

New Curricular Framework

SCHOOL OF DESIGN *Carnegie Mellon University, 2014*

Design for Interactions



Design for Interactions



**DESIGNED
WORLD**

**SOCIAL
WORLD**

**NATURAL
WORLD**



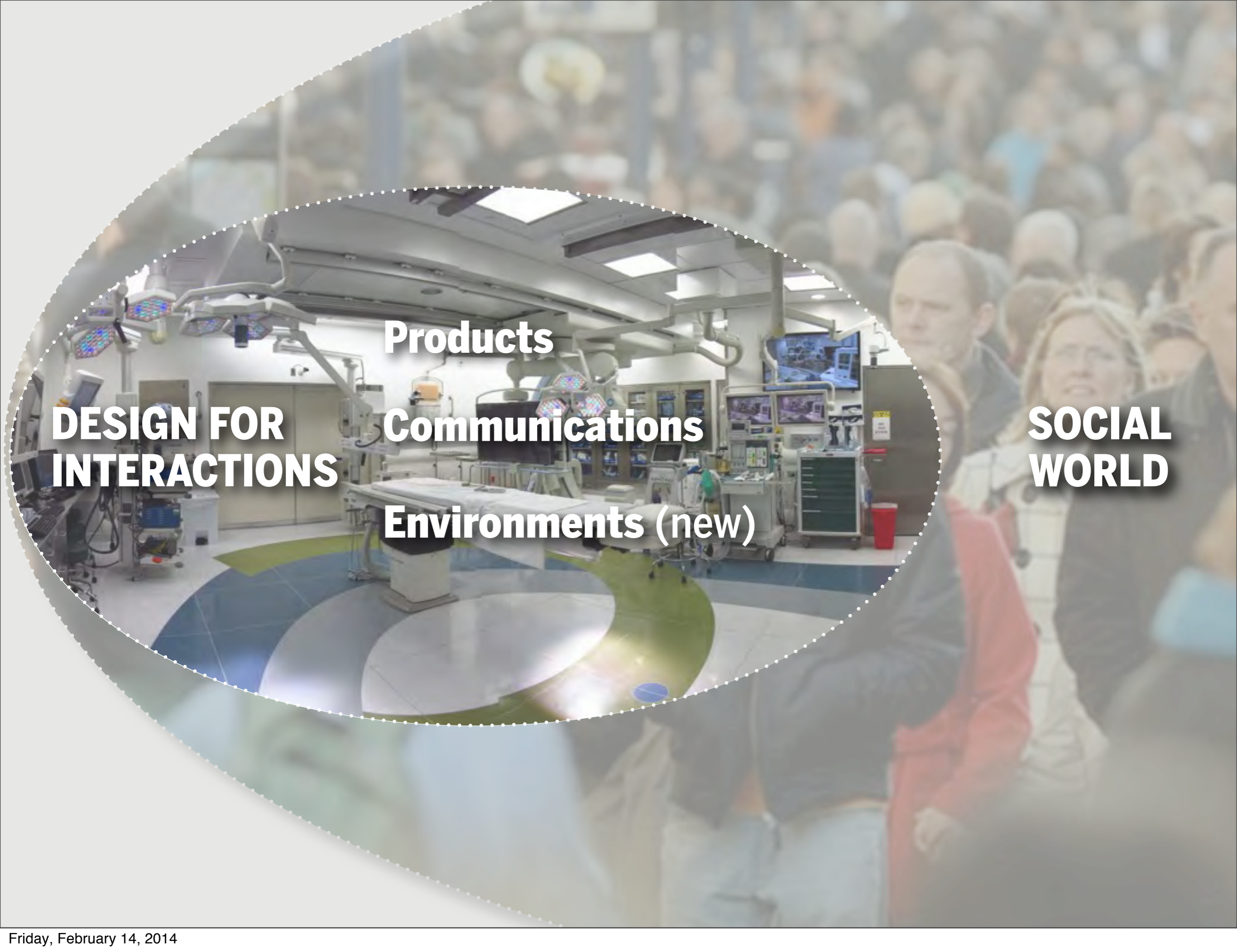
**DESIGNED
WORLD**

Products

Communications



**SOCIAL
WORLD**



Products

Communications

Environments (new)

