

PIDATO PENGUKUHAN DOCTOR HONORIS CAUSA

REINFORCING CREATIVITY – HANDLING THE AGE OF CHAOS



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REINFORCING CREATIVITY – HANDLING THE AGE OF CHAOS.

Die Renaissance der Kreativität – Welt erzeugen, Chaos händeln.

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1. Introduction

This article was written as part of a cooperation between the Indonesia Institute of the Arts, Yogyakarta (ISI) and the University of Applied Sciences and Arts Hanover (HsH), more precisely the Design and Media Master's program (mdm), which was established in 2013. The cooperation is characterized by high intrinsic commitment of many people in both parts of the globe. The cooperation is particularly vibrant due to numerous design thinking workshops, which are supported by a fundamental open-minded transcultural attitude. The academic cooperation has been intensified through additional accompanying symposia, faculty and student exchanges.

This paper presents the urgent relevance of the cross-cultural workshops and provides approaches on how to react to the upheaval, to the great transformation, and how we can actively endure – or better yet, shape – the intermediate state.

The core of this upheaval is the borderline ecological and social situation into which the previous understanding of growth and progress has brought modern societies. We are in the midst of a historic transition, which is currently being dictated more and more critically in order to avert danger. The prospect of a healthier life, for example, is obscured by the justified threat. Furthermore, the crisis mode seems to lead to a tragic reflex: in view of the unpredictability of these crises, crisis management according to known, traditional and proven patterns is preferred – although means and methods for innovative processes have long been known and described in international standards (ISO 56000:2020, 2020b)¹. Innovation is a common tool needed to be resilient to the threat environment (Innovate. . . Or Break!, 2020)².

My thoughts are based on experiences from transcultural and entrepreneurial design thinking workshops in Indonesia, but also on countless design thinking workshops, hackathons, and foresight workshops I have conducted – from very different business sectors, with students from different professional domains, and with civil society actors.

¹ ISO 56000:2020. (2020b, December 17th). ISO. <https://www.iso.org/standard/69315.html>

² Innovate. . . or break! (2020, September 15th). ISO. https://www.iso.org/news/isofocus_142-3.html

Through this paper, however, I hope to initiate a discussion with international, but especially Indonesian colleagues from the Indonesia Institute of the Arts, Yogyakarta (ISI). The perspective would be the continuation of transcultural exchange and a solidified deepening of existing cooperation based on a mutual appreciation of cultural influences and personal idiosyncrasies with an affinity for pluralism.

2. Creating a world in chaos

2.1. The design is in demand

»The world is in a peculiar state. We discover forest dieback, we do everything possible to stop it, and it continues to get worse. We discover pollutants in our atmosphere, we do everything possible to counter them, and the contamination continues to increase. We discover a hole in the ozone layer, we ban chlorofluorocarbon gas, and the hole in the ozone layer gets bigger and bigger. We produce lots of garbage and toxic waste materials, we do everything possible to stop it, but toxins and garbage grow into mountains that we can hardly get rid of. We want to reduce carbon dioxide emissions, but the world warming is increasing. ...This is where we would need design, because it is about products that are made exclusively by people. What is needed here is design that is critical, that can question things, that is analytical and can uncover the underlying causes. Instead, design is now consistently promoted by the state as a means to make even more beautiful packaging, to fuel consumption with even more products you don't want, to make the surface of often superficial things even more colorful and attractive, and to make life a chore to be degraded by constantly changing fashions.« (Aicher, 1991, p. 25). Otl Aicher³ wrote these lines more than 30 years ago: 1991.

³ Otl Aicher (1929 – 1991) was co-founder of the renowned Hochschule für Gestaltung (College for Design) in Ulm. As such, the German communications designer was, among other things, design commissioner for the 1972 Olympic Games in Munich. His work and his consistent attitude were formative for (West) German design at the time. His book »Die Welt als Entwurf« (The World as Design / as a draft) was published in 1991, the same year Aicher died in an accident.

Even earlier, as early as 1971, Victor Papanek⁴ identified a person responsible for the *peculiar state of affairs*: »industrial design brews up a mixture of cheap idiocies. ... Nowadays, through industrial design, murder can be carried out based on mass production.« (Papanek, 2019 [1971]). The discipline of design is in considerable demand, and rightly so. But *design* or *industrial design* cannot deliver. There is no *one* body or *one* directive that could give us an answer. *Design* is part of a consumer-oriented market event and the individual actors of this discipline act in more or less emancipated ecological, economic, cultural, social or even political contexts: thus, every single designer stands in a self-defined responsibility to fulfill orders, i.e., inquiries. Even renowned design institutions with their orientation-giving exhibitions and competitions on *good design* are part of this market event and do not always make emancipated judgments in the individual awards they highlight.

We live and we design within these contexts and move within a complex and ambiguous framework (see the following section). As designers, we have to define this framework and, above all, weigh limiting factors. We have to weigh values and cultural imprints, conventions and ecological aspects, sometimes also against our own livelihood and economic situation. These »conditions of capitalist production relations« also make man a part of the system: »by selling his labor, his knowledge, and his creativity ...« (Borries, 2016).

Half a century after Papanek's indictment and 30 years after Otl Aicher, the world is still, or even much more clearly, in a *peculiar state*. The »... *design that is critical, that can question things, that is analytical and can uncover the underlying causes*« (Aicher, 1991, p. 25) would still be in demand here.

It seems as if we are stuck: *design* is not questioned – by whom? And *questioning design* is not required.

As long as design operates exclusively within capitalist systems, it also demeans its own existence in Aicher's sense, it is disempowered from its effectiveness.

⁴ Victor Papanek (1923 – 1998): Austrian-American designer and design theorist. The author of the 1971 book »Design for the Real World«, he is considered a major proponent of social and sustainable design. His consumer-critical attitude was in line with the turbulent 1970s in the Western world, and the complex of issues of »social innovation« and »sustainability« is now more urgent than ever.

Friedrich von Borries also outlines this in a similar way with reference to Heidegger (Heidegger, 2006 [1927]) and Flusser (Flusser, 2022 [1995]). He creates the image of *subjugating design* as *disempowering* and, in contrast, *designing design* as *empowering*: »Designing design seeks ... to give back to its users and recipients real agency in their lives. It equips them with the technologies, tools, instruments, and symbols of a self-governed life.« (Borries, 2016)

The understanding of design that underlies this paper is a very broad one: it does not mean, for example, only the beautiful things, but much more the *design that contains a promise of a solution*. Design can thus be referred to as a blueprint for a product, a poster, a stage set, but also for a service, a process flow, or even our lives. Ultimately, design is thus a social discipline that shapes relationships. Relationships between people and the environment, between people and machines, and even between life and death.

2.2. The world in chaos

»In pretty much all areas of life, we are far from realizing that order without a measure of disorder becomes hostile to life, as it stifles any possibility of further development. It is just much more convincing to denounce the evils of disorder than those of order.« (Watzlawick, 2005)

When California author and futurist Jamais Cascio proclaims we are living in the face of an age of chaos, (Cascio, 2022) it sounds like just that persuasive indictment of disorder. Presumably we all agree with Cascio as well, because war and climate crisis are absolutely chaotic and hostile to life. A level of disorder has been reached here that seems unbearable. And an end is not even in sight. If we understand Paul Watzlawick more accurately, it is about *the right balance of order and disorder* in a very vital sense. Disbalance, on the other hand, plunges us into every destructive chaos Cascio speaks of. This is the reality we have to face. It appears to us as unstable and intense, as threatening and incomprehensible. The future seems vague and uncertain, while in (high) school educational models we pretend to know exactly what will happen in a month's time. How can we know what to learn and teach if we don't even

know what the economy will be like in a month? How do we teach from the perspective of a vague future so that students can find a good place in our societies and be able to make a living? The problem is that we try to design the world with concepts from the past. It is understandable that students no longer believe us teachers (for a long time) that the knowledge they have learned will be a guarantee for a successful life (Cognitive Media, 2022).

»Everyone⁵ recognizes that the skills that are easiest to teach and easiest to test are now also the skills that are easiest to automate, digitize, and outsource. Of ever-increasing importance, but so much more difficult to develop, are ways of thinking – creativity, critical thinking, problem solving, decision making, and learning; ways of working – including communication and collaboration; and work tools – including information and communication technologies. The Nordic countries in particular also emphasized the importance of skills related to citizenship, life and career, as well as personal and social responsibility for success in modern democracies.« (Schleicher, 2012)

The tools and teaching of yesteryear are no good for bringing the world in chaos into balance, for enabling successful life designs, for creating the world and inventing the future.

