creates' objects, this type of production perpetuates the social status quo and cannot develop 'creative' people.

Low-tech Narrative:

Low-tech is not merely dedicated to the production of objects, but it often aims to 'produce' social change. The promotion of building techniques for everyone, activating people and 'the democratisation of technology' lies at the heart of low-tech and the Open Source Movement as is spelt out in the self-repair manifesto: "if you can't fix it, you don't own it" (Fixit, 2021). This explains the contrast between the popular paradigm of exclusive technology promoted as 'easy' and the low-tech virtue of 'work intensive' but accessible building methods. Most low-tech techniques allow for the participation of unqualified people or even children in an environment in which everyone can feel like a creator (Minke 2006).

Because of their simplicity and low price, low-tech techniques, unlike high-tech, also encourage modifications during habitation. In a concrete building, the user must be very determined to introduce changes, whereas in a simple timber frame construction adaptation of the layout and structure is available using basic DIY measures.

Figure 6. Straw vaults in Wangelin (by Gernot Minke) and Bamboo House in Boisbuchet (by Simon Velez). Those projects, like many other low-tech projects, were possible because volunteers are attracted to natural building sites.

Frommian Perspective:

It seems likely that the low-tech movement attracts people who are disappointed with the building methods that limit one's own initiative. Perhaps in order to understand the essence of low-tech, we need to understand the sheer pleasure and joy of work and being active?

Necrophilia vs. Biophilia (Dynamism of Machine vs. Dynamism of Life)

Biophilia is a core concept coined by Fromm, which emerges as an interdisciplinary framework for investigating human affiliation with nature, life and life processes, such as dynamism, change, unpredictability and complexity. Fromm claims that socio-economic systems influence biophilia. "Love for life will develop the most in a society where there is: security in the sense that the basic material conditions for dignified life are not threatened, justice in the sense that nobody can be an end for purpose of another, and freedom in the sense that each man has the possibility to be an active and responsible member of society" (Fromm 1964: 53). The question remains then as to the means by which different societies and different 'architectural communities' influence this dynamism in different ways.

Low-tech Narrative:

Dynamism and change are a trade mark of modern mainstream architecture. This, however, begs the question: dynamism 'of what' or 'of whom'? The glorification of dynamism was introduced into European culture in 1909 by Futurists with their famous Manifesto (Marinetti 2009) praising speed, machine, brutality, anti-feminism and war. Analysing this text, Fromm wrote: "Here we see essential elements of necrophilia: worship of speed and the machine; glorification of war destruction [...] that characterise Nazism, Mussolini and Hitler [...] They had no genuinely creative ideas, nor did they accomplish any significant changes for man. They lacked the essential criterion of the revolutionary spirit: love of life" (Fromm 1973, p. 345). For Fromm 'necrophilia' (love of dead objects and fear of life processes) was a concept identifying the key attitude of a technocratic culture praising objects, machines, and predictable systems.

Significantly, in this respect low-tech offers a paradigm shift. Its promoters are often driven by the ambition of empowering life: people, communities and nature (Naess, 1993). Dynamism in the low-tech environment often relates more to boosting self-reliance and aims at changing public opinion and lifestyle. In Architecture for the Poor, Fathy talks about vernacular techniques not as an end in themselves but as a means to combat unemployment and improve the low self-esteem of local population: "So the peasants at once begin to look on their own products with pride" (Fathy, 1976: 43). John Smith, builder of the Universal Hall in Findhorn Foundation – Scottish 'Mecca' of low-tech architecture – said "we didn't build the hall, but the building built us."[g] It is one of the recurring themes among low-tech builders (Dethier 2002).

Figure 7 'Beauty on imperfection' is for many the most attractive feature of low-tech. Straw bale house in Przełomka (by Paulina Wojciechowska)

Further, according to Fromm's model, affiliation with nature is a natural consequence of the biophilic attitude. This mindset can often be observed in low-tech creators who strive to harmonise with nature by incorporating green roofs and walls and contextualizing buildings in their natural setting. Self-imposed technological constraints could be seen as a reflection of the natural limits of biological-growth, which is a characteristic of every living being (Kennedy 1995).