**DESIGN FOR
INTERACTIONS**

**SOCIAL
WORLD**



P
C
E

**DESIGN FOR
INTERACTIONS**

**SOCIAL
WORLD**

New Curriculum Framework

Design for Interactions

**DESIGNED
WORLD** P
E C

**SOCIAL
WORLD**

**NATURAL
WORLD**

New Curriculum Framework

Design for Interactions

DESIGNED
WORLD

P
E C

**Design for
Service**

SOCIAL
WORLD

NATURAL
WORLD

Moderate change:
Existing paradigms
and systems

New Curriculum Framework

Design for Interactions

DESIGNED
WORLD

P
C
E

**Design for
Service**

Moderate change:
Existing paradigms
and systems

**Design for
Social
Innovation**

Significant change:
Emerging paradigms
and systems

NATURAL
WORLD

New Curriculum Framework

Design for Interactions

DESIGNED
WORLD

P
E
C

**Design for
Service**

Moderate change:
Existing paradigms
and systems

**Design for
Social
Innovation**

Significant change:
Emerging paradigms
and systems

**Transition
Design**

Radical change:
Future paradigms
and systems

NATURAL
WORLD

New Curriculum Framework

Design for Interactions

DESIGNED
WORLD

P
C
E

**Design for
Service**

Moderate change:
Existing paradigms
and systems

**Design for
Social
Innovation**

Significant change:
Emerging paradigms
and systems

**Transition
Design**

Radical change:
Future paradigms
and systems

NATURAL
WORLD

Design Tracks

Products, Communications
& Environments

Areas of Design Focus

Inform courses, projects & research at all levels in the school

Context for All Design

New Curriculum Framework

Design for Interactions

DESIGNED
WORLD

P
C
E

**Design for
Service**

Moderate change:
Existing paradigms
and systems

**Design for
Social
Innovation**

Significant change:
Emerging paradigms
and systems

**Transition
Design**

Radical change:
Future paradigms
and systems

NATURAL
WORLD

Undergraduate

Learning to Design in
areas of **P/C/E** & intro to
Sv, Si and **Td**

Masters

Learning to conduct research in areas of
Sv and **Si**. Intro to **Td**

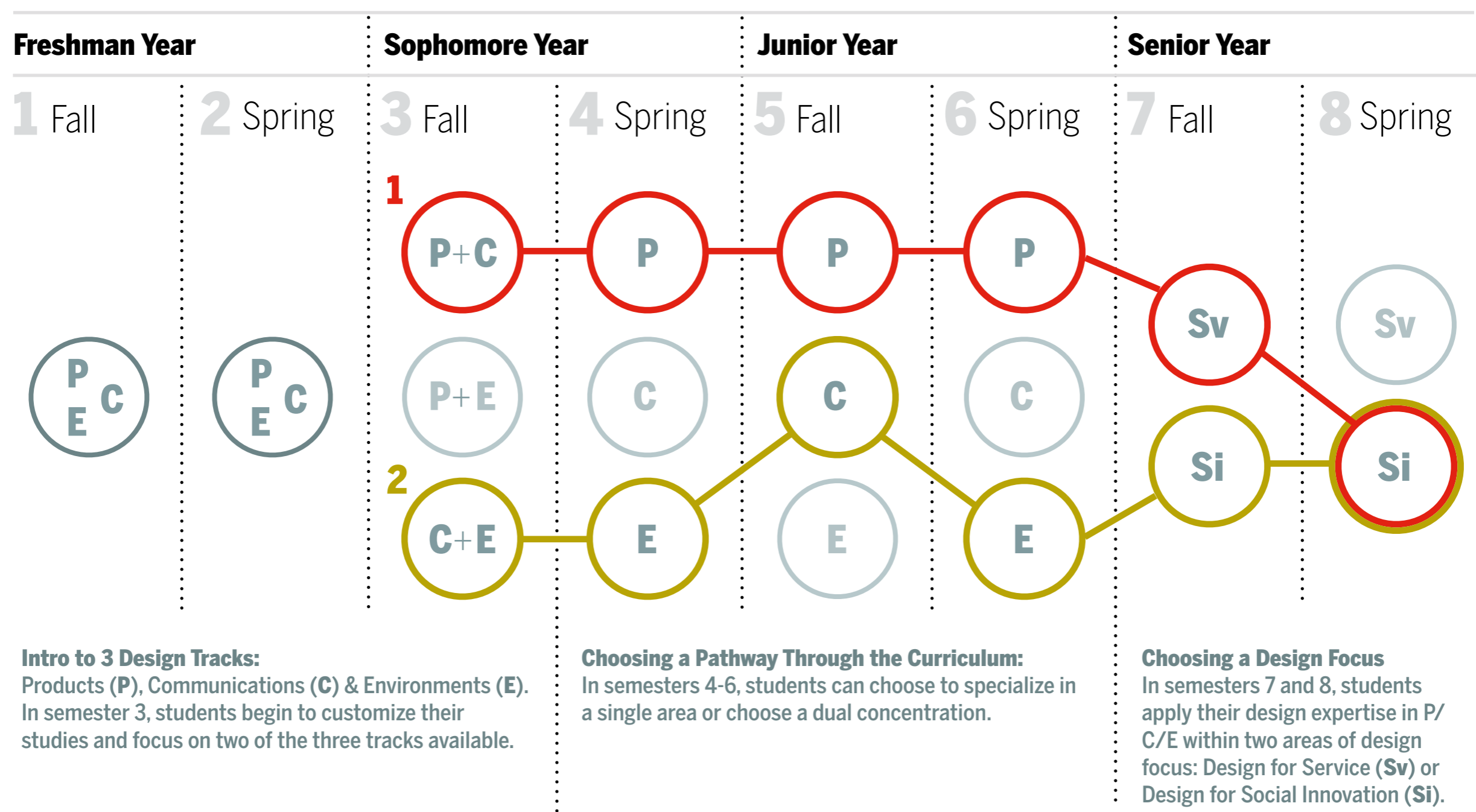
Doctoral

Contributing new
knowledge thru
practice-based research
in **Td**

New Undergraduate Program



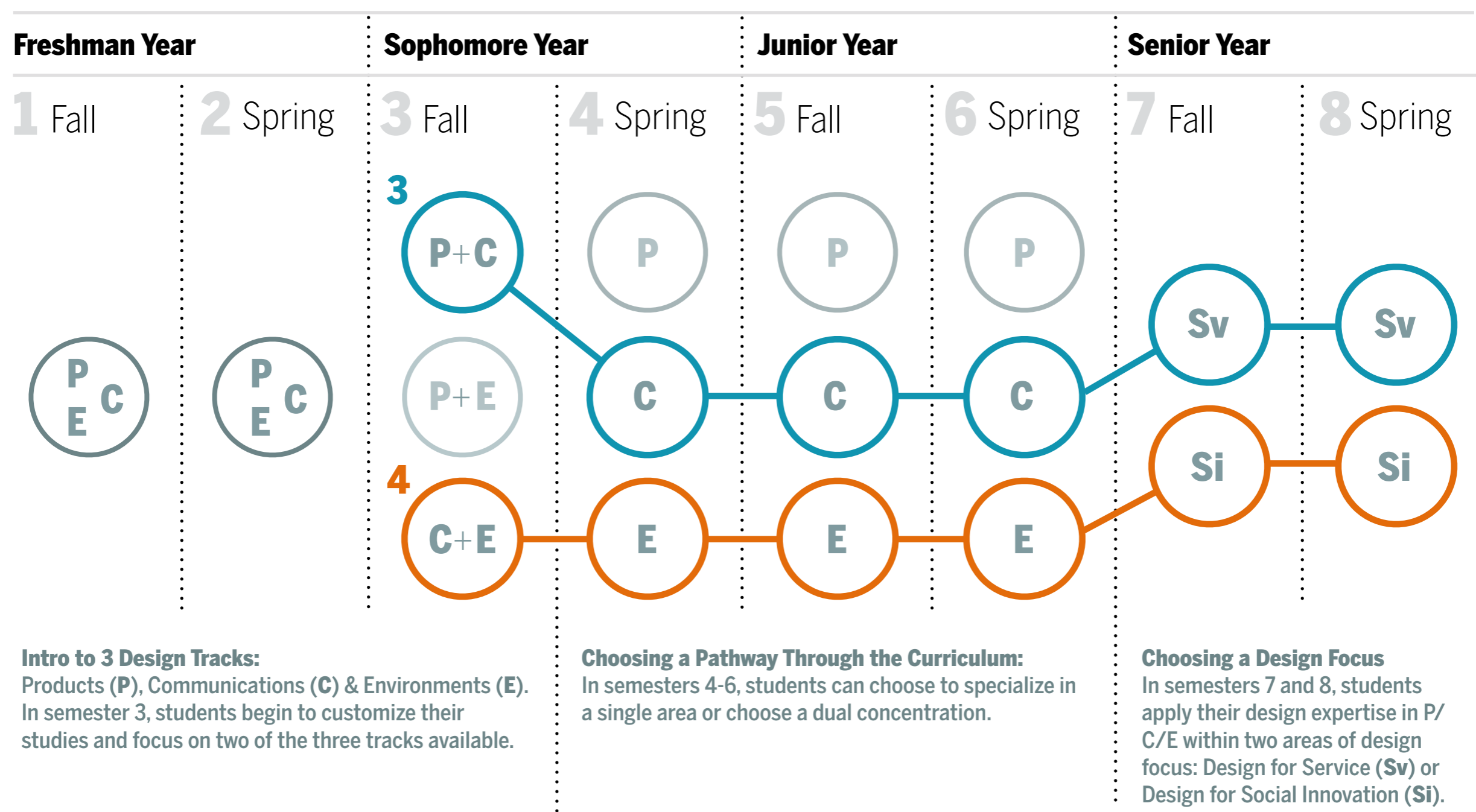
BDes Flexible Curriculum



1. Product Designer with expertise in Design for Service and Design for Social Innovation

2. Communication + Environments Designer with expertise in Design for Social Innovation

BDes Flexible Curriculum



3. Product Designer with expertise in Design for Service and Design for Social Innovation

4. Communication + Environments Designer with expertise in Design for Social Innovation

New Graduate & Doctoral Programs

Graduate Program Pathways

MASTERS

DOCTORAL

1 year

2 year

3 year

4 year

MA
Master of Arts
in Design

Provides a foundation in design thinking/
tools/process

MPS
Master of Profes-
sional Studies

(year one of the MDes)