2.3. The world as ›VUCA‹ and ›BANI‹

Each era has its own complexity and vagueness. And social as well as economic actors have developed reasonably useful systems for dealing adequately with the messiness of everyday life. A whole range of cultural instruments—whether norms, standards, values or organizations, institutions, religions—make it reasonably possible to make change manageable. The VUCA concept can be used to better understand the dynamics of change. VUCA is an acronym and stands for *volatile, uncertain, complex and ambiguous*. The acronym highlights the difficulties of making decisions in a world of rapid technological, cultural and social developments.

Used at the U.S. Army War College in the 1980s, the term VUCA spread rapidly in

⁵ Notes: Report from a discussion of international ministers, union leaders and leading teachers from 23 nations.

the military until the 2000s, when it became prevalent in contexts of strategic business management but also general work and life management.

In the business context, means and media were subsequently developed to help deal with change and its volatile, uncertain, complex and ambiguous nature. VUCA could not be used to predict the future, but it brought a certain, somewhat cautionary structure to the uncertainty.

To understand the chaos and the VUCA world, Cascio (2022) incorporates a new acronym: BANI – brittle, anxious, nonlinear, and incomprehensible. BANI is meant to reflect the heightened, critical evolution of the world, from ambiguous to incomprehensible, from volatile to chaotic, from difficult to predict to unpredictable. Both acronyms are appropriate for what comes next, in order to outline the world as it is and as it challenges us. If the economy seeks and finds its tools for dealing with this world, then the educational systems must also find its way of dealing with this situation and have answers ready about how to teach and what teaching content can be developed, what competencies are to be fostered and cultivated.

Volatile and uncertain, fragile and anxious

The adjective *volatile* means *transient, unsteady, fluctuating* as well as *unstable*. In the natural sciences, volatility is the measure of how easily substances are able to turn into gases. In economics, for example, solar and wind energy sources are considered volatile because the amount of energy delivered cannot be predicted with absolute certainty.

A volatile world is unsettling and *uncertain*; in the VUCA acronym, the two terms are also close together in a figurative sense. Not only volatility can be unsettling, but an overwhelming workplace, rapid technological developments or the dark side of digitization with issues such as data misuse or a lack of digital competence can also be unsettling.

Brittle – meaning *fragile* or *frail* – from the BANI acronym describes the state of the world as prone to catastrophes, to sudden failure or the actions of misguided leaders with crude revisionist aspirations. Brittle things appear solid and strong –

until a certain breaking point. »Brittle systems are solid until they are not. Brittleness is illusory strength.« (Cascio, 2022)

Brittle things are not flexible: they do not bend to indicate the high degree of stress, they just break. Into fragments. Nothing and nobody seems reliable anymore; known structures dissolve and threaten to disintegrate completely.

Putin's war against Ukraine is a bitter demonstration of this brittleness. Global supply chains are disrupted, energy supply systems are collapsing, food exports from Ukraine's »breadbasket of the world« (Ukraine war: How Putin Terrorizes the World with Deadly Hunger, 2022) are blocked.

Globalization, which accelerated with the end of the Cold War in the early 1980s, has led to tightly interconnected, world-wide fundamental systems that enable humanity to survive. These systems are often so tightly interconnected that there is a risk of total disruption. In the face of looming climate catastrophes, we are dealing here with tipping points that can bring everything human to a standstill like a domino. This is frightening.

And rightly so.

One of the basic motivations of human beings, the striving for security, is thus understandably challenged. Who or what should we be able to trust, how should we be able to endure these threatening scenarios, how should we be able to accept and let go? What enables us to endure our powerlessness at some points and, at the same time, to explore our power, our own capacity, in the face of fear?

In such distress the human being as well as, probably, parts of society experience a central effect, which is characterized by subconscious and unconscious coping strategies such as fleeing, fighting, hating or even freezing. These defensive or even paradoxical reactions up to the death reflex situation are rarely constructive and feed on pure fear (cf. Längle, 2008).

Complex or complicated, non-linear and incomprehensible

The complicated can also be unsettling, and so can complexity. It takes time, energy, intellect or courage to get involved in complicated and complex issues. How easy it is

to understand linear processes and how complex it is to understand this multidimensional world fabric.

In the history of mankind there might have always been times which seemed complicated or complex as never before. Even today, we tend to experience the world as complex as never before, due to our immediate concern with crises, artificial intelligence and climate change. This seems to be an excessive demand, as Sigmund Freud, already in 1930, identifies an increasing tension between the person and the further development of culture and critically describes ›The Discomfort in Culture‹. The person can no longer meet the high and diverse demands of such a culture.

In his book ›Discomfort‹, the sociologist Armin Nassehi (2021) takes up this critique of Freud and takes it further via Charles Taylor's ›The Malaise of Modernity‹ (1991) to a ›Theory of the Overstrained Society‹ – not without omitting the resonance theory of the sociologist Hartmut Rosa (2016), who, with his critique of the logic of increase and the growth imperative, identifies an »alienation« of man from the world, or even a »silencing of the world.«

Nassehi's Discomfort is based on the understandable sense of bewilderment as to why society is unable to bring itself to deal with a crisis in a cohesive manner, even though it knows what needs to be done. Each individual seems to be trapped in his or her expertise and routines. We will take up this thought later, but what becomes clear now is the crisis, its essence, or its complex and complicated, even chaotic realm.

Ambigues or vague, equivocal and doubtful

The A of the VUCA world: ambiguous, equivocal. The first part of the word comes from Latin, where ›ambuus‹ denotes ambiguity, actually equivocality. In common usage, however, we tend to understand ambiguity as *having multiple meanings*. Sometimes we also talk about *amphiboly*, from the ancient Greek word for *equivocality* and also *doubt*. As soon as certain signs, phenomena or situations can be assigned several meanings, we speak of ambiguity. In literature and in films, ambiguity is often used to create associations or to increase the tension through vagueness and uncertainty.

In the individual or societal struggle with ambiguity there is a longing for simple

answers, for unambiguity and clarity. From everyday university life, I know all those hedging questions that are supposed to turn ambiguous answers into unambiguous ones. I am happy to answer questions about the number of pages in a master's thesis by pointing out that this will be determined by the topic, the structure, the candidate's own interest, and the examination schedule. For some candidates this is not clear enough and therefore difficult to cope with. Experience shows that the volume will be determined by the aforementioned variety of aspects. Ambiguity is often mistakenly understood as the opposite of unambiguity. However, the Islamic scholar Thomas Bauer (2018) identifies ›indifference‹ as the opposite pole: if too many meanings are equally valid or there is no meaning anymore, then it is just meaningless. Ambiguity occurs between these two poles: as a pluralistic, complex entity with a large associative space.

Bauer admonishes ›the unification of the world‹ and criticizes the loss of ambiguity and diversity (2018): e.g., the loss of biodiversity, egalitarian racism or even religious fundamentalism. He criticizes the tendency to suppress diversity of meaning: as if there were a ›modern disposition to annihilate diversity.‹ Something that is essential for creativity is thus threatened, because for it, a diversity of ways of life, of cultures, religions, spaces of life and association are sources of inspiration and elixirs of life. Design, art, any design is an existential asset based on diversity. Here the human being steps out into the world, but a loss of diversity leads to indifference or simplicity. The design of life does not suffice to create the world.

2.4. Creating the world

If the world is in a peculiar state, if we live in the face of the age of chaos (Cascio, 2022), can we succeed, and if so, how can we succeed in living a fulfilled life, in empowering design?

Martin Heidegger describes man as thrown into ›the world‹ (2006, 135ff.). Thrown into this contemporary world of chaos, we humans have our own lives to live, whether we want to or not. We step out into the world and find opportunities to shape

our lives. Man thus transitions from being thrown into life to drafting, designing his own life. This designing existence is determined by man's freedom and responsibility (Dorra, 2014). Man is empowered to design his life and the world in one way or another.