Frommian Perspective:

Given the above, one could perhaps ask whether it is not the machines as such that low-tech architects are in fact repelled by, but the lack of this biophilic appreciation of life and a necrophiliac fascination with dead objects that suppress creativity?

'Anal Complex' vs Complex Stimulation (Obsession with Control & Pedantry vs. Beauty of Imperfection)

Fromm used the concept of the 'anal complex' to explain why attitudes such as orderliness so often go together with an authoritarian character suppressing spontaneous creativity. "[…] The tendency to control and possess is only one aspect of anal character, but milder and less malignant than hate against life" (Fromm 1973, 462). Compulsive cleanness is thus a symptom of fear of life which by its nature is "messy" and not predictive.

The 'anal character', craving for cleanliness, and fear of 'touching' anything dirty could describe modern technology and high-tech architecture – spotless but cold, unpleasant to touch, uncompromisingly precise and at the same time often struggling to cohabitate with nature which is too unkempt in a media environment which requires images of clean cut, crisp buildings.

Low-tech Narrative:

At the same time, low-tech can often be located on the other side of the spectrum in terms of aesthetics. "Look at the cold glass and steel building. How unpleasant it is to touch it. Why would anyone want to design an untouchable building?", I was once asked by an earth builder, Henning Schmitt. h Low-tech embraces what the Spanish describe as 'belleza de la imperfección – the beauty of imperfection, and the Japanese as wabi-sabi – cherishing the look of unfinished artefacts.

The architect Rhen August Benson thus describes this contrast: "Low tech vs. high tech; tactile vs. slick; real vs. ideal; form and light take precedence over material and finish; intuitive vs. rational and logical; natural vs. manufactured; simple without austerity or pretence" (Benson, 2021) Hundertwasser was convinced that an ecological artist should avoid straight lines (Hundertwasser, 1986), whilst Papanek valued the beauty of slightly worn down objects over brand new: "all the scratches are just beginning to give it character, making it unique" (1995, 142).

The imprecise nature of low-tech often results in it being rejected by the wider audience or other potential clients. However, this is a characteristic of this movement that deserves being investigated – particularly in contrast with the mainstream 'anal' tendencies. Lack of accuracy derives from the employment of simple methods. Despite this, Fromm's interpretation encourages research into a correlation between this low-tech inclination and its ecological ideals.

Frommian Perspective:

Thus, it is suggested that this aspect of low-tech is not denying the benefits of technology but merely

Figure 8. Earthship construction by Michael Reynolds, who like other low-tech architects developed a cheap construction for poorer parts of the society

a subconscious reaction against those types of modern technology which cannot find a way to support life.

LOVE

Narcissism vs. Togetherness (Competition vs. Cooperation)

In The Art of Loving, Fromm described love in the socio-political context as a "development of interest, care, responsibility, respect and knowledge" toward the environment (Fromm 1956, p. 32-33).

If the need for loving is blocked, however, human beings often push themselves towards decay in the form of conformism or narcissism.

Low-tech Narrative:

Narcissism, both of society in general and of the architectural profession specifically, might explain the problems in Modernist buildings' failure to relate to the context. Modern cities with shopping centres which turn their backs to any kind of integration with the local surroundings, or megalomaniac edifices that overshadow the neighbouring city fabric are only some examples of narcissism in architecture. A contemporary capitalist society's glorification of competition and egoism (without care, responsibility, respect or knowledge) goes hand-in-hand with the conformism of maintaining standardised products, styles and approaches.

Thus, the contrast of this attitude with the low-tech paradigm could not be more striking. Cooperation, mutual help, sharing and open-source are concepts deeply embedded in the ethos of the low-tech movement. Most straw-bale constructions have been erected as a group effort of volunteers and enthusiasts. Catarina Pinto, straw and earth builder, said: "If you want to build a house, you either need a lot of money or a lot of friends" i. Limitation and simplification encourages alternative self-build by friends, neighbours or communities. Settlements designed by Walter Segal in Lewisham (Towers, 1995: p. 82-85) or Michael Reynolds in Taos (Reynolds,

Figure 9. Direct contact with material and building processes is a characteristic of many low-tech constructions. In the picture: the author (in the forefront) mixing cob for Kadłubówka first Polish straw-house design by Paulina Wojciechowska

2000) were possible not only thanks to simple techniques but also because members of the community helped each other.