MDes
Master of
Design for Interactions

Research degree in design
for interactions w/thesis

DDes
Doctor of Design
Practice Redirection

Professional
Doctorate

DDes
Doctor of Design
Transition Design

PhD
Doctor of Philosophy in Design
Transition Design

PhD
Doctor of Philosophy in Design
Design Studies

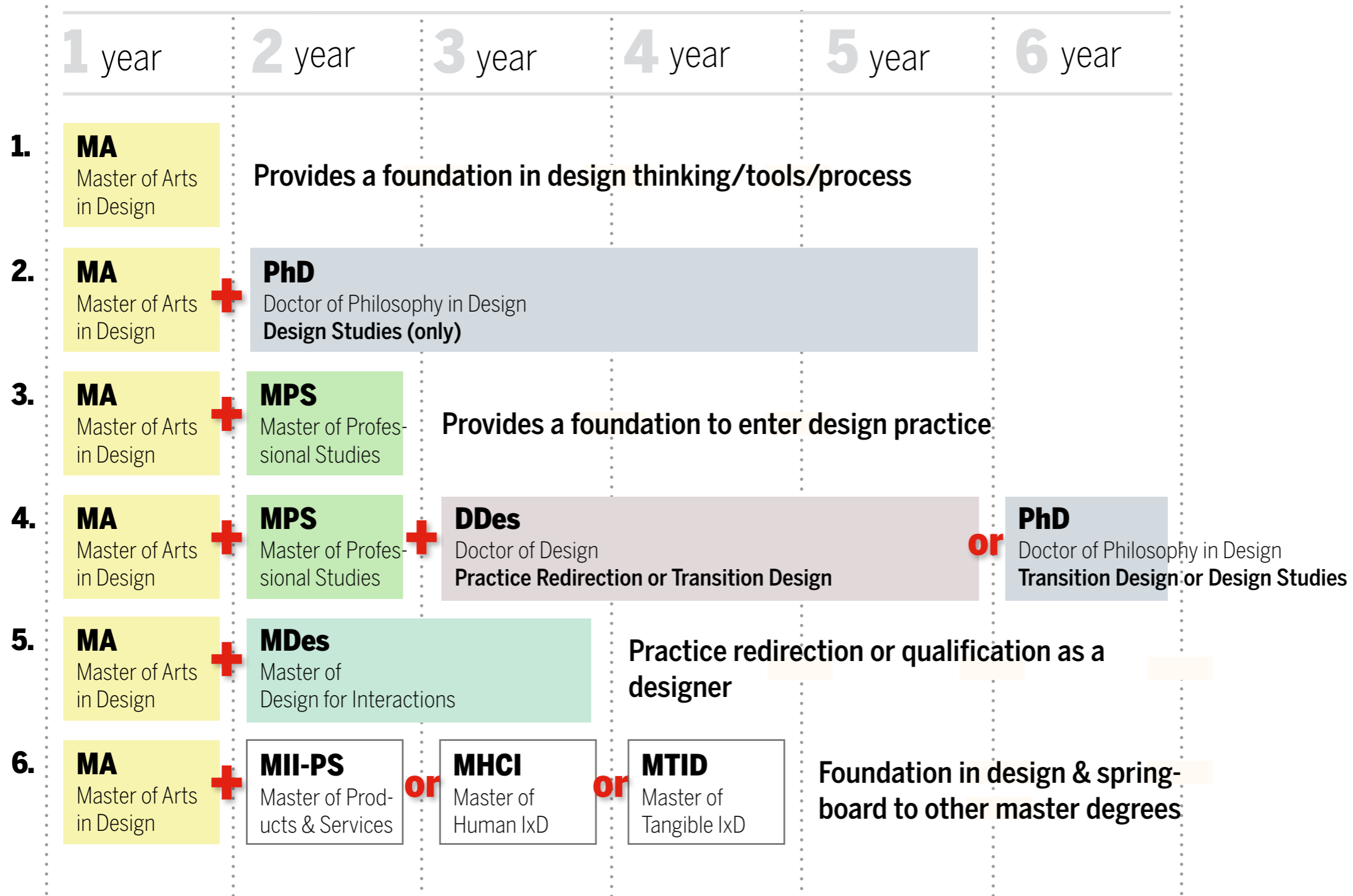
Non-Designers

No previous design degree/experience required

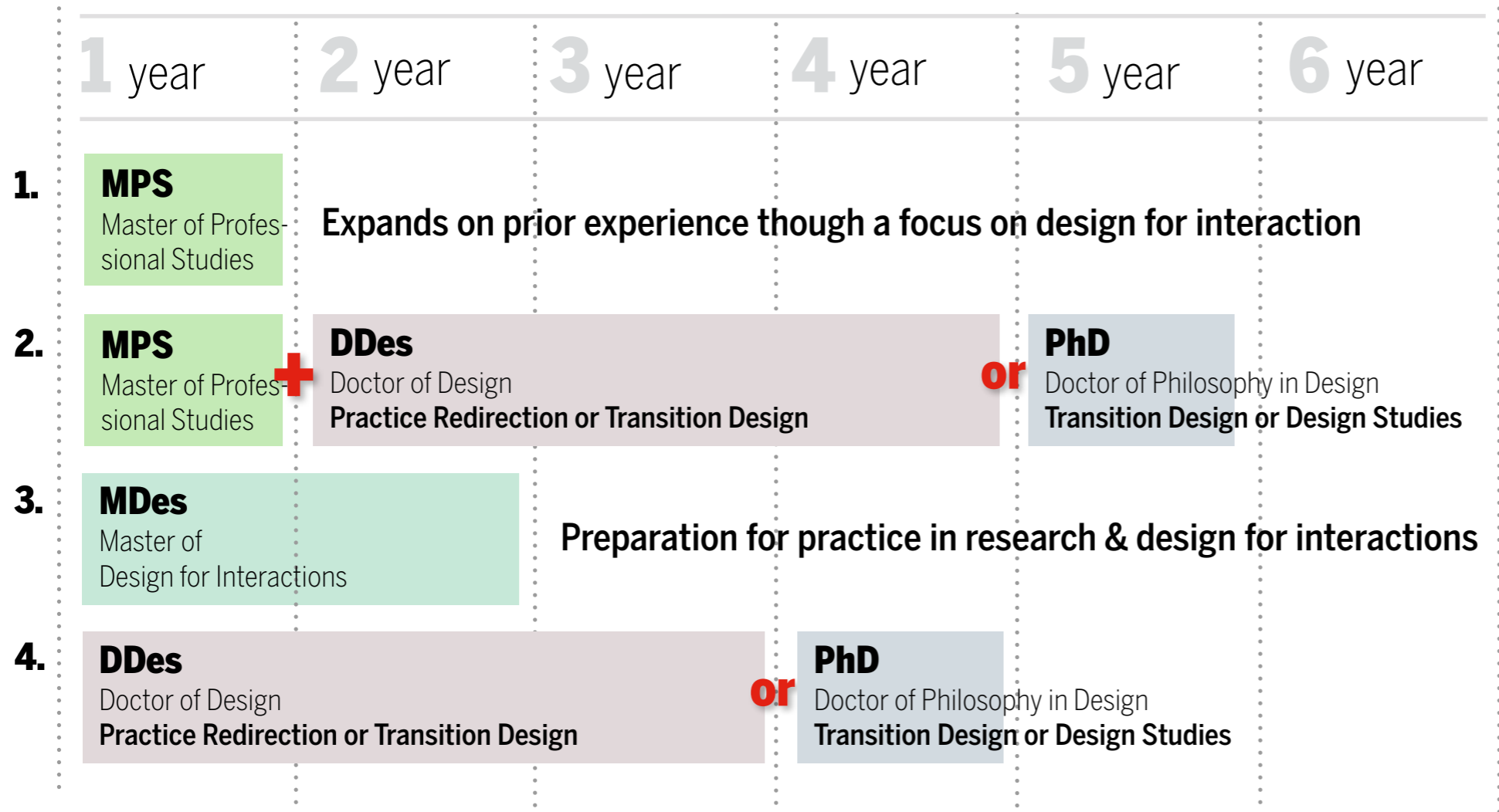
Designers:

Previous design degree/experience required

6 Pathways for Non-Designers



4 Pathways for Designers



Doctoral Program

1 year	2 year	3 year	4 year	5 year
			part time	
			part time	
				part time
				part time

DDes Degree 3 -5 Years

A **full-time** or five year **part-time** degree with bi-yearly residential workshops and a research process structured for working expert professionals. Enables experienced designers to reinvent their practice and generate shareable knowledge about innovative practices of designing.

PhD Degree 4 - 5 Years

A four-year **full time** residential degree for people seeking an academic career. One year of coursework in Design Research, Design Studies and Design Education, followed by a three-year research project. May also be undertaken as a five-year, **part-time** program, following one semester of residential coursework.

Residential Intensives

At the beginning and end of each academic year, DDes and PhD students come together for intensive design research workshops. These are rich experiences that provide the intellectual and social capital to sustain work over the academic year.

1 fall semester

Design Research Workshop

1 week

2 spring semester

Design Research Workshop

1 week

This workshop intensive focuses on research skill development and critical interrogations of new areas of designing.

The second workshop intensive is comprised of progress review presentations by all candidates before external panels, peers, and the public.

Research Foci

Practice Redirection

Practice redirection researches how the practice of design can innovate and transform to become more responsive and responsible.

Research Topic areas include:

- Communication design & social marketing
- Behavior-influencing product and design of environments
- Design for sustainability and social innovation

Transition Design

Refers to design-led societal change. It combines the tools and processes of design with a new understanding of living systems, innovation diffusion and community organizing for the transition to more sustainable futures.

Research Topic areas include:

- Design philosophies of holism
- Niche management and living labs
- Designing for the coming climate

Design Studies

Acknowledges the convergence of empirical, cognitive science-based research and art historical and material culture studies to interpret the meaning of designed products, communications and environments.

Research Topic areas include:

- Actor Network Theory, Social Practice Theory and design
- Phenomenology, post-phenomenology, and design
- Design thinking

DDes

PhD

DDes: Year One

A critical reflection, supported by a series of courses, on the candidates' expert practice to date, culminating in a publication that captures comparatively (via a series of case studies), the insights, patterns, habits, biases and limits of that practice.

1 **Fall** First Year

Intensive I 12 units
Review of the latest design research

Research OF Designing I 12 units
The nature of expert design practice

Transition Design 12 units
Evaluating risks to the resilience of our designed societies

2 **Spring** First Year

Research OF Designing II 12 units
Reflective practitioner techniques

Retrospective Preparation 18 units
Critical evaluation of candidate's current practice

Progress Reviews I 6 units
Peer & external crit of research progress

DDes: Year Two

Contextual research, supported by a series of courses, into a project that will test transition design practices, culminating in a contextual research report and project process outline.

3 **Fall** Second Year

Intensive II 12 units
Review of the latest design research

Research FOR Designing I 12 units
Observational research and visual data analysis

Project Contextualization I 12 units
Identifying an appropriate context for exploring new practice directions

4 **Spring** Second Year

Transition Design II 12 units
Design-enabled sociotechnical change

Research FOR Designing II 12 units
Interviewing & verbal data analysis

Progress Reviews II 6 units
Peer & external crit of research progress

Project Contextualization II 6 units
Contextual inquiry in preparation for new practice experiments

DDes: Year Three

Conducting the research project and evaluating the significance of what was discovered, culminating in a publication about those findings that will be disseminated to the candidates' professional peers. DDes candidates are expected to attend the Progress Reviews in late spring and late Summer Intensives. These are workshops in which all DDes and PhD candidates interact and evaluate each other's work and also serve as external evaluation milestone of thesis proposal and final defenses.

5 **Fall** Third Year

Intensive III 12 units
Review of latest design research

Research BY Designing I 12 units
Understandings from craft of material making

Project 12 units
Conducting new practice experiments

6 **Spring** Third Year

Research BY Designing II 12 units
Design propositions as arguments

Exegesis I 12 units
Evaluating the new practice experiments for significant insights

Final Review 12 units
External examination of the candidate's articulation of their practice redirection research

© School of Design, Carnegie Mellon University, 2013

PhD: Year One

Training in research design approaches and Transition Design. Over the summer at the end of year one, students prepare a research project proposal to be examined in the late Summer Intensive.

1 **Fall** First Year

Intensive I 12 units
Review of latest design research

Research OF Designing I 6 units
The nature of expert design practice

Research FOR Designing I 6 units
Observational research & visual data analysis

Research BY Designing I 6 units
Understanding craft & material making

Transition Design I 6 units
Evaluating risks to the resilience of our designed societies

Teaching Design I 6 units
Studio-based pedagogy

2 **Spring** First Year

Research OF Designing II 12 units
Reflective practitioner techniques

Research FOR Designing II 12 units
Interviewing & verbal data analysis

Transition Design II 6 units
Design-enabled sociotechnical change

Teaching Design II 6 units
Seminar-based pedagogy

Progress Reviews I 6 units
Peer & external crit of research progress

Research Proposal
Developed during the summer

PhD: Year Two

Students undertake a research project with regular progress reviews. PhD candidates are expected to attend the Progress Reviews in late spring and Late Summer Intensives. These are workshops in which all DDes and PhD candidates interact and evaluate each other's work and also serve as external evaluation milestone of thesis proposal and final defenses.