With this design, the world is no longer a given, but a world that is being designed (Flusser, 1995). »One can thus understand the world as a design. As a draft, that is, as the product of a civilization, as a world made and organized by human beings.« (Aicher, 1991)

In this respect, we as people who design things and as professional designers are challenged, in demand, but also dangerous: On the one hand, in the design's own inquiry that is dangerous for what is established, for traditions and conventions, or for leaders or those in power⁶. And on the other hand, dangerous in the outcome of design when creating the world – if undesirable developments or outdated designs are not replaced in time to avert damage to the world.

When we talk about creating the world, we have to talk about those who, in Flusser's understanding, create the world: People, persons who first design their own lives. Creating the world as a design that is brought to life is based on a multiplicity of life designs. They are based on motives that have to be taken into account in order not to disregard crucial variables that determine the process of the creation of designs.

2.5. Designing life

Just as in design, a fulfilling life is about context and the interaction of task (question)

⁶ In 1932, the German National Socialists were responsible for the dissolution of the Staatliches Bauhaus, an art school founded by Walter Gropius in 1919, which, as an interdisciplinary workshop of ideas in all areas of art and architecture, still shapes the image of modernism today. In 1968, the Hochschule für Gestaltung (HfG) in Ulm was closed. Otl Aicher struggled with its dissolution all his life: »The state has ruined the Hochschule für Gestaltung.« Aicher criticized its appropriation by the state (Aicher, 1991). In 1955, its founding members included Inge Scholl – sister of resistance fighters Sophie and Hans Scholl – designer Otl Aicher, and architect Max Bill. Initially founded as a university that was intended to educate a democratic elite and thus as a countermovement to emerging nationalist tendencies, the program was transformed under Max Bill and Otl Aicher into a design university that followed in the tradition of the Bauhaus. By the end of the 1960s, constant changes in curricula and institutions dominated its operation. Critical attacks from the outside, strained finances, and infighting within made it difficult for the HfG to develop a strategy vis-à-vis the state against the planned nationalization. »As proof of its allegedly politically enforced dissolution, a comment by the then Prime Minister Hans Filbinger is still cited today in a condensed version: »We want to create something new, and for that we need to put an end to the old.« (Vogel, n.d.). In 1986, in a speech at the Erkundungen (Explorations) design congress in Stuttgart, the then Prime Minister Späth admitted that the dissolution of the HfG was a mistake.

and design (answer). A task without a design leads to functionalistic routine solutions, while a design without a task seems meaningless or superficial.

For our own life design and for creating the world, a human being must be capable of multidimensional engagement: the complex understanding of ambiguous questions and finding answers. In addition, this »process ... is characterized by a *world reference (the outer pole)* where the subject stands, and a *self-reference (the inner pole)* that shapes him. In the context of both horizons, man accomplishes this self-determination. In the world reference, he realizes his personal values. In the self-reference, he clarifies the personal meaning of these values and, for example, their inner justification.« (Kolbe et al., 2020). The Austrian neurologist and psychiatrist Dr. Viktor Frankl (1905 – 1997), founder of logotherapy and existential analysis was at that time convinced of man's free will to meaning, of the idea that every human being wants to live a fulfilled life: »The question of the meaning of life ... is a profoundly human question. The questioning of the meaning of life can therefore never be called an expression of something pathological; it is rather an expression of the most human thing in man. It is exclusively reserved for man to experience his existence as questionable, to experience the whole questionableness of being.« (Frankl, 1982)

Following Viktor Frankl's humanistic psychotherapy, Dr. Christoph Kolbe, educationalist, psychological psychotherapist and existential analyst, presents two dimensions of human existence: an *existential* and a *structural dimension*.

- The *existential dimension* describes the human longing to realize personal values and related activities. In terms of existential analysis, personal values are those values that are individually perceived as significant and meaningful. Existential analysis assumes that every person has a unique and individual basis for existence and that this basis is shaped and formed by personal values. They can be related to different aspects of life: for example, freedom, love, responsibility or creativity. By orienting themselves to their own values, a person can strengthen their self-realization and their own livelihood. Here we find the idea of an empowering life design.
- The *structural dimension* comprises the basic existential-analytical desires –

that is, fundamental needs of human existence – for *security*, *relationship*, and *being oneself*, each in the context of the world and one's own person.

These desires or basic motivations are inherent in every human being, and some needs outweigh others. For example, if the desire for security is not sufficiently satisfied, there is a threat of a so-called coping reaction in affect – a way of dealing as a subconscious response to a lack of security. Whenever a person acts unreflectively within the structural dimension out of their psychodynamic entanglement, i.e., along with a coping reaction, it is more about the satisfaction of deficits than about the successful life design – a disempowering design.

Within the structural dimension, this is about the conditions of possibilities regarding one's own self and the world outside. The life design and the creation of the world is thereby in confrontation with the structural dimension – what are my real motives for my design? – as well as in dialogue with the existential dimension – which values determine my design? Disturbances in these dimensions can affect the execution and the design: The *structural dimension* is about the *vital preconditions* on which human beings draw in order to practice *personal values and to* carry out personal activities *in the existential dimension*. (Kolbe et al., 2020)

If, according to von Borries, design »is man's way out of his bondage« (2016) and is presented as liberation, then this may well be an empowerment of man as set apart from his personality type, his own ego structures, his self, and possible neuroticisms. Design, whether as a design task or as a life design, is thus a profoundly existential act that is about the realization of personal values.

The world in chaos seems to formulate *im*-possibility conditions: Basic existential desires, such as the need for security or that for relationship, are difficult to satisfy in times of warlike conflicts, life-threatening viruses, or in the face of looming climate catastrophes. In such a situation, one needs the strength to be able to adjust oneself to the present or future foreseeable realities, in order to be able to act again in the sense of a successful life plan after the initial shock of the new situation.

According to the basic existential-analytical desires, Kolbe (2022) presents four conflict themes, which in the counter-movement here in our sense enable a way of dealing with the *world in chaos* or the *peculiar condition* in the sense of Aicher (see above):

- a) *Basic conflict of striving for trust and security:* The fear that everything that gives us a foothold can be lost, that familiar structures are dissolving, that nothing and no one seems reliable, that the world is ambiguous, that the goal of the much sought-after transformation is unclear. Holding on to the tried and true leads to rigidity.

What is needed is the inner certainty of a fundamental belonging in the world and of one's own existence. It is about *being able to be*.

- b) *Basic conflict of striving for connectedness and relationships:* The worry of being rejected, no longer being valuable, no longer being able to relate as usual, of closeness becoming limited or impossible. The clinging to relationships is a burden, the eager work on what is valuable is depressing.

What is needed is the qualitative experience of love, care, and being warmly accepted. What is needed is a successful and living connection to values; what is needed is connectedness. It is about *liking to be*.

- c) *Basic conflict of striving for being oneself:* The fear of being punished for being oneself, of not being accepted, of being rejected or devalued.

It is about developing and living an autonomous identity in the context of togetherness, the certainty of being legitimate and competent. It is about *being allowed to be this way*.

- d) *Basic conflict of the striving for meaning:* The concern that human devotion is limited and meaningless. It needs the inner confidence to find the »what for« in one's own life. It is about *feeling fulfilled*. (Kolbe et al., 2020)

It is important to note that these basic conflicts, or the basic existential analytic motivations behind them, do not represent strivings that build upon one another. However, according to Kolbe: »People can also experience conflict even in between

the above issues. For example, they may be afraid of losing connectedness with the Other [see c)] if they will live their own life [see d)].« (2022)

Obstacles to one's own life design stem from the above-mentioned inner conflicts, which are usually accompanied by affects that include, among others, anger, fear or feelings of guilt as coping reactions. For the unfolding of one's own, self-determined life, the creation of the world, of primary importance is the (self-)realization of these own inner issues. Subsequently, it is also about the design: about designed ways out of the conflict issues.

The self-determined design of one's own life requires in this continuous design process the competence to be able

- to deal with and coordinate existential challenges, personal activities and psychological states on the one hand and
- to activate creative strategies in the design mode as a culture of dealing with reality in a kind of interdependent way on the other hand. [See also Ch. 4.3]

If it is now said – loosely based on von Borries and somewhat condensed – that the designing, i.e., empowering, attempts to return genuine scope for action and, to this end, to equip the recipients with technologies, tools, symbols, etc., this may sound presumptuous at the moment when the aforementioned, designed aids are understood as tools for self-determination and development. It merely remains the *equipment* of a self-determined life, not a real empowerment.

