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Economy as a Transforming Practice

Design Theory and Practice for Redesigning Our Economies to Support Alternative Futures

Caroline Hummels

Addressing economic challenges through designers’ glasses is a practice that is gathering traction. We postulate to radically rethink our economies and start looking at them as a transforming practice to reshape our future. With this essay we propose to approach economics and economies as a design theory and practice, not to replace economics, but to offer an action-oriented design approach to economies and economics.

Design thinking found its way into the business world well over 15 years ago. By treating economies as a transforming practice, we are making the next step, offering design as an action-oriented co-development approach to address societal challenges in a systemic way, based on complexity, responsibility and situatedness. Let me share with you how we, as design researchers, see how economies could be approached as transforming practices.

Firstly, one should know that as a design researcher, I am used to exploring the world through drawing and prototyping, allowing me to perceive the world differently and express subtleties which are sometimes hard to capture in words. Drawing and prototyping enables to explore, visualize, materialize and imagine the “non-existing”, being it future, non-existing worlds, abstract hard-to-grasp concepts or the dynamics of activities. Hence, in this essay you will find a combination of drawings, photos of prototypes and text to elucidate how design can be used to treat economy as a practice towards realizing sustainable futures.

Let me start by diving into today’s practices and challenges to see how they might be transformed.

One only has to pick up the newspaper to be inundated with news items pointing to societal challenges, be it climate change, poverty, socio-cultural divides, infringing human rights, or health threats, including nowadays Covid-19.

All these news items show a tight interweaving of economic, political, governmental, legal, socio-cultural and technological systems. Take for example
the recent Dutch Childcare Allowance affair, which forced the entire Dutch cabinet to resign in January 2021. The affair revolves around tax authorities who discriminated and wrongfully accused numerous Dutch citizens with a second nationality of fraud. They made improper use of data (nationality) and algorithms for risk classification models and fraud detection, resulting in the unlawful discontinuation of childcare allowances and reclaims of up to one hundred thousand euros (at the moment of writing this chapter more than 36,000 aggrieved parents reported to the Tax Office).

The Parliamentary Interrogation Committee showed in their report *Unprecedented Injustice* the major errors made by and failure of the Dutch cabinet and parliament, civil service and even the legal system, which made, implemented and justified nail-bitingly vicious legislation, which could not do sufficient justice to individual situations\. At the basis of this was the political neo-liberal choice to organize childcare as a market and the related financial system to pay for it. In this system, childcare organizations were competing for children with their parents as clients, while largely being paid for by public money that was regulated by a Tax Authority generally working with reimbursements rather than advances, under a political regime of hardcore fraud hunting. It exemplifies Habermas’ analysis that our formally organized administrative and economic systems driven by money and power are ‘colonizing’ our ‘lifeworld’, the latter being the experienced messy reality of everyday life.\-

From a design research perspective, we are particularly interested in the way technologies shape practices that make such injustice possible. These practices which are fully depending on spreadsheet software, databases, algorithms and content management systems etc., have reduced people to abstract entities, making it seemingly easier to bypass a human and humane perspective.

All in all, the world is facing major societal challenges, asking for new ways of dealing with these challenges in a systemic way, connecting economic, technological, socio-cultural, political, governmental and many other dimensions.
It might even be today’s biggest societal challenge to navigate these systemic complexities and together create alternative and sustainable ways of engaging in complex socio-technical-economic-political systems.

Before elaborating on our design proposition, let us first dig a bit deeper into the paradigmatic shifts happening in our society, since history can support, elucidate and guide the imminent leap to new alternative paradigms.

**Paradigmatic Shifts**

Economic historical developments and thriving new economies are intertwined with paradigmatic leaps –by which we mean major changes in shared beliefs, values, models and exemplars to guide a community of practitioners and theorists\(^{vii}\). Our society is changing continuously; looking back, we see shifts and extensions have taken place in, e.g., the value propositions that companies develop (from the proudness of ownership using commodities extending towards empowering creativity through platforms), their economic drivers (covering from mass production and consumption to mass participation on platforms including peer-to-peer transactions), their geographical perspective (from local to glocal), and their relationship with consumers (from linear top-down to networked)\(^{viii, ix}\).
In the 19th century, a shift can be discerned from the agricultural economy to the industrial economy. This was boosted by the industrial revolution, sparking a consumer economy in the 1920s, modernizing our lives, and flourishing until many decades after the Second World War. Over the years, the artefacts developed became smarter, and nowadays they are increasingly based on new technologies such as nano- and biotechnologies, extending the industrial economy towards a so-called performance economy.