3 **Fall** Second Year

Intensive II

Review of latest design research

Research I 5 units

First phase of an extensive research project

4 **Spring** Second Year

Research II 5 units

Second phase of an extensive research project

Progress Reviews II

Peer & external crit of research progress

PhD: Year Three

Students undertake a research project with regular progress reviews. PhD candidates are expected to attend the Progress Reviews in late spring and Late Summer Intensives. These are workshops in which all DDes and PhD candidates interact and evaluate each other's work and also serve as external evaluation milestone of thesis proposal and final defenses.

5 **Fall** Third Year

Intensive III

Review of the latest design research

Research III 5 units

Third phase of an extensive research project

6 **Spring** Third Year

Research IV 5 units

Fourth phase of an extensive research project

Progress Reviews III

Peer & external crit of research progress

PhD: Year Four

Candidates prepare an exhibition and publication of their research process and outcomes and prepare for an oral defense before external examiners.

7 **Fall** Fourth Year

Intensive IV

Review of the latest design research

Research V 5 units

Penultimate phase of an extensive research project

8 **Spring** Fourth Year

Research VI 12 units

Final phase of an extensive research project

Research BY Designing II 12 units

Design propositions as arguments

Progress Reviews IV 12 units

Peer & external crit of research progress

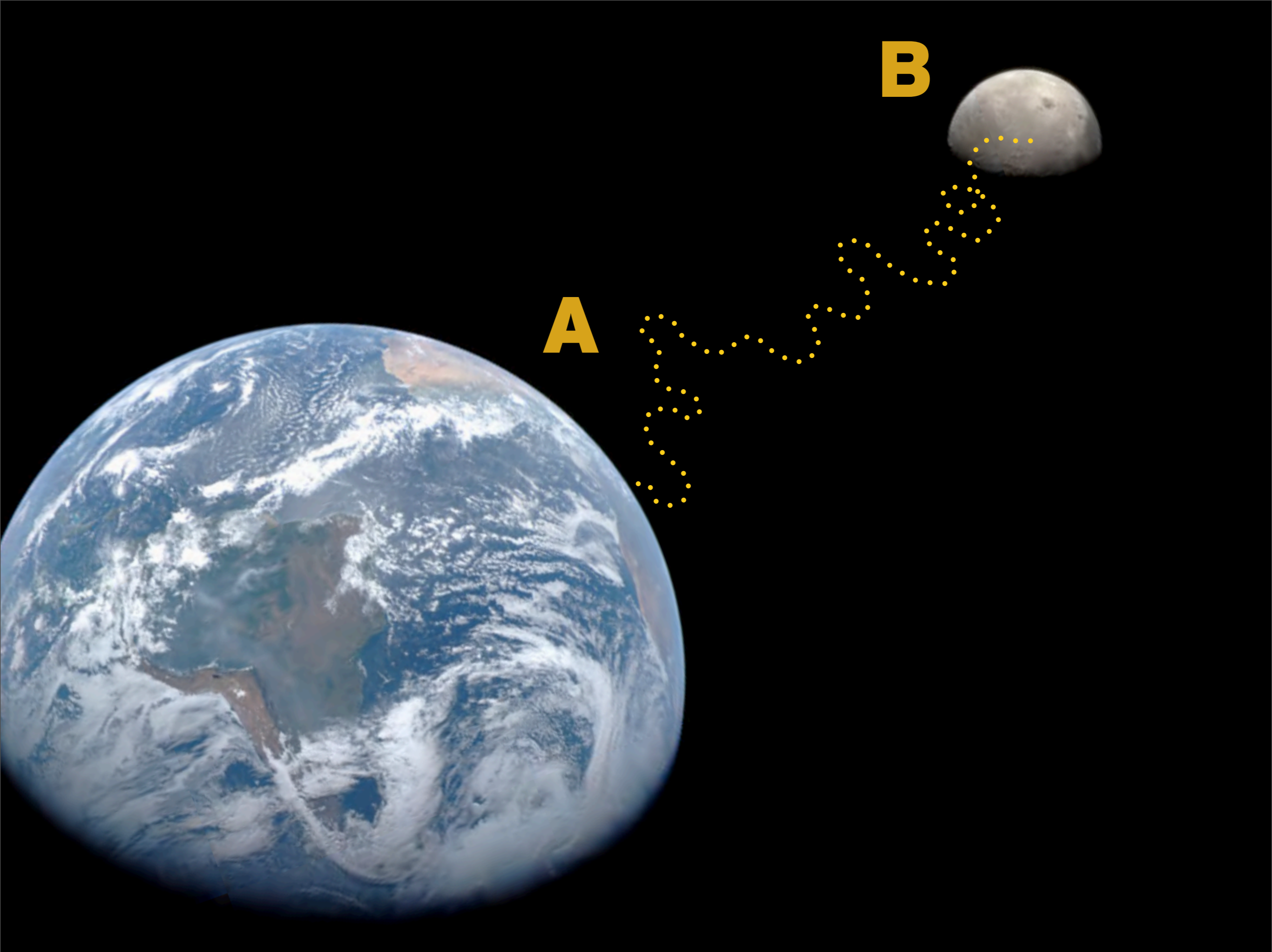
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Transition

Design

Design-led societal transition
toward more sustainable futures

The transition to a sustainable society is arguably the most important challenge of the 21st century. And, design has an increasingly important role to play.



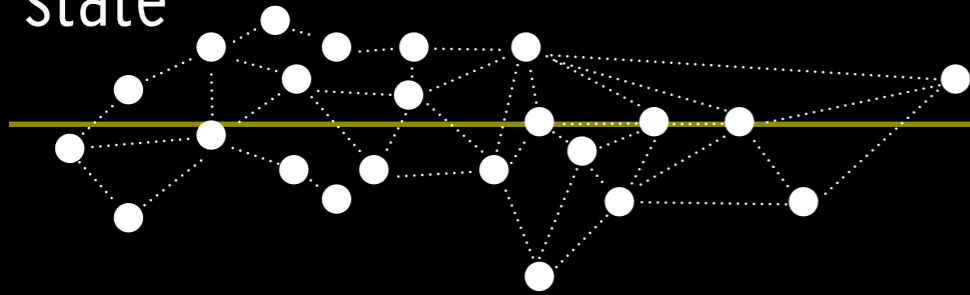
SUSTAINABLE SOCIETY

CURRENT STATE



TRANSITION

Current
state



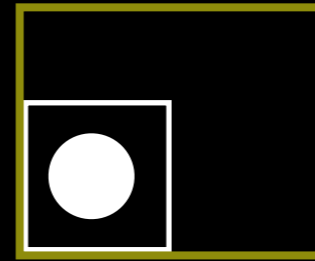
1. Amplifying & connecting existing efforts

Desired
future state



2. Developing narratives & glimpses of the 'not yet'

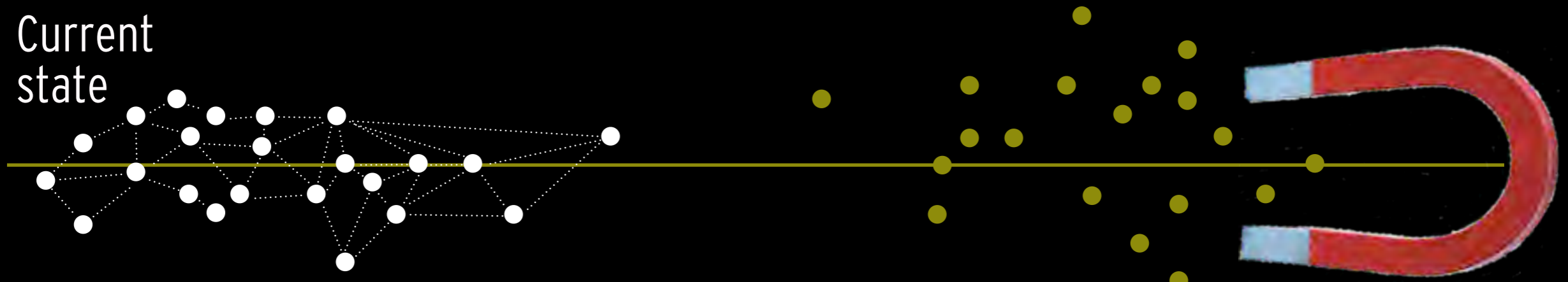
TRANSITION



typical problem frame

expanded problem frame which includes long-term, life-style-based transition objectives

Current state



1. Amplifying & connecting existing efforts

2. Developing narratives & glimpses of the 'not yet'

Transition Design:

1. Proposes design-led societal change that can be a powerful area for design practice, research & study
2. Formulation of future-oriented, lifestyle-based narratives to inspire and direct the transition (**vision**)
3. Is informed by new knowledge and ideas outside the design disciplines that explain the dynamics of change and how to live/design within it (**theories of change**)
4. Is based upon a more ecological worldview, a different posture and transdisciplinary collaboration (**mindset and posture**)
5. **New ways of designing** will emerge from all of the above

The Transition Framework

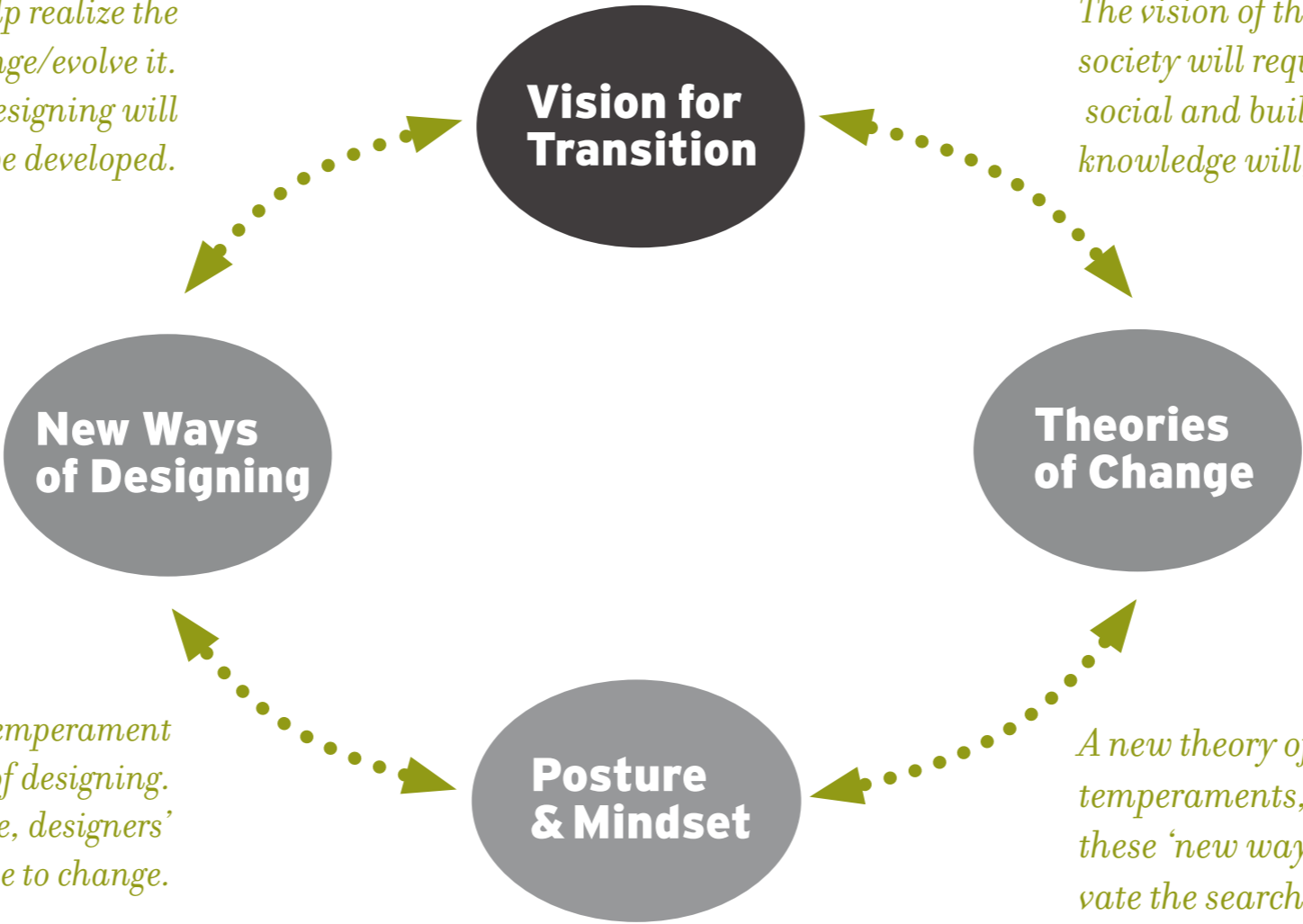
A vision for the transition to a sustainable society is needed. It calls for the reconception of entire lifestyles that are human scale, place-based but globally connected in their exchange of technology, information and culture. It calls for communities to be in a symbiotic relationship with their ecosystem.

New ways of designing will help realize the vision but will also change/evolve it. As the vision evolves, new ways of designing will continue to be developed.

The vision of the transition to a sustainable society will require new knowledge about natural, social and built/designed systems. This new knowledge will, in turn, evolve the vision.

The transition to a sustainable society will require new ways of designing that are characterized by:

Ideas, theories, & methodologies from many varied fields and disciplines inform a deep understanding of the dynamics of change in the natural and social worlds.



Changes in mindset, posture and temperament will give rise to new ways of designing. As new design approaches evolve, designers' temperments and posture will continue to change.

A new theory of change will reshape designers' temperaments, mindsets and postures. And, these 'new ways of being' in the world will motivate the search for new, more relevant knowlege.

Living in & thru transitional times requires a mind-set and posture of openness, mindfulness, a willingness to collaborate, and 'optimistic grumpiness'

Theories of Change

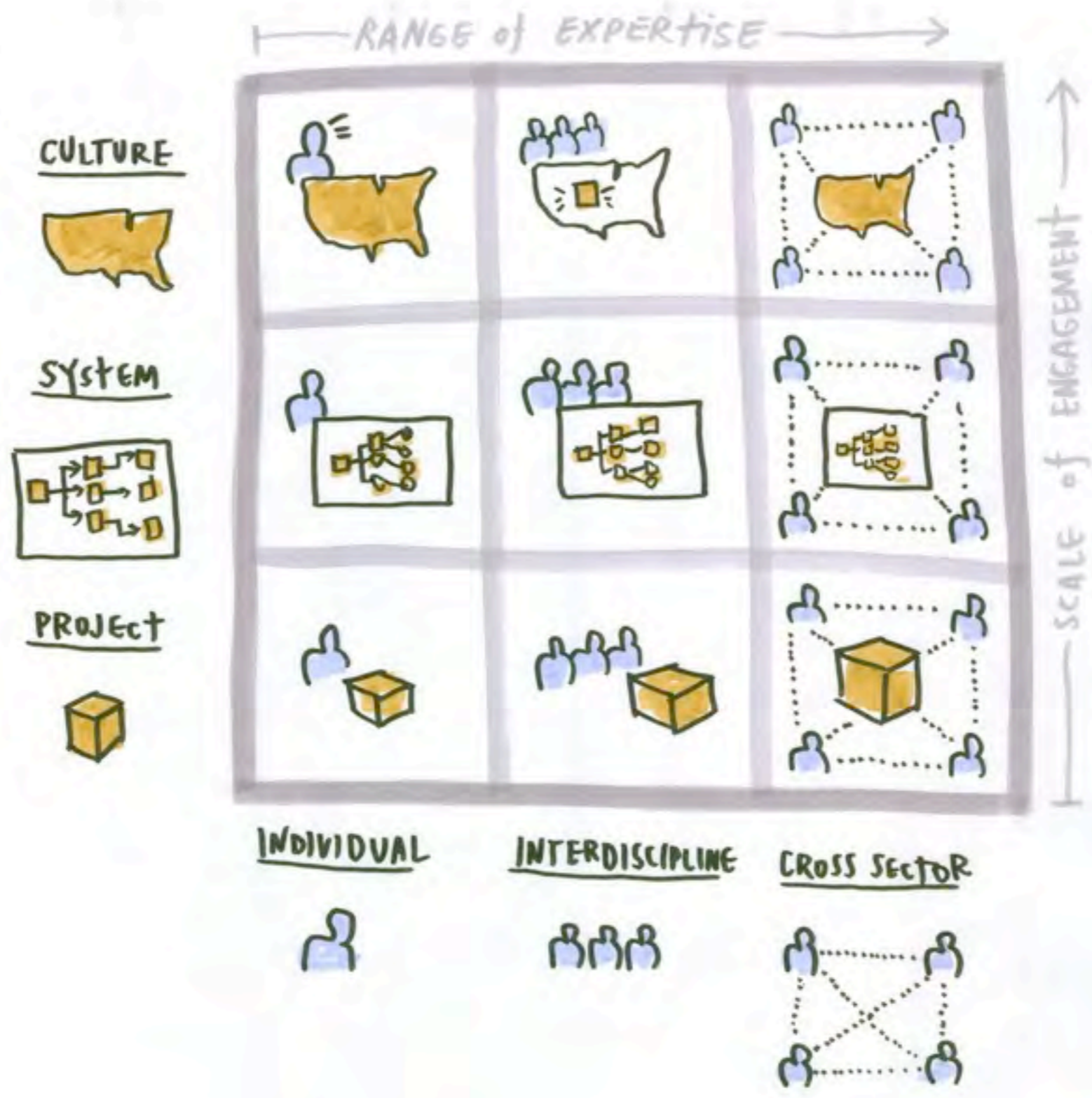
Understanding the dynamics of change is an important aspect of transition design. Knowledge and theories from outside design can provide useful tools for understanding, initiating and directing change in transitional times.