It seems to me even more important that *world design* and *life design* are close to each other, even connected, that the design means the empowerment to just this shaping and unfolding of one's own life and thus of the world. The world in turn is determined by designed lives and designed things, systems and services.

The Hannoverian Model

At this point, the focus on the human being – the ›Human Centered‹ – should be classified in this paper. When speaking here of the *human being* or of the *human-centeredness (Human Centered Design)*, the human being and his life are understood as

the smallest unit of world events. The concept of Human-Centered Design as the basic approach of Design Thinking may correspond to the genesis of this culture of innovation – what are the needs of human beings – and can be understood as a recent reconsideration of the interests of the ›user‹ or of the human being in times of globalization and rapid capitalism. Meanwhile, complementary or broadening terms are emerging that seek to shift the focus from the individual to the community: Social-Centered Design (Surya, 2015), for example, or more recently Society-Centered Design, which still sees the ›user‹ at the center, but understands him as inseparably connected and embedded in a product and social environment (Kirst, 2022). It may be helpful to define the terminology more precisely or to develop further tools accordingly.

In the teaching of the Design and Media master program at the HsH, Design Thinking is understood as a culture of dealing with reality. Design Thinking is thus ›only‹ one contribution in the development of creativity. The Hannover Model, however, sees itself as more multidimensional than ›human-centered‹: while still ›human-centered‹ on the one hand, it is comprehensively interpreted as social, sustainable and responsible on the other. Furthermore, the creative actor is integrated in their personal determination and situational constitution. This unfolds in the conviction that radical realism is needed in the face of the challenges of the world, and creating the world requires mutual interconnectedness.

3. Dealing with chaos

There is a multitude of methods, playbooks and toolboxes or canvases that attempt to make contemporary world-making possible. This almost ubiquitous demand points to three things: on the one hand, to the obvious pressure to act in times of crisis and, on the other hand, to limited time resources – or the willingness to deal more intensively with the essence of a methodology. Thirdly, the multiplicity of methods is evidence of an institutionalisation and a longing for mastery of possibly fleeting creative moments. If some of these methods do not promise the desired success – such as the innovation culture of Design Thinking, which according to Gartner's ›Hype Cycle for

Innovation Management Techniques 2022 (Hübner, 2023) has reached the so-called valley of disappointment.

The reasons for this appear to be manifold: High expectations, rapid adoption of Design Thinking and, additionally, »robo-coaches«, as a good colleague of mine (Erik Berndt) calls the type of coach who *rushes through methods mechanically* and without regard for content, participants and their respective determinations. Moreover, design thinking virtually invites misunderstanding. For some, design thinking is a toolbox of methods, for others an experimental-explorative approach to work, for others an iterative sequence of divergent and convergent processes at best. Professionals like to describe themselves by saying that they understand design thinking as an approach and emphasise the radical human-centredness in their efforts to invent something new. An understanding of design thinking at the heart of the Hanoverian model, that is, a culture of dealing with reality, as a search for existential meaning that signifies »the best possibility against the background of reality« (Frankl, 1990), as a path to empowering design and world-making – such an understanding comes above all at the cost of: Time. This needs empathy, sensitivity to problems, creativity, adaptability and perseverance – skills that need to grow and flourish. Design thinking in the sense of the Hanoverian model therefore does not come around instantly by any means.

When tools & co are portrayed as grabbing-breathing animals for the idea zoo, this is poignant and also somewhat unfair. Ultimately, it also depends on *how* and *when* the methods are used: Not for their own sake or as a self-purpose, but in the sense of an empowering design with realistic assessment.

Below, the Liberating Structures will be explained. Not all the inherent methods – for the Liberating Structures *are* a set of methods – but rather the genesis of this set refers to that pressure to act mentioned above and illustrates how large organisations in particular can fall into a lifeless inertia. The Liberating Structures try to put individuals back into action.

3.1. The surprising power

Liberating Structures are a collection of participatory and inclusive methods designed

to foster collaboration and creativity in groups. They help to break down hierarchies, involve all participants and focus on concrete outcomes. The method was developed by Keith McCandless and Henri Lipmanowicz to change and enliven people's interaction, especially in large organisations. Whether as consultants in the medical sector or in senior positions in a well-known science and technology company, they both felt that analytical, expert-based, conventional or systematic approaches and methods often did not work to reliably develop small or large innovations, whether incremental or radical, or to better integrate decisions on a broader scale.

McCandless was inspired by Buddhist ideas and looked for solutions in complexity theory; Lipmanowicz had researched complex systems as co-founder of the Plexus Institute. McCandless and Lipmanowicz pooled their experiences and formed practical methods from the theory of complex systems. »Their hypothesis was to trigger small changes in our behavioural patterns with simple methods that involved all participants in a lively way. By doing so, they hoped, the cooperation and creativity of an entire group would be unleashed.« (Steinhöfer, 2021)

Initial field trials starting in 2001 were wildly successful, and more and more methods were developed and refined over the years. Lipmanowicz and McCandless published their findings in 2014 under the title »The Surprising Power of Liberating Structures – Simple Rules to Unleash a Culture of Innovation«.

Liberating Structures provide a framework for decision-making in times of high complexity; their methods empower people even in the face of complicated and complex systems.

The set of methods (K. M. H. Lipmanowicz, n.d.) is certainly already known in parts to those who deal professionally with innovation. However, the connection to the theory of the overtaxed society proposed by sociologist and systems theorist Armin Nassehi (2021) seems interesting: Lipmanowicz and McCandless emphasised the revitalisation of the individual when they noticed that common routines and isolated expertise were becoming a less than fruitful mix. Nassehi's modern sociodicy – similar to the 17th century theodicy enquiry of the Hanoverian universal genius Gottfried Wilhelm Leibniz, which asks about God's justification in the face of human

suffering – is the desperate question of why we humans permit so much self-inflicted destruction, even though we know what it would take to change this. Knowledge grows by the hour and is accessible, and we have the means ... and yet we do too little to prevent the known problems and their consequences.

Nassehi is concerned with ›society's excessive expectations of itself‹. According to his perspective, »the crisis experience of modernity primarily reflects an overburdening of society with itself« (ibid.) Lipmanowicz and McCandless responded according to their ability to their large organisations and managed to break behavioural patterns and reanimate the members of their organisations to become world-creators (cf., Steinhöfer, 2021).

3.2. The potential of chaos

Problems and systems of the above (Ch. 2.2.) the Cynefin Framework according to Dave Snowden is well suited for describing the complicated and complex ›world in chaos‹. This offers a typology of contexts that provides clues for solutions appropriate to the situation.

The framework identifies the *complex* and *complicated*, as well as *simple* and *chaotic* dimensions as decision-making domains. The fifth domain is called *disorder* and describes a temporarily unclear state, a state of not knowing. (Wikipedia authors, 2006) (CognitiveEdge, 2010)

Steinhöfer (2021) describes these decision-making domains very comprehensibly through four games:

- *clear* (simple, obvious) – puzzle – *tried and tested methods* – A simple game with simple rules. The approach to a simple problem is to *sense*, directly *categorise* and *respond* by using a proven method. The ability to categorise is important here. Innovations are rather unlikely here.
In short: sense › *categorise* › respond
- *complicated* – Chess – *expertise* – A complicated game with learnable rules. It needs a lot of training and analytical skills. Complicated tasks usually require

collaborative teams of experts. The approach here is to *sense*, *analyse* and plan the next steps with existing knowledge in order to *respond*. Analytical abilities are particularly needed here. With a lot of experience, the respective task can later fall into the clear or simple domain. Innovations are achieved here when new paths, new shortcuts or insights emerge from the depths of complicated issues.

In short: *sense* > *analyse* > *respond*

- *complex* – Poker – *Emerging solutions* – Poker is a complex game; the rules are easy to learn, but the game situation is not obvious and the opponents' behaviour is unclear. The development of new products and services is an equally complex undertaking, and the approach to a complex problem often is challenging to purely analytical experts. *probe* – consciously formulate and carry out hypotheses – *sense* the result and use the knowledge gained to *respond* with a subsequent move. What matters here is trial and error, or as start-ups like to put it: do it, just do it. In this domain, new solutions emerge because – through trial and error – the unpredictable, the otherworldly, the unavailable can become visible, and with perceptive intuition and appropriate reactions, something new can take effect.