During 1970s and 1980s, the abundant supply of products intensified consumption and self-fulfillment, refining neoliberal practices. Meanwhile, Western society slowly lost its unifying ideology and people felt a loss of identity, belief systems and cultural references. To criticize the ruling practices based on power, functionality and self-interest, post-modernist movements like ‘Il Nuovo Design’ replaced the adage ‘form follows function’ by ‘form follows fun’, signaling the rise of the experience economy, which emphasized lifestyle brands based on market segmentation and offered through various media channels. Nowadays, the experience economy is considered more relevant than ever according to Pine.

Simultaneously in the 1960s and 1970s, the information or knowledge society may be said to have emerged, in which information was regarded as a commodity that can be bought and sold. Its influence increased exponentially a few decades later due to the rise of new information and communication technologies, captured under the label of knowledge economy and network society. Consumers became ‘users-as-producers’ or ‘prosumers’, facilitated by a variety of platforms and networked appliances, and it seems hard to imagine our world now without platforms like Facebook, YouTube, Airbnb, WordPress or WooCommerce.

And where are we currently heading? The increase of major societal challenges is giving rise to new economies, based on paradigms starting from values such as equality and respect for human and nature. Already in the eighties, the circular economy arose based upon principles such as sustainability and cradle to cradle. And fairly recently, Hurst coined the term ‘purpose economy’ to establish more purpose for people and enabling personal growth and building communities. This term is closely aligned to Rocchi et al.’s transformation economy, aiming at providing meaningful and fair context-specific propositions through multiple stakeholder collaboration. And many more initiatives can be found in this book.

These economic developments emerge (or have emerged) in conjunction with scientific and engineering developments, opening up new ways to understand and
engage with the world. Priogogine and Stengers\textsuperscript{xxix} show that the history of western thinking is deeply interwoven with three scientific paradigms: 1) the classical-Christian view developed by, e.g., Aristotle, Ptolemy and Thomas Aquinas; 2) the classical-scientific view developed by, e.g., Newton; and 3) quantum physics, relativity, and the dissipative and self-organizing structure view developed by, e.g., Einstein, Bohr and Prigogine. Einstein’s theory of relativity shattered Newton’s classical-scientific view based on objectivity and predictability. And Prigogine’s world is complex, open and non-reversible, which is opposite to Newton’s closed system, modelled according time-reversible physical laws\textsuperscript{xxx}.

Looking at this historical overview of economies, the vast majority seems based on a classical-scientific view. To address major challenges like poverty and climate change, the World Economic Forum urges building our economies upon a paradigm acting upon principles of complexity\textsuperscript{xxxi}. Developing open, complex systems, admissible to change and based on interconnections that cannot be reduced or brought back to separate elements\textsuperscript{xxx, xxi} disrupts the dominant adage of certainty, truth, simplicity and objective knowledge\textsuperscript{xxi}. Vermeer\textsuperscript{xxiv} states that by developing resilient complex systems, we might be able to handle external shocks or disruptions like global warming or Covid-19.

The historical overview of economic and paradigmatic shifts also shows a continuation of previous paradigms after the emergence of new ones, although older paradigms are losing influence gradually. The difficulties of finding our way out of major societal challenges, are signs that shifting to a new paradigm is difficult. The simultaneous existence of different societal paradigms can lead to fierce tensions and conflicts, since paradigms by definition do not align and are based on different sets of values and beliefs. Given these tensions, we argue that it is not enough to develop alternative abstract economic structures, organizations and models that might address societal challenges. We pose that a transformation of concrete economic practices is needed to bring new emerging paradigms to fruition, while recognizing the historical development of older paradigms.

**Transformation**

Transformation can be considered as substantial change and is often associated with innovative and radical change. According to the Merriam-Webster dictionary, transformation occurs when one configuration is converted or changed into another, whereby the change is major or complete. We use the term ‘transformation’ when designing for transforming practices (TP) to denote substantial enduring change of values, ethics, and related behaviors of a person, a community or society, triggered by the need of creating alternatives ways to
engage with the world, addressing specific societal challengesxxxv. One could say we are aiming at people and communities becoming and being transformation, which is difficult, i.e., old habits die hard. This is asking for a leap, especially when referring to a paradigm shift, but also when referring to smaller personal transformations.