Frommian Perspective:

A hypothesis may be suggested that the people who experience the pleasure of cooperation in low-tech construction might be repelled by high-tech because of an anxiety related to competition and predictability associated with the conformism of established systems.

Inrelatedness vs. Relatedness (Indirect vs. direct contact with the building process)

Fromm redefined Freud's core concept of libido into his perception of loving as "active striving and inner relatedness" (Fromm, 2005: 99).

Sophisticated technology often introduces tools, interfaces and procedures which disassociate the user away from the subject. At times, this indirectness could be perceived as a loss of relationship with the environment or with the subject of creation.

Low-tech Narrative:

Paulina Wojciechowska said "Sometimes when I work on a computer, I can see a yellow line, a green line and I feel like I am losing contact with the building and the design. It is so liberating to touch the building with your own hands, to feel it and smell it. There is nothing better than the touch of earth while are you plastering a wall with your own hands and being able to shape it with every move of your palm".d

Many volunteers participating in low-tech constructions emphasize the pleasure of direct contact with materials and processes. Low-tech methods, more than any others, enable close direct contact with materials. The urge to be closer to the site and its workers, makes some designers move away from office work. Simon Velez said "My office is where the building site is, and by being close to my workers, all I need is an A4 sheet to explain any aspect of the project".

Figure 10. Many low-tech architects were driven by the idea of helping the poorest parts of society. In the picture: New Gourna designed from earth by Hassan Fathy (photo by Marc Ryckaert)

Frommian Perspective:

Thus, a hypothesis may be suggested that low-tech creators do not wish to oppose a society that develops technology, but instead to enrich technological development with a more direct and tangible relationship to materials and people.

Care vs. Carelessness (Care vs carelessness in architecture)

Fromm decided to reclaim love from naïve pop culture. In The Art of Loving (1956), he described love in the psychological but also socio-political context as a development toward "interest, care, responsibility, respect and knowledge of environment" (Fromm: 32-33).

Modern technology often makes it possible to fulfil our needs (and wants) without having any care, knowledge or responsibility. Users of sophisticated technology are rarely encouraged to consider the whole life cycle of a product or what happens to it once it has been used. As Giles Slade (2006) claims in his Make to break, planned obsolescence became part of advanced technology – "Out of sight, out of mind". Jealously guarded knowledge in high-tech culture is legally reinforced by intellectual property rights, copyright and often embedded in products deliberately designed as incompatible with products made by other manufacturers.

Low-tech Narrative:

In a series of interviews conducted at the European Straw Bale Gathering [k] , accusations of the irresponsibility of modern technology were expressed by more than half of interlocutors. Due to limited resources, low-tech approaches compel builders to understand, appreciate and study the laws of nature, limitations of materials and the potential of local environment and vernacular architecture. Gernot Minke, one of the world's most prominent researchers of natural construction, said: "When I visited Middle America and saw villages with poorly designed architecture, I realized that by combining their vernacular tradition with construction knowledge which I had as an architect, I could make a much bigger change to the world than in fancy modern architecture".[c] Encouraging knowledge, educational values and information sharing play an important role in low-tech

architecture. Low-tech blogs, books, meetings or workshops are usually connected with a mission of popularising knowledge. Some institutions, such as the Centre for Alternative Technology, started as informal groups dedicated to the promotion of knowledge, before they developed towards becoming an organiser of formal education courses in cooperation with universities (Harper, 1995).

Frommian Perspective:

Rehabilitating the concept of 'love' makes it possible to see a strong connection between psychological needs and the low-tech movement. Architecture observed

through this lens inspires one to pose the question: perhaps what really fuels low-tech is not techniques but the dissatisfaction with carelessness, and the need for love?

TRANSLATING PSYCHOANALYSIS INTO ARCHITECTURE

In the previous paragraphs, Erich Fromm's concepts were translated into the domain of architectural narratives and analyses. These translations make it possible to identify and systematise the characteristics of low-tech that distinguish the movement from others. The narrative allows presentation of the main qualities of this

movement not as merely related to techniques, tools or materials, but rather as emanating from a more significant psychological position.