In short: *probe* > *sense* > *respond*

- *chaotic* – blind cow (English: blind man's bluff / Indonesian: pondan tuli) – *novel solutions* – In this game the blindfolded player knows nothing about the position of the other players. The problem and the solution are unknown, at least until the first person is accidentally touched or one of the players touches the ›blind cow‹. Planning and analysis are not possible at first. The approach to chaotic problems is therefore to *act*, to *sense* the result and finally to *respond*. The processing of chaotic problems – or the chaotic processing of problems – can lead to very novel solutions. Again, the first step is significant, just do it, just get into action.

In short: *act* > *sense* > *respond*.

The fifth domain – *disorder* – refers to the state of temporary ambiguity: the moment when it is not yet clear what domain a problem is.

The approaches described, especially with regard to the *complex* domain, can also be found in the work of the biochemist Frederic Vester (2019), a recognised expert on environmental issues and member of the Club of Rome. He speaks of a necessary art of networked thinking and refers to the limits of getting to grips with complexity through analysis. For him, »it is about grasping realities intuitively, artistically as it were, by means of fuzzy patterns« (Hochleitner in: Vester, 2019). Vester developed a sensitivity model with which a biocybernetic interpretation and evaluation of system behaviour should ultimately be possible. An approach that finds broad acceptance in politics and business and – so it seems – is supposed to help the unconnected, rather linear-thinking experts understand the system character of the big picture and thus to the *complex* decision-making domain.

Among other things, Vester criticises a lack of systems science and points out the limits of attention to detail. Interesting is his criticism of the *timidity of soft data*: the »inclusion of qualitative factors such as subjective opinions, antipathy, prestige, attractiveness, beauty, ability to reach consensus, sense of security and the like ...« is denied scientific relevance. »It overlooks the fact that statements about a system that leave out essential parts of it are far less scientific.« (Vester, 2019)

This makes it clear that knowledge, i.e., also professional competence, is always a question of context, of interconnectedness. Thus, we need a contextual competence (Lotter, 2020) that would enable us to tap into complexity: The competence to move from *trial and error* to *perception* and *action*.

»Knowledge is context, it strives for relationships. Contexts make up the world.« (Lotter, 2020) If the connection to the world is not attainable, if we withdraw to our professional competences, possibly accomplishing a lot without being able to relate or turn to other disciplines, then stress and excessive demands follow, discomfort spreads, in the worst case scenario there is a lack of connection to the world, which can lead to depression.

4. Innovation as an imperative

Innovations come about through ideas. They are ideas that have become effective, realised, and ultimately available. Ideas, in turn, have something unavailable about them; their emergence has something mystical, coincidental, magical, autotelic and processual about it at the same time. Scarcity, grievances and crises are factors that promote creativity, insofar as they call for solutions, innovations and thus ideas.

4.1. Creativity, Ambiguity and the Transient

Creativity is considered to be one of the most complex cognitive processes the human mind is capable of (Karakelle, 2009). Creativity is inherent in every human being and is an inseparable part of thinking (Linneweh, 1978). The Cynefin Framework has revealed the potential for innovation hidden in the domains of complexity and chaos. We cannot recover the potential for innovation with a rigid view of the threat of crises and with a lack of access to imagination. This requires a deeper look at the nature of creativity.

The term creativity goes back to the Latin word *creare*, which means *to generate, create, and shape*. It seems related to the Latin *crescere*, which means *to flourish and grow*. The terms refer to two aspects of creativity: »the conscious creation of the new and letting unconscious potential grow« (Holm-Hadulla, 2007).

The creation of the new arises from an original human creative urge and is an expression of a fundamental reassurance of the human being about his or her position in the world. Creativity is surrounded by myth and genius. The various creation stories, whether biblical – creation out of nothing, ancient Egyptian – the task of creation as a constant resistance to drift into chaos, or Buddhist – creation within a world of impermanence: »the embeddedness in natural processes of becoming and passing away leads the scientist and artist to higher insight.« (ibid.)

Creativity is inextricably linked to disorder, without which there would be no order, to chaos, without which there would be no creative activity. This is inseparably connected with the human longing for lasting works in resistance to the decay of

earthly things.

This self-evidence of creativity is also its problem: decay, finiteness, and destruction are part of the whole. This part, however, is not tempting in itself, but rather repulsive. Creativity is the ability to constantly bring forth something new. In creative processes, the new, which is also linked to the aura of the artistic and thus evokes »sensual and affective excitement« (Reckwitz, 2012), which is associated with liveliness and the joy of experimentation, is favoured over the old. So it is not surprising that the new is seen as the enemy where the existing is held on to, where finiteness is negated. However: Nothing new grows without the passing away of the old. But the fact that innovation also means reclaiming value in the face of decay, the acceptance and reappraisal of what is valuable in the old, which is to be transcended into the new, the innovative, can possibly dissolve the resistance of the merely conservative.

This description of creativity clearly shows the ambiguity of creative processes and results: How much of the former is in the new; how much is the new an improvement; how much is it an expression of a response to chaos – these are questions that are open to interpretation. Creativity is thus something renewing and preserving at the same time. The loss of creativity – of this ambiguity, of this vital call to confrontation, of this imaginative power – sends us into the abyss of meaninglessness (cf., Holm-Hadulla, 2011).

4.2. Creativity as Desire and Reality

In philosophical discourse, the crisis of modernity was already identified in 1993 primarily in terms of three causes (Buer & Schmitz-Roden, 1993):

- lack of imagination with prevailing crude rationality
- distrust of creativity with all its unpredictability and trust in the 'technical production of the usable' (ibid.).
- lack of transcendence, and instead a reduction of reality to what is simply calculable.

Obviously, the rather soft factors like imagination, creativity, and transcendence are opposed to the rather hard factors like rationality, calculability, and usability. However, it has not resolved the crises. Globalisation and rationalisation have partly nourished prosperity, but have also robbed us of our livelihoods.

Ten years later, however, the significance of creativity as an individual and social phenomenon is still rising (Florida, 2003). Richard Florida identifies the central transformation in the Western world since the 1970s primarily as a cultural development and highlights the spread of a creative ethos. According to Florida, the so-called *Creative Class* is determined by the production of ideas – and this not only in the classical artistic domains, but everywhere where decisions have to be made anew every day, with self-responsibility and independently. And this again and again! And in the long run!

Familiar patterns of routine activities are and have been replaced by the constant production of new things, things that have to be original and surprising. How exhausting. Or, how lively.

The *Creative Economy* is now surrounded by special cultural appeal and is constantly trying to satisfy the longing for originality. When this satisfaction with innovation becomes an end in itself, the results quickly reveal themselves to be disempowering designs. This innovation spiral is further accelerated by the efforts of organisations and companies to immerse themselves in the attractive aura of innovation: they »have subjected themselves to an imperative of permanent innovation«. The sociologist Andreas Reckwitz speaks here of duality, of a creativity imperative and of a desire for creativity: »One wants to be creative and one should be.« (Reckwitz, 2012)

According to Reckwitz, the desire to be creative results from the striving for individualisation and the creative shaping of one's own being. The self is »interested in a quasi-artistic, experimental further development in all its facets, in personal relationships, in forms of leisure, consumption styles and physical or psychological techniques of the self.« (ibid.)

The creativity imperative is to be understood as the striving of societies or

organisations. From today's perspective, this is basically a world imperative that radically demands innovation not as an end in itself, but as a defence against crisis. The desire for creativity, on the other hand, describes an individual desire that is almost intrinsically motivated. The coincidence of *need* and *want* at the societal and individual level seems to be mutually conditional or attracting. In view of the rather sluggish willingness of the individual to shape the transformation of society or larger organisations, it seems that the individual is overtaxing himself when it comes to change within larger communities. »The new is like wanting, change is like having to.« remarks mathematician and author Gunter Dueck (2013). A reference to the fact that apparently the individual's desire for creativity cannot be activated in larger organisations. Here, change comes across as a threatening call; the individual's motives as a pleasurable innovation process fail to be awakened.

If we compare this observation with Mihaly Csikszentmihalyi's *creative triangle*, a system perspective on creativity, the three dimensions of creativity can be comprehensibly mapped (Csikszentmihalyi, 1997). In his construct, the psychologist describes

- the cultural dimension – the domain
- the social dimension – the field,
- the personal dimension – the individual.