The way TP is doing this, is by designing new material arrangements and activities, as a way of co-developing and mediating transformation over time. Our thick moving dot on the horizon is thereby the transformation of meaning, values and ethics, i.e., the development of alternative practices and futures. Such alternative practice can support and pursue a sustainable world in its broadest sense: human, social, ecological and economic, in which people are taking responsibility for the world. In order to transform practices, we are continuously situating transformation, balancing actions, aspirations, the context, the challenges at hand, historical developments and the arising opportunities over time.

Transforming Practices
Practices in general can be seen as temporary, yet relatively steady, ways of living and working with other in which human activities are inextricably interwoven with material arrangements - in particular people, artefacts, organisms and nature -, and which are informed by roughly defined aspirations, certain “rules” and specific ethics and values.

Designing for transforming practices (also indicated as TP) can be seen as an approach or methodology, but simultaneously, it is a repository, an attitude, an aspiration, a quest towards transforming existing and developing new alternative practices to engage with the world in co-responsible ways. It is our way to capture transdisciplinary endeavors making use of a design approach revolving about complexity, ethics, aesthetics and situatedness, and aiming to co-develop practices within new alternative paradigms, including new economies.

More specifically, aligned with Schatzki’s concept of practices, we design new material arrangements and related activities, as a way to discuss, reflect on and transform the underlying aspirations, “rules”, ethics and values of a practice, which in its turn will be asking again for adjustments of arrangements and activities; a principle that Morin calls ‘organizational recursion’, meaning that a phenomenon is both produced and producing, both cause and effect. This is also tightly interwoven with the philosophical mediation theory of Verbeek, explaining how technologies (in its broadest sense) are co-shaping our being-in-the-world, including our actions, perceptions, experiences and understanding of the world. They arise and are a reflecting of society, as well as a vehicle to steer society.
Redesigning material arrangements and related activities enables us to explore, together with a plurality of stakeholders, alternative ways of embodying values and triggering new attitudes and behaviors. It enables discussing and doing ethics, and developing and nurturing alternative paradigms that embrace, e.g., responsibility and sustainability. It enables developing new, specific economic practices that can establish new economic systems.

It is not easy to develop such practices. We have to break the colonization of our lifeworld by our current administrative and economic systems, as Habermas argued, and meanwhile build new systems that embrace complexity. In this essay, we will elucidate how design research and in particular the concept of transforming practices (TP) contributes to the development of concrete practices that are embedded in and give rise to new economic and paradigmatic concepts that embrace today’s societal complexity. In short, we approach economy as a design theory and practice; more particularly, as a transforming practice.

With our team, located at the Department of Industrial Design at the Eindhoven University of Technology, in collaboration with our colleagues at RISE Research Institutes of Sweden, we have over the past decade established a line of research that explores how design can navigate transforming practices, making both theoretical and practical contributions. Before explaining the underlying theories and principles of our approach, we will first show and describe a concrete example of one of our studies, elucidating how design can support transforming practices.

[X]Changing Perspectives: A Transforming Practices Example

An example of a new material arrangement and new form of mediation is [X]Changing Perspectives, ([X]CP). [X]CP is a product-service-system developed to support citizens’ active contribution to the public good, as part of a multi-stakeholder, pluralistic approach to governance. It consists of fifteen interactive discussion tables with sets of 6 tangible tokens and real-time visualizations on a central screen. Topics being discussed using [X]CP are, for example, asylum seekers’ centers, youth care innovation, data-driven municipalities, and European innovation partnerships. Up to 120 stakeholders can discuss a specific public issue by repositioning tokens on the tables, thus creating and sharing collective tangible landscapes of meaning. The more a token is positioned in the center of the table, near the card describing the challenge, the more value the participants attach to the meaning they have attributed to that token. At the end of the session, the participants formulate and divide concrete action points with the intention to realize them.
[X]CP is based on theories of Arendt\textsuperscript{xliv} and Mouffe\textsuperscript{xlvi} and has been designed in such a way that its aesthetic manifestation affords pluralistic and passionate participation in the public sphere. It affords participatory sensemaking\textsuperscript{xlvi} by involving a variety of people based on equivalence as well as distinctiveness and allowing them to share diverse viewpoints in order to trigger new insights. [X]CP does not aim at obtaining compromises, i.e., dialectic conversations, but stimulates discussion and co-organizing the system through duality, i.e., dialogic conversations\textsuperscript{xxxviii, xlvi}.