Multi-level

Situated

Transitional

PATHWAYS in SOCIAL DESIGN



Theories of Change: Ecological Sustainability

	Design-based	Research-based
Cumulative	Pleasure Principle Efficiency Principle	Enlightenment
Disruptive	Technological Breakthrough	Mindset Conversion

Theories of Change: Social Sustainability

	Design-based	Research-based
Cumulative	Nudge Consumer Citizenship	Humanitarian Awareness Raising
Disruptive	Social Entrepreneurship	Policy Design

Theories of Change: Transition Design

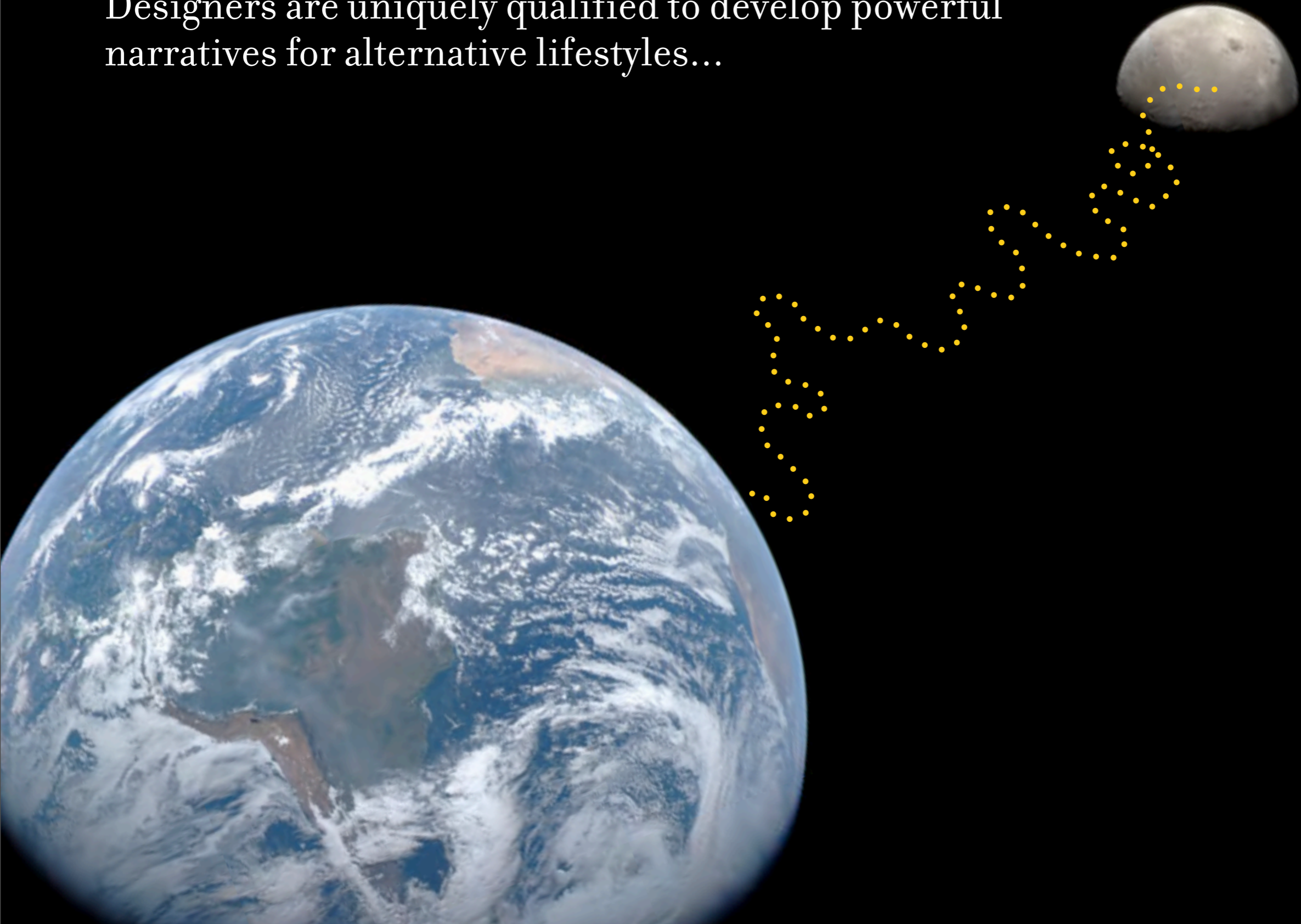
	Design-based	Research-based
Cumulative	Innovation Diffusion	Participatory Risk Evaluation
Disruptive	Socio-Technical Practices	Panarchy Parecon

Theories of Change



Vision: Reconceiving Lifestyles

Designers are uniquely qualified to develop powerful narratives for alternative lifestyles...





Co-operative Energy Generation



Car Free Neighborhoods



The Urban Vegetable Garden



Kitchen Club



The Object Clinic



The Neighborhood Office



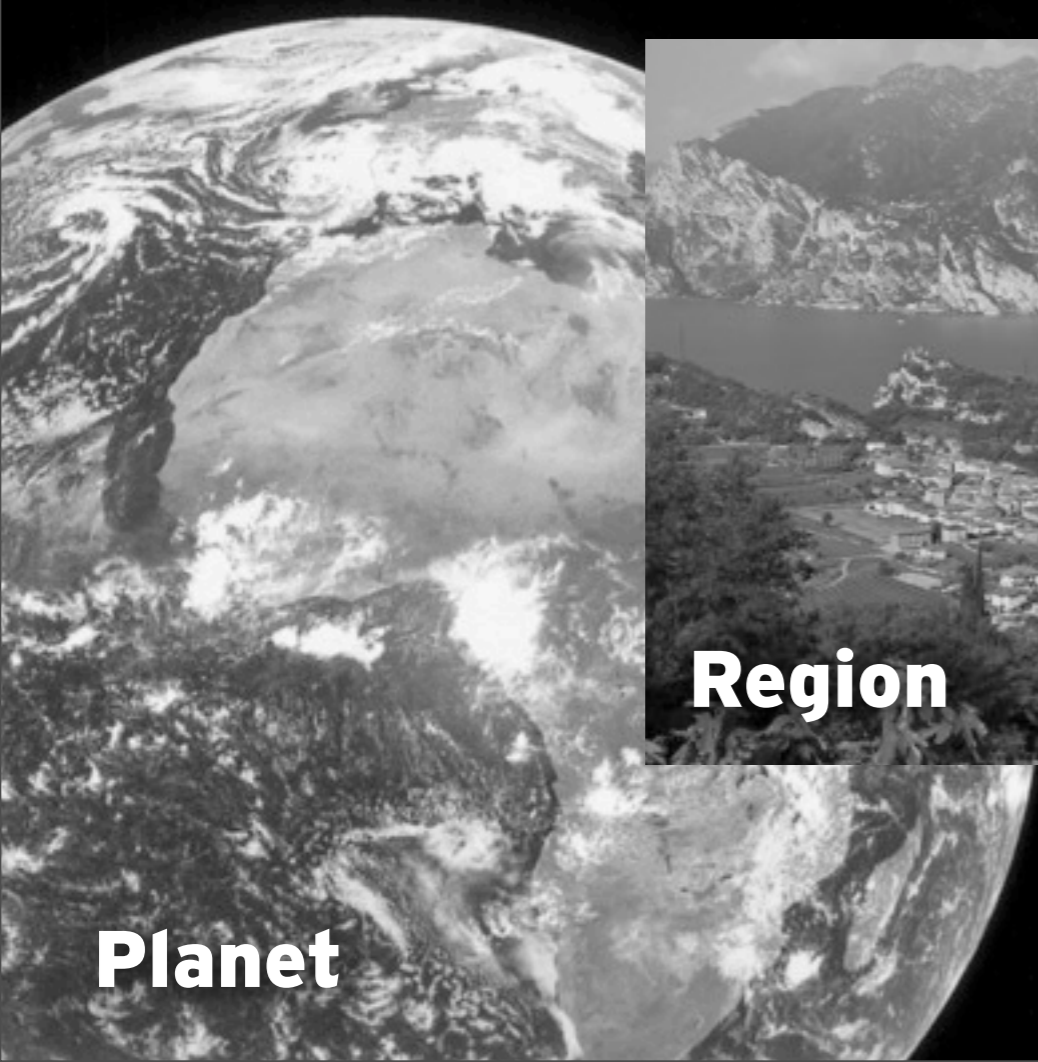
Our current infrastructure is based upon centralized control and ownership of: resources, food production/distribution, energy generation, manufacturing etc.



Transition Design proposes **radical localization and decentralization** as an alternative.