The *creativity imperative is a desire of the field*, the *desire for creativity is the interest of the individual*, while *the field and the individual are in a related domain*, but all three dimensions are not yet sufficiently aligned to bring about the transformation in a determined and creative manner.

4.3. Die 4 P der Kreativität

In the 1950s and 1960s, the American educationalist and creativity researcher Mel Rhodes already examined the construct of creativity before Csikszentmihalyi developed his systemic model. In his article »An analysis of creativity«, Rhodes developed four modalities of applied or problem-solving creativity: *person*, *process*,

product, and ›press‹ (referring to the influencing environment).

Rhodes describes a clear, equal, and non-hierarchical structure. It takes into account factors outside of the creative genius in the same way. One can criticise the implied judgement of the concept of ›press‹; environment or surroundings would have been a more neutral term.

In the following, I will interpret the mentioned categories from my specific perspective, while maintaining Rhodes' structure.

Person

Creativity is an inseparable part of thinking (Linneweh, 1978). The question of intelligence and its forms of expression is closely related to it (Guilford & Hoepfner, 1971). I adopt two perspectives on the person, namely the understanding of the individual in existential analysis (cf. Frankl, 1990; Längle, 2008; Kolbe et al., 2020) and the question of the abilities of the creative person as a creative and economic actor.

The idea of existential analysis is based on the existentialist thought that humans must appropriate their existence (Heidegger, 2006). Therefore, humans have the ability to design their own life and to deal with the reality of the world in a potentially free and responsible way. Accordingly, the person is the free part of the human being, through which they are able to step out of themselves (*lat. existere: to step out*) into the world and make themselves visible there. Through their creative power, humans can design answers to the realities of the world, find their way of dealing with their own mental constitution, and, in the sense of the Hanover model, create a world, i.e., from a constant dialogical interaction between external and internal pole, between world and self-reference, or between one's own existential and structural dimension.

The understanding of the person in existential analysis thus presupposes freedom and responsibility, which enable us to *face the thrownness into the world* as well as to *create a world*. In this understanding of the person, it resonates that we do not always succeed in being visible and effective as a person in an authentic way, and it enables us to create a world. Fears, routines, concerns, conflicts, or lack of

experience can stand in the way of our own life design, the essence of our lives. However, the *realisation* of our personhood happens in our encounters with the essential, with a counterpart – whether human, event, or world. In this encounter lies the invitation to continuous engagement as a request to myself, which calls for a way of *handling* the situation: »Through the counterpart, man is challenged to engage in dialogue in which he has to find himself. This can only emerge if he encounters a counterpart. That is why he cannot be for himself. His personhood is accomplished through the encounter; otherwise, it remains latent« (Kolbe et al., 2020).

In summary, the person manifests itself through their essentiality, in which they accept freedom and responsibility for their own way of life. It takes place in the encounter in continuous dialogue with the essential – this encounter represents the so-called ›world design‹ – and consequently means dealing with internal and external conditions. I call this successful interaction of dealing ›world creation‹.

If one truly wants to be creative, they must be willing to let go of all securities. This means engaging with uncertainties and unknowns in their entire being, their existential and structural dimensions, taking a self-distanced look, being ready to make a statement, and stepping out into the world beyond themselves.

The complexity of creativity makes it difficult to describe the creative person as such. Often, talent, intelligence, and personality traits are emphasised to provide a reference to the ingredients of creative minds. However, an anatomy of the creative mind is (still) not mapped.

From a psychological perspective, the following characteristics of creative individuals are mentioned: independence, broad interests, a great attitude of openness, courage to take risks, and non-conformism (cf. Krampen, 2019b). Understanding such profiles, as well as personal compositions in the aforementioned sense, serves to promote individuals and their creativity more effectively. However, the influences of social environments or domains, as also identified by Csikszentmihalyi, are equally significant.

Studies show that cultural diversity in professional support fosters creativity:

ethnically and culturally homogeneous teams produce less creative solutions in comparison (Holm-Hadulla, 2007).

The elimination of role stereotypes also promotes the development of creativity. Role-typical behavior often leads to inferences about personality traits, and such role and gender stereotypes hinder the development of creativity through attributions and fixed definitions. Therefore, gender equality is also instrumental in promoting creativity, as is growing social acceptance of non-binary gender identities or the LGBTQIA+ scene.

In fact, compensating for or processing a lack of experience – i.e., difficult conditions in childhood or adolescence – can also provide impulses for the development of one's own creativity. However, as one ages, the successful integration of one's own structural dynamics is likely to be crucial, especially for working in teams, where personal encounters become more authentic and empowering.

When I try to summarise the personality traits of creative minds, I use the acronym >creative< – it is an attempt to summarise the intertwined workings of the numerous factors:

- C. *curious*: The desire for new experiences, a sympathetic desire for the future, but also a willingness to engage with traditions, cultures, others, and the foreign.
- A. *radical realistic*: Here I quote my colleague, the photographer, communication designer and Professor Dr. Martin Scholz. The colleague in the Hanoverian Master's program in Design & Media and co-responsible for the Hanoverian model argues for a radical realism, meaning an intelligent acceptance of realities with far-sighted radicalism in dealing with the state of our world. The counter-image would be visionaries, who want to force everything and everyone into their own individual image, according to their vision, and therefore risk losing touch with reality.
- E. *empathic*: A sensitive approach to problem solving requires an empathic sense for what is essential. In design thinking, empathy and the ability to take perspective are essential for later innovation. However, purely factual tasks are

still widespread, and the business world still struggles with feelings and sensitivity in some industries. Empathic individuals are better able to recognise the essentials of a problem.

- A. *authentic*: This factor describes the ability of the creative self to constantly compare its own psychodynamic condition (structural dimension, self-reference) in the process of creating the world (existential dimension, world reference).
- T. *transcendence*: Refers to something that goes beyond one's own self and that cannot yet be imagined or anticipated in the design mode.
- I. *imaginative*: The ability to imagine something that the world does not yet know. Imagination in the best sense as a trail towards a successful design.
- V. *vague*: Refers to the ability to endure the vague, the still intangible, and the ambiguous as significant and to be able to tolerate all the uncertainty and unpredictability of the process.
- E. *enduring*: Describes the perseverance to reflect on and yet convincingly represent and realise one's own ideas, especially in adverse circumstances.

Process

In his 4P model, Mel Rhodes referred to the investigations of the social psychologist and educationalist Graham Wallas, who described the four phases of creative work in the 1920s: *preparation, incubation, illumination, and verification* (Wallas, 2014). This representation of the process correlates with more recent representations such as 4D: *discover, define, develop and deliver* (The Double Diamond – Design Council, n.d.) – or the sequence of steps in design thinking: *empathise* (alt.: understand and observe), *define, ideate, prototype and test* (Wikipedia contributors, 2023). All processes can also be combined with changing divergent and convergent thinking processes, best visualised in the Double Diamond: two diamonds next to each other, with expanding and contracting thinking spaces. The process descriptions imply a skilled, at least accepting and repeatedly trained handling of ambiguities (see Chapter 2.3): divergent thinking, i.e., the development of logical alternatives, needs ambiguity as mental fuel. Sensing ambiguity both in exploring the so-called problem

space and in the divergent development of ideas (solution space) requires diversity and ambiguity. But even in convergent thinking phases, the value of ambiguity must be conceded, insofar as a valid conclusion is only possible through the multitude of equal, but not indifferent, alternatives. The ambiguous nature of a world in chaos is therefore more of an increased chance for innovation than a hopeless overstraining of it. However, without this existential value of designing and empowering processes, we end up in lifeless simplicity or a tragically oversimplified world (cf. Bauer, 2018).

In my design thinking as well as creativity workshops, the process representations are gratefully received. It seems as if the sequences of steps are finally shedding light on the magical darkness of creative work. Finally, clarity, finally a guideline, a recipe. But it is just like cooking: true mastery is not found in tool books or cookbooks.

The circulating representations of the design thinking process as an iterative sequence show several overlapping curved loops (What Is Design Thinking?, n.d.). Such representations can be misleading for some participants, as the linear path dissolves and the paths suddenly become non-linear and more intertwined.

The image of a dance seems to correspond better to the dynamics of the process: »[...] dancing in a delicate osmosis of conscious and unconscious work« (Visual Media Alliance & Popova, 2015 – it seems it a quote by Wallas aswell).