\textit{[X]Changing Perspectives developed by Philémonne Jaasma (top photo made by Bart van Overbeeke, bottom photo made by Tom van Rooij)}
We will describe the mediated appropriation of [X]CP using Olya Kudina’s hermeneutic lemniscate\textsuperscript{xlviii}, which explains how humans, technology and the world are co-shaping each other. It looks at the four smaller directional relations in the lemniscate and how these can be interpreted, based upon the above-mentioned mediation theory\textsuperscript{xxxix}. Let us start with elucidating the left side of the lemniscate, where humans and technology are co-shaping each other in a particular situation.
On the left side of the lemniscate, [X]CP is affording actions and participants are interacting with [X]CP. The aesthetic manifestation of [X]CP aims at facilitating pluralistic and open discussions in the public sphere between citizens, representatives of civil society, civil servants, businesspeople, academics, etcetera. Every round table allows 5-8 people to position themselves closely together, creating an intimate atmosphere, and making it more difficult to abstract and condemn each other’s perspectives as is so easily done in current discourse. This setting in combination with the rule that the youngest participant moves the first token, aims at lowering hierarchical and power relations between the different participants; a major or CEO gets the same place at the table as a citizen.

In order to enrich the discussion, [X]CP uses six physical tokens showing symbols with no specific inscribed meaning: a bird, a Euro-sign, a gift box, a wound-up puppet, puzzle pieces and a clock with an arrow. The symbols stimulate free association regarding values, bottlenecks and goals in relation to the challenge at hand. For example, the Euro-sign symbol was appropriated in various ways and triggered discussions regarding, e.g., worth, value, money, finances, business models, investments, raising money, subsidies, power, and responsibilities. The combination of symbols contextualizes and deepens their meaning in relation to the challenge. Digital traces are created by tracking the tokens on the tables, and displaying them on a central display, stimulating reflection and discussions between the tables.

[X]CP is designed based on the concept of affordances, (i.e., possibilities for action provided by the environment to the organism) that stand out as relevant for a particular individual in a particular situation. The sessions and the tables afford participatory sensemaking, pluralistic perspectives on challenging complex topics, and stimulate taking joint responsibility. The openness of the set-up affords actions participants consider important; for example, one of the participants secretly hid one of the tokens under his jacket, because he did not agree with the value assigned and did not want to include it in the landscape in this way.

The right side of the lemniscate focuses more on the co-shaping of technology and the world, in this setting with specific participants. [X]CP shows the public that pluralistic participation in the public sphere is possible, and it is also considered relevant and urgent as our sessions have shown. Moreover, the outcome of the [X]CP sessions give concrete actions points, not only for the participants, but also for the city of Eindhoven and other relevant parties.

When interpreting the relation from the perspective of the world towards the technology, [X]CP can be interpreted as a way for the city of Eindhoven to profile itself as a creative, innovative city; it combines advanced technological
development and design with a social heart, in the tradition of innovative consumer products manufacturer Philips in the early 1900s, which took social responsibility by providing social housing, healthcare and sports facilities, among other things. Moreover, by supporting the development of [X]CP, the city of Eindhoven gives existence to [X][CP in an eco-system of other participatory instruments facilitating concrete challenges in the city

However, tools like [X]CP do not fit easily into many of our current governance systems and practices which are based on efficiency, control, reductionism and abstraction. For example, civil servants are trained to be invisible instead of becoming active participants in [X]CP sessions; many citizens prefer representational democracy instead of active participation in dialogues; management is often based on power and control instead of vulnerability and learning together in open settings; and tight budgets tend to lead to cuts rather than innovations that are more expensive in the short term, which makes it difficult for such new instruments to become commonplace.
The lemniscate is not a single loop, but a continuous, never-ending loop of appropriation; where humans, technology and the world are co-shaping each other in the process of interpretation. A first-time encounter of [X]CP feels inspiring for citizens, as we have seen in our sessions. However, using them incidentally in creative workshops while the underlying systems and processes stay the same, might mean they would be perceived as shallow and even backfire, fueling the feeling of disappointment and resulting in a loss of faith in politics and governance.

Internalizing and institutionalizing new material arrangements, including tools like [X]CP in combination with other instruments such as citizens budgets, pluralistic communication strategies and life-long learning education, could transform economic and governance practices through empowering people towards participatory sensemaking and taking joint responsibility. By developing new material arrangements as landscapes of affordances, i.e., “the affordances available in an ecological niche ... related to the whole spectrum of abilities available in our socio-cultural practices” ii, could invite all stakeholders in Eindhoven and beyond to explore new practices enacting a participatory, pluralistic, innovative, creative and social city.