Vision: Reconceiving Lifestyles

Localism



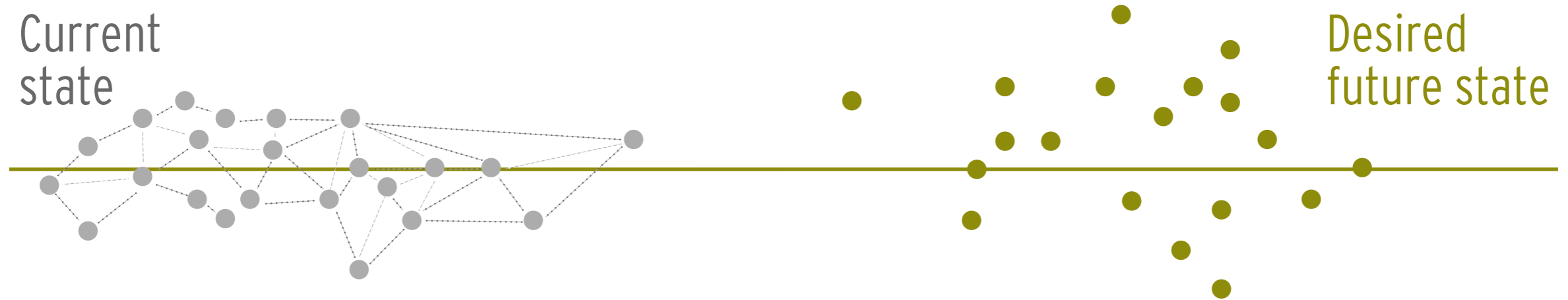
Cosmopolitan



Transitionville 2040: citizens share skills, ideas, knowledge, technologies, resources and culture with other communities all over the planet, but everyday life is place based.



Transition Design proposes a **low consumption, intelligently designed and high quality lifestyle**, in which onerous and exploitative employment has been eliminated. People have much **more free time to spend with relatives and friends in creative activities**, community improvement projects and in nature. In today's lifestyle, these activities are marginalized but in a sustainable society, they take center stage; **'the necessary' has become 'the desirable'**.



Mindset & Posture

Mindset and posture reflect our 'way of being' in the world. It is the attitude we bring to designing and collaborating; the spirit within which we conduct inquiry and establish and maintain relations over time.

We argue that transition design will challenge us to intentionally adopt new postures and mindsets in order to transition toward the 'not yet'.

Mindset & Posture

Shifting **Values**: developing a more holistic/ecological worldview and value-set

Embracing **transdisciplinarity** and collaboration

Ability to design *within* and *for* **uncertainty**, ambiguity, chaos and contradiction

A **committed sense of urgency**: optimistic grumpiness

Shifting Values

From:

Control thru hierarchy & domination

Competition

Nature exists to serve humans

Outcomes can be predicted

Problems can be solved thru intellect

Power of science and technology is unlimited

Values quantity over quality; unlimited growth is possible and viable

Lack of concern for future generations

Educational model in which students master same facts as teachers

To:

Relationships of interconnection, reciprocity & interdependency

Cooperation

Appreciation/respect for all lifeforms

Outcomes are unpredictable/emergent

Ignorance is part of human condition

There are limits to science & technology

Deep understanding of the power of limits

Ability to think/design for long horizons of time

Education through a model of co-learning and 're-skilling'

Richard Tarnas COSMOS & PSYCHE, Fritjof Capra THE WEB OF LIFE, S.J. Goerner AFTER THE CLOCKWORK UNIVERSE, Mark Woodhouse PARADIGM WARS, Peter Marshall NATURE'S WEB, Morris Berman THE REENCHATMENT OF THE WORLD, Zygmunt Bauman CONSUMING LIFE: LIFE IN FRAGMENTS, Stewart Brand, THE CLOCK OF THE LONG NOW, Mary E. Clark IN SEARCH OF HUMAN NATURE, RETHINKING THE CURRICULUM

Home > [Events and Competitions](#) >

VIDEO: TERRY IRWIN, GIDEON KOSSOFF AND CAMERON TONKINWISE



Transition Design: Re-conceptualizing Whole Lifestyles

Filed on October 12, 2013, at ["Head, Heart, Hand: AIGA Design Conference"](#)

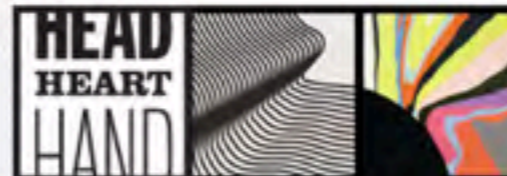
About this video

The transition to a sustainable society is one of the most important and exciting design challenges of our era. Today, designers in both professional practice and education are undertaking projects in sustainable design and social innovation. However, these efforts lack a unifying framework. In the face of social and environmental challenges, a vibrant, international grassroots "transition movement" is working to build local community resilience. How do designers identify their role and become a voice in this movement?

This presentation proposes "transition design" as a new field that uses the tools, processes and studio culture of design to facilitate this. Transition design focuses on reconceiving everyday life and societal systems around food, health, transportation, policy and energy resources to be more sustainable. Transition designers understand the interconnectedness of social and natural systems and conceive solutions that leverage the power of symbiosis. Viewers are introduced to the four aspects of transition design and presented with examples of transition initiatives.

VIDEOS FROM THE 2013 AIGA DESIGN CONFERENCE

4 Recommendations



AIGA DESIGN CONFERENCE
 OCTOBER 10-12, 2013 / MINNEAPOLIS

See videos from the 2013 "Head, Heart, Hand: AIGA Design Conference" in Minneapolis, featuring George Lois, Eric Baker, Leyla Acaroglu, Andrew Blauvelt, Steve Duenes, Matthew Ericson, Nicole Lazzaro, Paulina Reyes, J.J. Sedelmaier and many more.
 Section: [Events and Competitions](#) - Tags: [Conference](#)

VIDEO: LEYLA ACAROGLU

1 Recommendation



In this humorous and compelling talk, Leyla Acaroglu, founder of Eco Innovators, an Australian-based

FEATURED PORTFOLIO

Petre Spassov
 Chicago, Illinois



RECENT TWEET

Artist_Lana (Lana Halboves) Visit this Amazing [design & art](#) <http://t.co/11230w21c> [#TalentDevelopment](#)



CHAPTER NEWS

Member Mix | Carmen Garza
 January 30, 2014

The Top 10 Tweets
 January 29, 2014

IT Open House

http://en.wikipedia.org/wiki/Transition_design

Transition Design:

Design-led societal transition toward more sustainable futures

Professor Terry Irwin
Head, School of Design, Carnegie Mellon University

Dr. Cameron Tonkinwise
Director of Design Studies, School of Design, Carnegie Mellon University

Dr. Gideon Kossoff
Social Ecologist/Design Theorist

The image shows a screenshot of the Wikipedia article for "Transition design". The page layout includes the Wikipedia logo and navigation menu on the left, a main content area with a warning about external links, and a table of contents. The main text defines transition design as a field of design-led societal transition to a more sustainable future, addressing interconnected social systems and problems like poverty and climate change. It also mentions the role of transition designers, cosmopolitan localism, and the origin of the term.

Transition design Add to Wunderlist

From Wikipedia, the free encyclopedia

This article's use of **external links** may not follow Wikipedia's policies or guidelines. Please [improve this article](#) by removing excessive or inappropriate external links, and converting useful links where appropriate into footnote references. (January 2014)

Transition design is a term used to describe an emerging field of *design* led societal transition to a more sustainable future. It applies an understanding of the interconnectedness of social systems to address problems that exist at all levels of scale in ways that improve quality of life. Such problems can include *poverty* and *economic inequality*, *biodiversity loss*, decline of *pollution* and *climate change*.

Transition design leverages the power of *interdependency* and *symbiosis* with the aim of transforming entire lifestyles, making these more convivial and participatory, and harmonising them. This is done through intervening in or designing systems, so as to assist people to satisfy their needs in ways that establish mutually beneficial relationships between people, the natural and designed world. It involves changing the ways in which people earn their livelihood, and changing the organization of business, manufacturing, agriculture, finance, healthcare, education and cultivates lifestyles and forms of *everyday life* in which fundamental needs can be satisfied in integrated, place-based ways, encouraging symbiotic relationships between communities, and *ecosystems*.

Contents [hide]

- 1 Transition designers
- 2 Cosmopolitan localism
- 3 Origin
- 4 Initial development
 - 4.1 in everyday life
- 5 Transition design education
 - 5.1 Doctoral programs
- 6 See also
- 7 References
- 8 External links

Transition designers [edit]

Designers assume a similar role in transition design as they do in *service design* or *design for social innovation*: the designer is a facilitator of emergent solutions to problems rather than an expert who conceives and delivers blueprints and finished solutions. Transition designers often make modest interventions which can ramify throughout entire systems.

Transition designers can come from all walks-of-life and backgrounds, regardless of whether they are formally trained designers. They use the tools and processes of *design* to re-conceive entire lifestyles, rather than focusing on problems within existing, mostly unsustainable, social, economic and political paradigms. Transition design is a collaborative process that requires expertise from multiple fields. It therefore emphasizes the need for *transdisciplinarity* and for the reintegration of knowledge.