Dance? Osmosis? Conscious and unconscious work? For one's formerly Taylorist background, that is too much. Just a moment ago, the linear sequence penetrated into a familiar linear consciousness, and now suddenly we are supposed to dance, and the subconscious wants to be integrated, on top of that in an osmotic balance with consciousness! But the image of dancing is an immensely grateful one: if we understand the iterative nature of design thinking as a dance, what previously felt like setbacks now become dance steps.

The consideration of conscious and unconscious thinking phases is just as significant as it is initially irritating: in his studies, Wallas interviewed numerous writers who maintained disciplined work processes, but also integrated a long walk into their workday. These writers described how in these periods of doing nothing, of

letting go, ideas rose from the subconscious – and by grabbing a pen and notebook, they immediately disappeared again (Wallas, 2014). Meanwhile, there is an explanation for this unmediated emergence of an idea. It has been shown that daydreaming stimulates creative thinking. It is rather routine tasks, showers, sports, moments when we can drift off, that are the opportunities to let go of the problem-solving task for a moment and come up with the decisive idea, where brain regions and thoughts are linked anew and unconsciously (Baird, 2012).

Product

The creative product is first and foremost the result of creative processes. It can be an idea, and when the idea becomes effective, we speak of an innovation. Although creative products aim for innovation, the creative product as an idea exists even without the realisation of an idea. A creative product can have an impact on a real existing product, service or process.

The criteria for a creative product, following MacKinnon (1978), are as follows:

- The degree of innovation, which refers to the originality or uniqueness of the idea.
- The usefulness of the idea.
- The actual existence of an idea – which is to be understood in this case as the *conceivable* existence of an innovation.

MacKinnon equates the creative product with innovation, but with the 2019 released International Standard ISO 56002 for Innovation Management, I believe the distinction between the *creative product* in the *sense of an idea* versus an *innovation* is more appropriate: the standard distinguishes seven dimensions, whose linked fields of action are important for the successful development of an innovation. One of these dimensions (Operations) describes in its core *innovation activities*, whose inherent processes rely on creative products, i.e., ideas. However, the path to innovation is influenced by other dimensions mentioned in the standard, i.e., success factors, the effectiveness of which has nothing in common with creative processes, let alone

creative products. Optionally, MacKinnon (1978) has defined two more criteria:

- *Aesthetic appeal*: nowadays more appropriately described as design quality.
- *Transformation*: The creative product should improve the conditions of humankind – nowadays we call it *Human-centered*.

The first three main criteria still seem applicable today, provided one accepts the distinction between ideas as a creative product and innovation. The additional criteria are slightly surprising, as the creative product is attributed with an aesthetic dimension, which could mean attractiveness in terms of appeal or design quality. Additionally the question is: does a creative product has to be attractive, or is it attractive because of its innovative character? If you try to define aesthetic appeal, the minimum is to accept ugliness as one dimension of aesthetics.

The fact that transformation was already proposed as a criterion for a creative product in 1978 demonstrates the already recognised potential for renewal and improvement through creativity, in line with the remarks of Papanek and Aicher (see Chapter 2.1), as well as it continues the thinking of Graham Wallas: »Humanity needs creative thinking to prevent immediate or future catastrophes.«

Press

The fourth P in the construct of creativity stands for *Press*. Essentially, this refers to the environment or surroundings in which creative processes take place, in which creative individuals are involved in the development of creative products. However, *Press* also refers to the influencing ›pressure‹ of the environment on the individual, the process, and therefore the product, which is not entirely neutral.

This influence is scientifically proven: we encounter framework conditions (frames) that invoke scripts in us and allow these scripts to run automatically with little energy expenditure. Duncker's candle experiment is one of many examples, where the psychologist Karl Duncker created a problem in the 1930s: a candle had to be attached to a wall and lit using a box of matches and a box of thumbtacks. Depending on the study, only 25 to 50% of the participants came up with the solution

within a few minutes of emptying the box of thumbtacks and using it as a shelf on the wall to put the candle in (Fleck & Weisberg, 2004). The functional fixation of the box set too narrow a framework that did not allow for other uses.

This was merely about a box. When we think of spaces such as offices and large areas, many frames come to mind that allow us to run scripts for familiar thinking and fix us in comfortable habits. This also explains why the once-celebrated offices of Californian digital companies were so colorful and unusual: to awaken the other, to prevent thinking patterns. Aside from the questionable infantile appearance of some office playgrounds or the romance of table football startups, the significant element is forgotten: the fixed differentness should actually be changing recurrently to avoid fixations or prevent familiar scripts.

For offices and their inhabitants, such constant change is an unreasonable workload: due to the implementation of continuous change, but also due to the challenging character of constantly developing new scripts through new frames.

The fact that special places are sought out for retreats or for agile or creative workshops is a suitable step to break patterns in a regulated way and to provoke creative products. However, this is also tragic: creative processes are outsourced, are implemented less frequently and have the character of fun special events – after hard work it is back home, to the office.

Co-creative workspaces with low-threshold access could provide a remedy and also create valuable networking opportunities with other actors. Within the company, an almost empty, or let's say ›flexibly usable space‹ that still needs to be prepared, is ideal compared to predefined meeting rooms. Rhodes idea of ›press‹ would be a self-determined influence by the user of the space: regarding workers needs and regarding inspiring influences aswell.

In terms of its components, the 4P model of creativity is currently a guiding construct that has been elaborated by many different researchers. Csikszentmihalyi's system model is also a structure that is well suited for a better understanding of applied creativity. The interaction of the respective factors of the three dimensions

remains unclear.

5. The Renaissance of Creativity

If you follow the World Economy Forum's Top 15 Skills of the Year (These Are the Top 10 Job Skills of Tomorrow – and How Long It Takes to Learn Them, 2023) and compare them with studies by the German Stifterverband (Future Skills 2021 | Stifterverband, n.d.) or other comparable studies, you will notice that the focus on creativity has increased over the years. In particular, if creativity is understood as a comprehensive process from divergent to convergent thinking, from understanding problems to finding solutions, then almost half of the Top 15 Skills can be attributed to creativity: ›analytical thinking and innovation‹, ›complex problem-solving‹, ›critical thinking and analysis‹, ›creativity, originality and initiative‹, ›resilience, stress tolerance and flexibility‹ and ›problem solving and ideation‹.

Some 20 years after Florida's reference to the creative class, after studies on the effectiveness of the creative economies that began at about the same time with remarkable results – if one considers the German Monitoring of the Cultural and Creative Industries 2022 alone, which lists the creative economies 2020 as the second strongest sector in terms of gross value added in a cross-sector comparison: behind automotive industries, but ahead of mechanical engineering, financial service providers, and the energy industry (Climate Protection, n. d.) – after all these rankings, studies and conclusions, creativity seems to have reached a considerable productivity plateau.

That is gratifying, especially for a university professor who wants to offer young people a professional perspective based on their artistic and creative talents. Nevertheless, I consider creativity to be a still dormant force whose potential is not yet really exploited. To me, the spread of the creative ethos still seems to be more of an antagonist to its potential success. The prevailing framework of creativity is an attractive, enchanting, almost mystical or magical one. Reckwitz outlines the individual's response to this creative ethos with his desire for creativity – self-optimisation as a way of life, creative desire as a self-reference (the inner pole). This

desire is contrasted with a louder creative imperative, in fact an innovation imperative – the need for transformation and renewal in order to counter the emerging crises with suitable solutions, an imperative with a world-reference (the outer pole). A creativity dilemma oscillating between self-reference and world-reference, between desire and reality.

The hysterical response to tools and playbooks, the robo-coaches with their methodological guidelines – all this seems to me to be an expression of this creativity dilemma: an attractive market, a great interest on the one hand, and a dwindling attention span and lack of essential access on the other.

Creativity is more widely accepted in the economy than ever before. Creativity expectations are high. Creative work is temporally limited and spatially outsourced; »real work« is put off until later. In everyday life, creative thinking is not ubiquitous, creative work still remains the domain of creative professionals and artists. A renaissance of creativity must resolve this dilemma and »give people back their room for manoeuvre« (Borries, 2016). With it, we would arrive at a progressive culture of questioning creativity – ideas are always questioning: good or bad, new or old, does the world have to stay like that? – that is capable of establishing a balance of order and disorder in a vital sense. A culture that values the blossoming of the new and the passing of the old in equal measure, a culture that knows no going back – but a going through, through the value promises of that which has passed and towards updated value options.