It will take time and stamina to become / be transformed and require constant experimentation, reflection and sharing in various settings and practices to move together to new economies and paradigms. Next to experimenting and designing for transforming practices with various partners on citizens participation iii, we have been exploring ways to navigate other current and future societal challenges like energy transition iv, healthcare lv, new forms of financing lvi, and the Netherlands in 2050 lvii in a concrete yet systemic way, while respecting and working with their complexities. We see an increasing interest and urge to embark on this quest together, creating alternative practices covering complex economic, socio-cultural, technical, political systems and enacting alternative values, economies and paradigms.

In the remaining part of this essay, we will clarify why we do what we do. We will start with briefly illustrating how TP distinguishes itself from design thinking, and from there explain the core principles of designing for transforming practices such as new economies.

**Beyond Design Thinking**

When design thinking found its way into the business world, well over 15 years ago vii, it was offering a new way to tackle wicked problems, different than the
common approach of linear analytical thinking. Tim Brown, chair of IDEO, described it as:

*A discipline that uses the designer’s sensibility and methods to match people’s needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity.*

Although design thinking is a very popular and useful concept, we postulate that the current notion is not apt for rethinking economies and paradigms. It is a product of the experience economy and fit to develop experience-related designs through its process of five phases: empathize, define, ideate, prototype and test.

As Gardien et al. state, using design processes developed for an older paradigm will only result in solutions fitting that older paradigm. In case one feels nostalgic for the concept of design thinking, we propose to call our new approach Design Thinking 6.0+. This makes a reference to Industry 5.0, while at the same time taking the next step to a paradigmatic and systemic jump allowing for new economies that are based, e.g., on the quintuple helix instead of the fairly old triple helix as described in Industry 5.0. However, we prefer to simply call it Designing for Transforming Practices, in short TP.

### Underlying Theories and Principles of Designing for Transforming Practices

TP considers 5 underlying principles and theories necessary to make the leap to alternative paradigms and economies acknowledge and address our complex challenges: 1) complexity, 2) situatedness, 3) aesthetics, 4) co-response-ability and 5) co-development.

**Complexity**

As I said earlier, many institutes and researchers stress the importance of the notion of complexity and developing resilient complex (economic) systems in addressing major societal challenges.

TP is using Morin’s three dimensions to work with complexity:

- **Dialogic**, i.e., maintaining duality in unity by relating things that are both complementary and antagonistic. This dimension can stimulate discussion by confronting different views on terms and principles. TP does not aspire to consensus and compromise, but, on the contrary, rather aims at strengthening diversity and subtle differences, at keeping discussions open and at involving a plurality of people in the process of developing new economies.
• *organizational recursion*, i.e., a phenomenon is both produced and producing, product and producer, cause and effect; for example, new emerging technologies influence and change our society, which in turn influences and changes new emerging technologies, and the same is true for, e.g., policies or economies. This means that economies can never be developed in isolation; they are a reflection of society as well as a means to steer society.

• *hologrammatic principle*, i.e., any single part contains the information of the whole, and the whole contains the information of the parts, thus going beyond reductionism, which focuses on the parts, as well as holism, which focuses on the whole. When designing for transforming practices, we strive to ensure that
even the smallest detail of an activity or instrument embodies the gist of that practice or paradigm, including economical systems and it details. For example, the Brabant Outcome Fund (BOF)\textsuperscript{lxiii}, a result-based financing enabling projects balancing people, planet and profit, can strengthen its congruency by aligning the aesthetics and functioning of its instruments with the underlying values of the BOF.

Within TP, we make Morin’s three dimensions actionable through using multiple lenses, which we continuously change during the design process. This way, we can obtain a kaleidoscope of perspectives which can sensitize us towards, e.g., plurality and friction. For example, using the lens ‘scale of relationships between agents’ enables us to continuously shift between a micro - meso – macro perspective, where the first refers to a single generic rule and a unique agent, and the latter to multiple rules and related agents. This shifting helps in understanding the challenge and reducing, e.g., logical fallacies, such as what is right for one person is right for the entire group\textsuperscript{lxiv}.
We use the lenses in different ways. In some cases, for example when using the lens "scale of relations between agents", we start by applying one of the perspectives (micro – meso - macro), and then regularly shift the perspective while reflecting on their relations. In other instances, we use graphic templates that support the use, visualization and reflection on the perspectives of a lens. For example, at the intersection of the lenses "stakeholders" and "values" ((the drawing above shows the basic values overview of Schwartzlxv) we create value landscapes that show all value relationships between the stakeholders. Furthermore, we have developed physical tools and exercises to experience the differences between the dimensions of specific lenses, such as experiencing the differences between a 1st, 2nd or 3rd person perspective.