Cosmopolitan localism [edit]

Transition design focuses on the need for *cosmopolitan localism*,^{[1][2][3][4]} a place-based lifestyle in which solutions to global problems are designed for local circumstances and tailored to specific social and ecological contexts. Its objective is to foster a global network of mutually supportive communities (neighbourhoods, villages, towns, cities and regions) who share and exchange knowledge, ideas, skills, technology, culture and (where socially and ecologically sustainable) resources. Cosmopolitan localism fosters a creative, reciprocal relationship between the local and the global. It addresses the problem of *globalisation*, which tends to subsume local cultures and economies into homogenised and unsustainable global systems,^{[5][6][7][8]} whilst avoiding the pitfalls of localisation, such as *parochialism* and *isolationism*.^{[9][10]}

Origin [edit]

The term 'transition design' was inspired by *Transition Towns*, an international network of communities who are working to develop local *resilience*, and expand their capacity to respond to and bounce back' from external disruptions — crises such as an interruption to energy supplies, economic downturns or climate change. Transition Towns are, for example, developing locally based food and energy systems and local currencies and businesses.^{[1][11][12]}

The concept of transition design was first developed by Gideon Kossoff in a chapter called 'Holism and the Reconstitution of Everyday Life: A Framework for the Transition to a Sustainable Society' in the book, *Grow Small, Think Beautiful: Ideas for a Sustainable World from Schumacher College*, edited by Stephan Harding.^{[1][13]} This chapter was a summary of Kossoff's PhD thesis, also entitled *Holism and the Reconstitution of Everyday Life* (2011).^[14] The term 'transition design' has since been adopted by the *Carnegie Mellon School of Design* and incorporated into its curriculum as one of three areas within which design is taught and researched at the undergraduate, graduate and doctoral levels (Design for Service, Design for Social Innovation and Transition Design).

Professor Terry Irwin, Head of the School of Design at Carnegie Mellon University and Dr. Cameron Tonkinwise, Director of Design Studies and Chair of the doctoral program, with Dr. Gideon Kossoff, a social ecologist and design theorist, together have developed a framework which organizes transition design into four mutually influencing areas: Vision for Transition; Theories of Change; Posture/Mindset and New Ways of Designing. This framework was first disseminated at a talk given by Irwin, Kossoff, and Tonkinwise at Head, Heart, Hand, the 2013 national AIGA design conference in Minneapolis.

Initial development

The Transition Framework

A vision for the transition to a sustainable society is needed. It calls for the reorganization of entire lifestyles that are better suited, place-based but globally connected in their exchange of technology, information, and culture. It calls for communities to be in a symbiotic relationship with their resources.

1

CMU School of Design Eco-Reader Volume 1: Worldview

Readings for Transition Design and
Related Fields

Carnegie Mellon University, 2014

2

CMU School of Design Eco-Reader Volume 2: The Natural World

Readings for Transition Design and
Related Fields

Carnegie Mellon University, 2014

3

CMU School of Design Eco-Reader Volume 3: The Social World

Readings for Transition Design and
Related Fields

Carnegie Mellon University, 2014

4

CMU School of Design Eco-Reader Volume 4: The Built World

Readings for Transition Design and
Related Fields

Carnegie Mellon University, 2014

About the Eco-Reader

This collection of articles and excerpts was compiled for the internal/non-commercial use of the faculty and students at the School of Design at Carnegie Mellon University. The Reader was modeled on the well-known "Ecosystems Reader" developed by Professor Arnold Schultz for his ecology course at Berkeley in the early 1970s. That Reader brought together articles and excerpts from a wide spectrum of disciplines which sought, using transdisciplinary perspectives, to explain the integrative nature of the subject of sustainability and earth systems science. Schultz found that his students were able to more quickly understand the interrelated and complementary ideas emerging in multiple fields and "connect the dots" in ways they wouldn't if assigned mountains of books and papers for readings. The selections in that historic Reader were the result of decades of research and a lifetime's experience of one of the early pioneers of ecological thought and pedagogy.

This anthology takes Professor Schultz's publication as its model and brings together ideas from fields as seemingly diverse as philosophy, science, biology, ecology, sociology, systems science, psychology and anthropology to name a few. The criteria for inclusion was that each has, in the editors' view, important ideas, principles or modes of thinking that can inform and inspire a more appropriate and responsible way to design. We consider this to be version 1.0 which was assembled in 2013-14 to coincide with the development of new curricula in the undergraduate, graduate and doctoral levels of the program.

The Eco-Reader is organized into four sections based upon a framework we call the "Relationship Triad." Complex, open systems are comprised of dense webs of relationship and operate according to the same principles that can be observed within ecosystems. An open system can be an individual organism, a group of organisms, an organization such as a company, a city or even a "wicked problem." The relationships within these systems although countless and complex, fall within a "triad" of relationships: The Natural World, The Social World and the Built or "Designed" World.



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taken at his word when he said: "Thus, all things being both caused and causing, assisted and assisting, mediated and immediate, and everything holding together through a natural and invisible bond that links the most distant and different, I hold it to be impossible to know the parts without knowing the whole, or to know the whole without a particular knowledge of the parts" (p. 81).

The complex formula of anthropocentrism is not limited to the inscription, "think globally, act locally," but is rather expressed in the coupling of think globally/act locally with think locally/act globally. Planetary thinking ceases opposing the universal and the concrete, the general and the singular. The universal has become singular—it is the cosmic universe—it is the terrestrial universe.

To many, the loss of an abstract universalism seems like the loss of the universal, and the loss of a pseudorealistism appears to the rationalists like a rise of irrationalism.

Abstract and pragmatist universalism is indeed in crisis, but in the very process wherein everything becomes global, and where everything is situated in this, our singular universe, the concrete universal is finally at hand.

THE RESTORATION OF THINKING

The disciplinary universe no longer leaves any room for thinking (see Morin, 1988). Philosophers and scientists obviously think, as do nonscientists and nonphilosophers, but thinking itself seems to be an ancillary activity of science and philosophy, whereas the latter are, by their very nature, dedicated to thinking about humanity, life, the world, and reality, and this thinking ought to retroact on consciousness/conscience and serve to orient living.

Clearly, the reform in thinking would require a reform in teaching (primary, secondary, university), which itself would require the reform in thinking. Just as clearly, the democratization of the right to thinking would require a paradigmatic revolution that would allow for a complex thinking to reorganize knowledge and rethink the fragmented disciplines. Once again, we are faced with the inseparability of problems, with their circular or recursive character, in which each depends on the other. This makes the reform in thinking all the more difficult, and at the same time, all the more necessary, as only a complex thinking could consider and deal with this interdependent circularity.

The reform in thinking is a key anthropological and historical problem. This implies a mental revolution of considerably greater proportions than the Copernican revolution. Never before in the history of humanity have the responsibilities of thinking weighed so crushingly on us. Thinking about tragedy has itself become tragic.

Intro: Beyond the Modern University

By Marcus Ford

This is a book about the university, the environment, metaphysics, and the future. It is a book that begins with the assumption that the current state of the world is neither sustainable nor just and that this is morally wrong. It begins with the assumption that it is possible to bring about a better future than the one that we are currently making for ourselves and our descendants. Above all, this is a book about the university and the role it could play in bringing about this better future.

We live at a unique time in history. Never before have there been 6 billion people on the planet, and there is widespread agreement that this number will grow to 10 billion within the next fifty years. As recently as 1950, there were only 3.5 billion people in the world. The human population, in other words, will have tripled between 1950 and 2050. In addition to this unprecedented growth in the number of people on this planet, there has been an equally unprecedented growth in technology and economic activity, and as a consequence of increased population coupled with accelerated economic activity, there has been unparalleled environmental devastation. Never before has human activity done so much damage in such a short period of time. On November 18, 1992, sixteen hundred senior scientists from seventy-one countries, including over half of all living Nobel Prize winners, signed a letter called "World Scientists' Warning to Humanity." The document began:

Human beings and the natural world are on a collision course. Human activities inflict harm and often irreversible damage on the environment and critical resources. If not checked, many of our current practices put at serious risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living world that it will be unable to sustain life in the manner that we know. Fundamental changes are urgent if we are to avoid the collision our present course will bring about.

The Letter continues:

No more than one or two decades remain before the chances to avert the threats we now confront will be lost and the prospect for humanity measurably diminished. We the undersigned, senior members of the world's scientific community, hereby warn all humanity of what lies ahead. A great change in our stewardship of the Earth and life on it is required, if our human misery is to be avoided and our global home on this planet is not to be irretrievably mutilated.

On the whole it is fair to say that this warning has been largely ignored by politicians, business executives, and university leaders and that the situation today is demonstrably more desperate than it was ten years ago when this warning was issued. This is a truly remarkable fact: the best intentions of our age tell us that the world is on the verge of an ecological and social catastrophe that is virtually unimaginable in its scope and there is almost no response.

The university came into being almost 1000 years ago, under circumstances vastly different from today's. It came into being when there were far fewer people, when human technology was much less powerful, and within a culture dominated by religious ways of thinking, where human beings were understood as children of God and earthly existence was seen as a testing ground for eternal life. Much has changed since then, and the university itself has gone through several important transformations in response to the social, political, and economic changes that defined the historical shift from medieval to modern to postmodern times. This book looks at the university and asks the question, given the present state of the world, what should be the primary objective of higher education? One of the underlying assumptions of this book is that higher education should help make the world a better place by enabling human beings to live more meaningful and satisfying lives and by helping to promote social justice and environmental sustainability. It begins with the critical assumption that the university is currently failing in this role, having in some ways lost its moral commitments, in other ways having committed itself to false and destructive modes of thought, and in yet other ways having made it difficult to know what to think or do.