The Renaissance of creativity is a reinforcing power for societies and economies. Creativity is not just a domain of artists and designers. It is our responsibility to work on this renaissance and bridge the gap between experts in the field of complicated dimensions and the ones using complexity and chaos to innovate.

5.1. Affinity with the World

American linguist James Paul Gee describes his idea of an affinity space as a space in which people can interact. Gee describes such semiotic social spaces – open, real, or even digital – as a social configuration and predicts significant implications for the

future of education.

Gee sees the idea of such a space where people with a shared affinity for something can meet as a contemporary alternative to ›communities‹, which ultimately involve membership of some kind. Communities, which we know as coworking spaces, for example, but which can also simply denote communities of teachers or students, however, have to struggle with a number of problems:

- Communities can mean affiliations and close personal ties between people who do not necessarily always fit into seminar rooms, workplaces or other places, although thematic cooperation takes place across those status groups, as is typical of universities, for example.
- The idea of community implies memberships. However, this involves so many possible memberships and levels that it is questionable whether such a concept is really helpful. Even a membership has some inclusive and exclusive aspects.
- Gee considers it critical to label a group of people as members of one or more communities. ›Once this is done, we face vexing problems as to which people are inside and which are outside the group, how far inside or outside they are, and when they are inside or outside. The answers to these questions vary – even their creditability varies widely across different social groups. If we start with the notion of a community, we cannot go further until we have defined who is inside and who is outside, otherwise we cannot identify the community. Yet it is often issues of participation, membership and boundaries that are problematic in the first place.‹

Affinity spaces are best described in terms of the motive for interaction, togetherness and cooperation. In an affinity space, people of different age, status or origin meet out of interest in a common cause. This thematic affinity, this content-related connection unites them in physical and non-physical spaces. Affinity comes before status. This fits well with the participatory innovation methods of design thinking, also because it favours flat hierarchies and, with an affinity space, allows content-related references with all the acceptance of diverse competences and origins.

Nevertheless, I am convinced that with the transcultural design thinking workshops of the Indonesian Institute of the Arts, Yogyakarta and the Hochschule Hannover – University of Applied Sciences and Arts, we are already heading in the direction of affinity spaces, even if we are possibly still at the beginning of our journey here. The integrated creative methods, the work in unusual places, the mixing of teachers and students, of different faiths and cultures in an affinity space of creating the world – on both a small and a large scale – and the free organisation of participants in WhatsApp groups, via Instagram or Slack workspaces are points of reference for promising endeavours.

5.2. Creativity in Affinityspaces

Imagine an affinity space that invites people from different backgrounds, cultures, identities, classes, and many other groups. They come together over a common interest in creating the world – not necessarily on a large scale, but in areas where improvements are possible and can be effective.

In this process, the individual appears with their self-reference and world-reference. They can freely determine their roles and take responsibility for their own involvement in processes. In doing so, the person is confronted with their own limits and with the conditions of others. I am often told how challenging the creative processes were: how participants wanted to step off the familiar path and missed their routines. How others showed them how to do it and their own fallibility came to light. How difficult it was to think outside the box and how the familiar paths became the common routine. And how fulfilling and liberating that feeling was of having got involved, of having developed methodologically and grown personally.

Along the way, perspective on the world and its dimensions emerges. Experts from other disciplines, professionals from different sectors have contributed creatively with their knowledge and skills. And subject matter experts have provided impulses worth knowing: they are the experts, on the one hand. And yet they are stuck in a bottle from which they cannot read the label. Expertise stands in the way of imagination. Here, in the affinity space, everyone finds their roles, their significance.

This is how it can work. A shared interest in the subject matter, viewed from different perspectives, inventing new things, distributing knowledge, sharing values, and creating the world. As an implemented design based on a multitude of life designs. An empowering design. With the inner certainty of being fundamentally contained in the world and in one's own existence. Here, it is possible to be. And also to like being: through a successful and living reference to values. Each participant can develop an autonomous identity within the framework of togetherness, with the certainty of being legitimate and competent. It is about being allowed to be oneself.

In an ideal scenario, an inner confidence arises in order to find the 'what for' in one's own life and to feel fulfilled.

However, in addition to the reciprocal, interest-based connectedness, the participants are also confronted with their respective self-references. Depending on their possible personal psychodynamic entanglements, the encounter and free engagement can be impaired. In creative affinity spaces, it is therefore not only important to ensure a good interaction of the environments, i.e., the spaces ('press'), with the processes and the creative products: the person needs the feeling of security, i.e., protection, space, and support. They need encounters, i.e., closeness, attention, and relationships. And they need esteem, respect, and appreciation.

It takes time and empathy to carefully build an affinity space that allows participants to move between their own inner and outer poles. Experiments in which such trust efforts were neglected – in favour of spending more time on the actual creative work – have failed: imbalances within the team shifted the design of creative products onto individuals, but usually the quality of the results suffered, as did the exchange of knowledge, due to personal conflicts.

6. Inventing the future

In times of rapid technological, social and cultural changes and the multiple critical states of the world, creativity is becoming increasingly important. The anticipated increase in the use of artificial intelligence makes creativity an important human trait that needs to be fostered.

The concept of affinity spaces can provide an attractive framework for the development of future literacy in our society. The doubts as to whether affinity spaces are even possible at educational institutions should be an incentive to exclude the factors that hinder them. This would benefit creative work anyway, given that creativity is also an affinity discipline that is so paradoxically encapsulated in creative communities such as coworking spaces or creative circles. It is for a good reason that the support structure of Germany's creative industries focuses on networking across sectoral boundaries, where innovation is happening today.

A meta-analysis by Haase, Hanel and Gronau shows that adult creativity can be promoted in many ways. The study distinguishes between elaborate creative training and shorter 'manipulations' for creativity. According to the study, more complex, but also more resource-intensive training programmes are more effective, but some manipulations are similarly effective with less time investment (Haase et al., 2023).

Thus, when it comes to developing and strengthening creativity, there are two ways that can be used to promote it. First, complex creativity training can have a long-term and positive impact on an individual's creative performance. Therefore, educational institutions in particular should offer complex creativity training more frequently (Jackson et al., 2006). Such programmes can equip individuals with a broad and overarching understanding of creative thinking and related methods. However, if the acquired knowledge is not used and challenged, the ability to think creatively may decline again.

The analysis by Haase, Hanel and Gronau also shows that extensive training programmes are not necessary to improve immediate creativity. Short-term efforts such as meditation and associative thinking techniques are just as effective. If the creative product is to be optimised in a specific situation, in workshops or hackathons, this can be done very effectively through short creative stimulation, i.e., 'manipulation', as the author puts it (Haase et al., 2023).

For the creative affinity spaces approach, this means an implementation of complex training programmes, recurrent trainings, and short creative interventions: to increase the output immediately, but also not to unlearn the acquired creative skills.

For the transcultural creative affinity spaces, i.e., the design thinking workshops of Indonesian Institute of the Arts, Yogyakarta with the Hochschule Hannover – University of Applied Sciences and Arts (HSH), these considerations are important because affinity spaces could extend the timeline of our innovation programmes, refreshing short-term manipulations and improving the creative product. If the focus is on the creative person or specific cognitive skills, as in the ISI and HSH programmes, more elaborate creative training is preferable to manipulation (ibid.). The study also points to the positive influence of cultural exposure, which increases one's creative output without conscious effort – creating the world without building cultural bridges just does not seem to make sense.

The analysis also makes it clear that a comprehensive understanding of the environment and especially of the »cognitive and motivational prerequisites of the creatively active person« (ibid.) – in other words, a sensitivity for the structural and existential dimensions of the person – is necessary.

So this is how you teach for a vague future, so that students can find a good place in our societies and be able to secure their livelihoods! So this is how you learn »creativity, critical thinking, problem solving, decision making and learning; ways of working – including communication and collaboration; and work tools – including information and communication technologies... as well as the importance of skills related to citizenship, life and career, and personal and social responsibility for success in modern democracies« (Schleicher, 2012).

As a c-r-e-a-t-i-v-e person, we can trust, accept and let go. Equipped with creativity, we are able to endure our powerlessness and are powerful enough to create empowering designs to confront our crises and to create the world.

7. References

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