**Situatedness**

In philosophy, the Cartesian, Western worldview was challenged in the beginning of the 20th century. Among other philosophical theories, phenomenology refuted the dichotomies between subject-object and mind-body, stating that meaning is created in interaction between the human being and the world. The central concept of phenomenology is “être au monde” or “being in the world”lxvi, meaning that we are in the world, belong to it, have a relationship with it, perceiving it in various dimensions, from our own point of view, our 1st person perspective, from which we perceive other objectslxvii. We are situated beings, meaning that our brain, body and environment are fully intertwined and inseparable lxviii. We perceive the world in terms of what we can do with it and by physically interacting
with it we access and express this meaning. To cope skillfully in the world from
day to day, we do not need a mental representation of our goals: our body is
simply solicited by the situation to find the right balance in order to gain a
maximum grip on the situation\textsuperscript{lx\textsubscript{i}, lx\textsubscript{ix}}.

Designing for transforming practices departs from the attention to situatedness
as captured by various “being in the world” theories, such as phenomenology\textsuperscript{lx\textsubscript{i}},
postphenomenology\textsuperscript{lx\textsubscript{x}} and the ecological-enactive approach to cognition\textsuperscript{l, lx\textsubscript{iii}, lxxi}. In our description of [X]CP, we already explained how postphenomenology
stresses the role of concrete technologies (in the broadest sense of the word,
including e.g., money) and conceptualizes how technology mediates between
humans and their environment. The closely related ecological-enactive approach
to cognition considers cognition as active, embodied, and embedded, thus
stressing the importance of embodied intersubjective practices\textsuperscript{lx\textsubscript{iii}} and
participatory sensemaking\textsuperscript{lxxii} in a dynamically enacted world. Moreover, it offers
the concept of affordances as explained earlier by Gibson\textsuperscript{l}, providing possibilities
for action that can support enacting alternatives for our current economy.

Theories of situatedness and being-in-the-world are in complete contradiction
with the positivistic and deterministic approaches that have produced, for
example, the dramatic Dutch Childcare Allowance affair, and many more
Cartesian-driven products within our current economic system which operate
from a perspective of abstraction and detachment. Hence, these new theories are
enabling us to explore alternative practices and paradigms.

Aesthetics
We consider aesthetics in our work to be a result of human appropriation of the design, and not an inherent property of the design itself. In general, aesthetics of interaction can be considered to be a sense of beauty which arises during the dynamic interplay between (a) person(s) and (an) artefact(s) in a specific context. According to Locher et al., this sense of beauty or affect is closely related to the experience of flow, as coined by Csikszentmihályi and Robinson.

Since we are situated, with our brain, body and environment closely interwoven, aesthetics can be gratifying for bodily perceptual-motor skills, our intellectual capacities, congruence with our values, a feeling of social connectedness, etc. Aesthetics and beauty can refer to small details as well large complex systems, including organizational aesthetics, so we consider creating a beautiful economy in all its facets and manifestations to be important when transforming practices.

As explained earlier when describing [X]CP, we use the concept of (a landscape of) affordances to elicit aesthetics, i.e., offering people possibilities for action through our designs and arrangement in a specific setting, which stand out as relevant for them in that specific situation and the bigger scope of the socio-cultural practice it is situated in. The example of [X]CP shows concretely how its aesthetics can boost appropriation. Within TP, we strive for the aesthetics of material arrangements that can boost appropriation in a large variety of ways. This enables people to make sense of complex, ambiguous and even contradictory systems and situations, sparks their imagination, and subtly opens them up to the yet unimaginable, thus nurturing new practices, embracing transformation and moving towards new paradigms.

**Co-response-ability**

Situatedness implies an inextricable relation between beings and their environment, on which the ability of cognition depends. Haraway urges us to be aware of this tight interweaving between multispecies and their environment, by encouraging sympoiesis, making together, as well as taking responsibility for all species in a planet in need of healing, which Haraway captured in the term response-ability. We use the term co-response-ability to emphasize that people have an ethical responsibility, both personally and as a community, which is asking for responding actions to concretize our responsibility towards the world.