In this paper, the elements of Fromm's theory presented in Diagram 1 were 'translated' into key architectural concepts which could be visualised in Diagram 2.

It is worth noting that Diagrams 1 and 2 indicate the interdependency of the 'needs axes'. This model emphasizes that it is not enough to nurture only one aspect of growth: Love without freedom turns into overprotectiveness paralysing personal development;

Diagram 2. Model of qualities regarded within low-tech as flaws and virtues (author: M.M. Kołakowski)

freedom without creativity is not constructive, and creativity without love may turn into decadent design. In order to assess the attitudes and paradigms of creators, aspects of love, freedom and creativity should not be assessed separately but they should be triangulated. Diagrams 1 and 2 could also be useful in describing architectural creation by indicating the intensity/ potential on each axis.

CONCLUSIONS

The movement of low-tech is under-researched and not without organisational and ideological challenges. Yet, it deserves particular attention because it tests answers to vital questions concerning our technological civilisation – in material, technological and narrative sense – our relationship to the 'commons': the benefits of social collaboration, lack of resources, potential for reducing the use of energy, but most of all – the role of technology in personal and social development.

Literature on low-tech has so far not managed to develop a satisfying definition encapsulating the characteristics of the movement. Low-tech cannot be described merely by analysing technical aspects of this movement. The 'translation' of Fromm's theory into architecture proposed in this paper offers a narrative and a research platform which relates to the attitudes of creators and links it with the socio-economic culture. This perspective makes it possible to redefine 'low-tech' as a movement which

could be characterised by voluntary refusal of available sophisticated technology and replacing it by innovations driven by ambitions for reshaping the role of technology towards processes that would respect the humanistic, psychological, environmental or social values. Translation of Frommian concepts helps to analyse those ambitions as an attempt to support 'construction process culture' which will nurture personal growth.

The narrative suggested in this paper helps to see the problems of a sustainable building industry not merely from the perspective of tools, indicators, measurements of CO2 and KW/h etc. Attitudes of designers, builders and users have their psychological dimension. A building could be designed or presented theoretically as sustainable, but all of this would be in vain if the process is not supported by and harmonised with culture and psychological attitudes of designers, builders and users.

This problem is identified, for example, by research on the well-known problem of 'performance gap' – where a disparity is found between the sustainability predicted at the design stage and that in operation.

The key to sustainability which would truly respect 'common' resources, spaces and values lies in the psychological attitudes and aspirations of designers, builders, promoters and users. This is why the humanistic perspective and narrative of technology is so important. Translations

proposed in this paper could be one way of constructing a narrative which bridges the technical and humanistic perspective.

The remodeling of the architectural analytical toolkit proposed in this paper suggests different 'measuring strategies' which refer to love, creativity and freedom. Are we able and ready to translate those humanistic values into architectural narrative and analyses?

NOTES / REFERENCES TO INTERVIEWS CONDUCTED BY THE AUTHOR

[a] Interview with Jean Dethier, Boisbuchet Vitra Museum Centre, France, 21.07.2002

[b] Interview with Gernot Minke, Wangelin Germany, 2011.09.01

[c] Interview with Jakub Wihan. Bridport, UK. 2012.06.20,

[d] Interview with Paulina Wojciechowska, Przełomka, Poland 2007. 08.17.

[e] Telephone Interview with Sarah Wigglesworth 2008.02.20

[f] Interview with Peter Rollings. Lincoln 2014.05.14

[g] Interview with John Smyth (one of the builders of Universal Hall in Findhorn), Findhorn Foundation 06.06.2002

[h] Interview with Henning Schmitt Berlin, Conference Lehm 17.11.2000

[i] Interview with Catarina Pinto Wangelin, 30 08 2014

[j] Interview with Simon Velez, 21 July 2000. Boisbuchet, France

[k] Series of 20 interviews. European Straw bale Gathering 2013.09, Łódź, Poland

[l] Interview with Gernot Minke, Wangelin, Germany, 28 Aug 2011

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