In his book ‘The Imperative of Responsibility’, also philosopher Hans Jonas calls upon people to take responsibility for potential problems being caused by technological advancement, especially when it comes to innovations that might have far-reaching or even irreversible consequences. According to Jonas, we have the duty to care for other beings and our actions should not endanger the earth or human existence.
I embrace Haraway’s and Jonas’s stance to pursue a sustainable world where people are taking response-ability towards each other, other living organisms and nature, towards a co-response-able ecosystem and paradigm, including matching economic foundations, mechanisms and business models.

We argue that this alternative paradigm requires a specific attitude and repertoire of actions, which Sennett\textsuperscript{LXXX, XLVII} describes so eloquently in his books \textit{The Craftsman} and \textit{Together}, including concepts such as trust, commitment, empathy, curiosity, experimentation, acceptance of uncertainty, daring to fail, and working with resistance and ambiguities. These values are common to many design practices, including ours. Part of our process when designing for transforming practices, is making participants familiar and comfortable with this attitude and way of working.

\textit{Co-development}

As explained earlier, practices are slowly developing ways of living and working with others, in which human activities are inseparably interwoven with material arrangements, informed by roughly defined aspirations, certain “rules” and specific ethics and values\textsuperscript{XXXVII}. When designing for transforming practices, these human activities take specific forms, co-responding to each other to transform current meaning, and create alternative practices and futures, as well as being/becoming transformed as individuals, communities or society. We discern four co-development activities within the slow process of transforming concrete
practices to bring new emerging paradigms and economies to fruition: learning, co-creating, appropriating and researching.

Moving toward a new paradigm is unknown and challenging terrain for everyone, developing such new practices is asking for learning through doing, for experimenting, daring to fail, and working with resistance and ambiguities, as Sennett\textsuperscript{lxv, xlvii} indicated. It is asking for learning new competencies (knowledge, skills and attitude) to become more resilient and capable of shifting towards or operating within the transformation paradigm and beyond. It is asking for life-
long learners in a continuous learning setting, who can grow by exploring and experimenting without a set goal, which Ingold calls *learning in minor key*. TP lets people engage in an experience without judgment, and respond to surprises through reflection, thus learning from their actions with the possibility to transform.

To envision, explore, develop, experience and enact new practices that can address societal challenges, we are *co-creating* new material arrangements with a variety of stakeholders, which can have various forms, e.g., tools, methods, models, platforms, products, systems, services, policies, media and stories, that co-shape people’s being in world. Designing concrete new material arrangements can help navigating complexity and exploring and building alternative futures. On the one hand, designing is about making things and playing with the friction of various materials. On the other hand, it is about imagining and reaching dreams and hopes we aspire towards the future. Design is capable of making ideas and dreams imaginable, experienceable and discussable through prototyping.

Design can visualize, materialize and simulate probable, plausible and possible futures which can be experienced, discussed, reflected upon and tested in relation to current practices and past learnings. TP is bringing the future, be it 1, 10, 30 or even 100 years ahead, in the here and now through storytelling and
prototyping, allowing people to reflect on their values, assumptions and practices, thus opening up towards transforming practices.

When the co-created designs are put in the world, they have to be appropriated by people wanting to use them, i.e., making sense of these designs in relation to their understanding of the world, while interacting with them and fitting them into their changing practices\textsuperscript{xlviii}. Humans, technologies and the world are continuously co-shaping each other in the process of interpretation, as we also illustrated with the [X]CP example. In order to realize alternative economies in the long run, TP is co-creating concrete prototypes of new material arrangements. By bringing these designs into everyday practice, a variety of forms of appropriation can be studied, giving us the opportunity to explore if and how people are transforming and if and how these arrangements and practices will result in \textit{societal impact and transformation} towards new economies.
Since transforming towards new paradigms is uncharted territory and quite provoking, TP is developing new knowledge and theories to support the emergence of new practices using a research through design (RtD) approach as a kind of action research. In this way, the act of designing, with attention to richness, nuances and situatedness, is used to generate knowledge. We evaluate our co-development processes as well as the designs appropriated in real-life multi-stakeholder settings, thus supporting knowledge development on transformation in its broadest sense, using the perspectives of philosophy, anthropology, economy, design, technology, education, and many more.

In Conclusion

In the upcoming Design Atlas of Transforming Practices, we will explain and illustrate TP and share many examples and stories from the multi-stakeholder projects we are doing together nationally and internationally. One of them, developed by Simona Rocchi, Reon Brand and Paul Gardien at Philips Experience Design with whom we work closely together, tells the story of realizing healthcare in the transformation economy. They explain the example of the Community Life Centres (CLC) that Philips is developing in Africa and Southeast Asia based on new business forms and interventions. CLC extends the functionality of a
primary care facility into a community hub, supported by infrastructure and services, thus improving the quality of life for the whole community. CLC does not only improve access to quality primary care, but also creates opportunities for small business development around healthcare services^v.

I conclude this essay with a reflection on their and our work regarding designing for transforming practices, written by my brother, prof. Harry Hummels^xxxix. All that remains for me to do is thank my colleagues, students and all other stakeholders and parties that supported the development of TP and to invite you to join our endeavors, embarking on the journey of designing for transforming practices, including economic practices, and enacting together a thriving world.

*Design thinking and doing can make a massive contribution to the creation of a more sustainable, humane, and dignified life for all. What makes their approach to design so attractive for a new, thriving business paradigm? It is their openness to what I would call ‘agapeic design’.*

*Agape is one of the four words used in ancient Greece to refer to love, in addition to eros, philia and storge. More in particular, it extends beyond the love for one’s partner, parents, children, friends and other relatives and displays an openness to the needs of others and a commitment to promoting their interests.*

*There is abundant research available that demonstrates what people need. The seminal work of social scientists like Maslow, McGregor, Herzberg, Mayo and others provides insight into what humans need and what stages they go through to design their life so that it is worth living. An agapeic approach to design goes one step further and is instrumental in serving the needs of others as they perceive them. Designers are not ‘good Samaritans’ that help others to fulfil the needs as the designer perceives these needs, but they are facilitators of a conversation in which the other person – on whose behalf the design process was started – is invited and supported to express her or his needs. As such, agapeic design goes beyond what is usually seen as stakeholder involvement or inclusion. It does not simply ask the other to become involved in the design process, but puts the needs as they are perceived by the other at the core of the process. Agapeic designers display skills like listening, creating an environment in which the other feels safe to express her or his ideas and emotions, positive feedback, and so forth. Once agape is adopted and implemented, a great and important future lies ahead for design doing and thinking, in order to contribute to a better world in which humans and non-humans can peacefully co-exist and live a dignified life.*
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i In this essay, I propose to approach economics as a design theory and practice. The work I describe is developed together with the co-founders of Transformative Practices: Ambra Trotto, Pierre Lévy and Jeroen Peeters. Moreover, the essay will be part of the upcoming Design Atlas for Transforming Practices (Hummels, Trotto, Lévy, Peeters and Yoo, forthcoming). I often will use “we” in this essay, acknowledging these ongoing joint efforts, which by now has grown to a fairly large group of professionals, alumni and students.


xx Porat, M.U. (1976) The information sector: definition and measurement. Presented at the annual meeting of the American Association for the Advancement of Science, Boston, February 18,1976


xxvii Hurst, A. (2016). The purpose economy expanded and updated: how your desire for impact, personal growth and community is changing the world. Elevate Publishing


xii developed by Philémonne Jaasma during her PhD, together with a team of researchers and practitioners.


The municipality of Eindhoven and the TU/e have a long record of collaboration. The author works as of 2009 together with the city on designing for active citizenship and receives regularly funding to realize prototypes and conduct testing, including for [X]CP, for which we are extremely thankful.

next to the city of Eindhoven, we have been exploring together with ZET and various cities in the region of North Brabant how to facilitate participatory processes for complex local and regional challenges:


We have been exploring new practices and paradigms together with Enpuls on accelerating the energy transition:


We have been exploring new economies and paradigms through design, with various stakeholders including Philips Experience Design on healthcare in a transformation economy:


With the Provence of North Brabant we have been exploring new financial practices, more specifically on the Brabant Outcome Fund: a result-based financing enabling projects balancing people, planet and profit:

- [https://www.brabant.nl/subsites/brabant-outcomes-fund](https://www.brabant.nl/subsites/brabant-outcomes-fund)

We have collaborated with Rijkswaterstaat on Expedition RWS 2050 to anticipate and prepare the embedding of technologies and infrastructure in the Netherlands in 2050:

• Rijkswaterstaat (2020). *Expeditie RWS2050: Trends, gesprekken, scenario’s.* Rijkswaterstaat


[viii] The Brabant Outcome Fund is inspired by co-authors of this book like Kees Klomp, Kate Raworth and John Fullerton. We have been exploring together how design can support the new practices of the BOF. More information about the BOF can be found at: https://www.brabant.nl/subsites/brabant-outcomes-fund.


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**ECONOMY AS A TRANSFORMING PRACTICE**


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