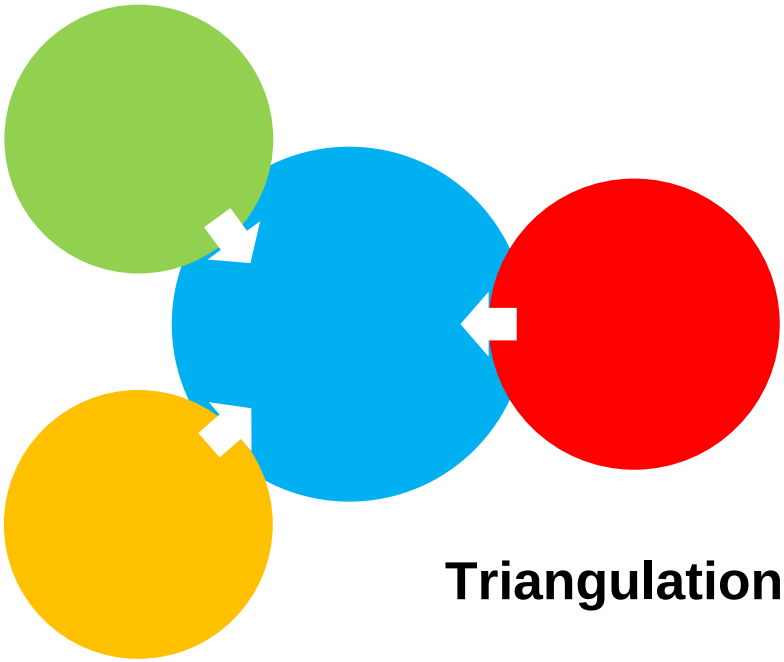


Triangulation of Design Semiotics

SEMIOFEST 2014, Shanghai
Dr.art. Andris Teikmanis (Art Academy of Latvia)

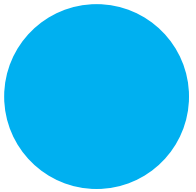
Designing as active Semiosis

Design and semiotics

- From Latin *designō* (“I mark out, point out, describe, design, contrive”), from *de-* (or *dis-*) + *signō* (“I mark”), from *signum* (“mark”)

- *signe* "sign, mark," from Latin *signum* "identifying mark, token, indication, symbol; proof; military standard, ensign; a signal, an omen; sign in the heavens, constellation," according to Watkins, literally "standard that one follows," from PIE *sekw-no-, from root *sekw- (1) "to follow«

(http://www.etymonline.com/ , http://en.wiktionary.org/wiki/design)



Design as part of complex semiotic activities

- Design is widely acknowledged as a semiotic activity.

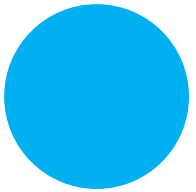
«Design principles are semiotic by nature. To design means to structure systems of signs in such a way as to make possible the achievement of human goals: communication (as a form of social interaction), engineering (as a form of applied technical rationality), business (as a form of shared efficiency), architecture, art, education, etc.»

(*Nadin, 1990*)

- Design process was interpreted as semiotic even when the signs nature of design objects was questioned

«Design and design products can be interpreted as signs. But as products, regardless of their concrete realization, they are not semiotic entities, but rather the result of human needs and desires.»

(Nadin, 1998.)



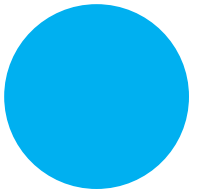
Design as part of artificial world

- Design is elaborated, produced and consumed as part of an artificial environment

Herbert Simon, the founder of the Science of Artificial (Design Science), identified four indicia that distinguish the artificial from the natural:

1. «*Artificial things are synthesized (though not always or usually with full forethought) by human beings.*
2. *Artificial things may imitate appearances in natural things while lacking, in one or many respects, the reality of the latter.*
3. *Artificial things can be characterized in terms of functions, goals, adaptation.*
4. *Artificial things are often discussed, particularly when they are being designed, in terms of imperatives as well as descriptives*».

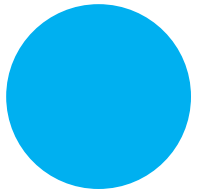
(*Simon, 1968*)



Design as interface

- In the same time, Simon interpreted design objects, or, in other words, artefacts, as an interface between «*"inner" environment, the substance and organization of the artefact itself, and an "outer" environment, the surroundings in which it operates*». (*Simon, 1968*)

- Thus design also could be interpreted as «*a bridge between scientific and humanistic praxis*» (*Nadin, 1990*) or, even, it could be interpreted as the production of artificial models used to bridge manmade artificial semiotic systems and nature.

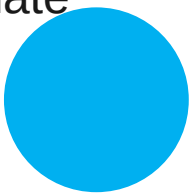


Culture as a modelling system

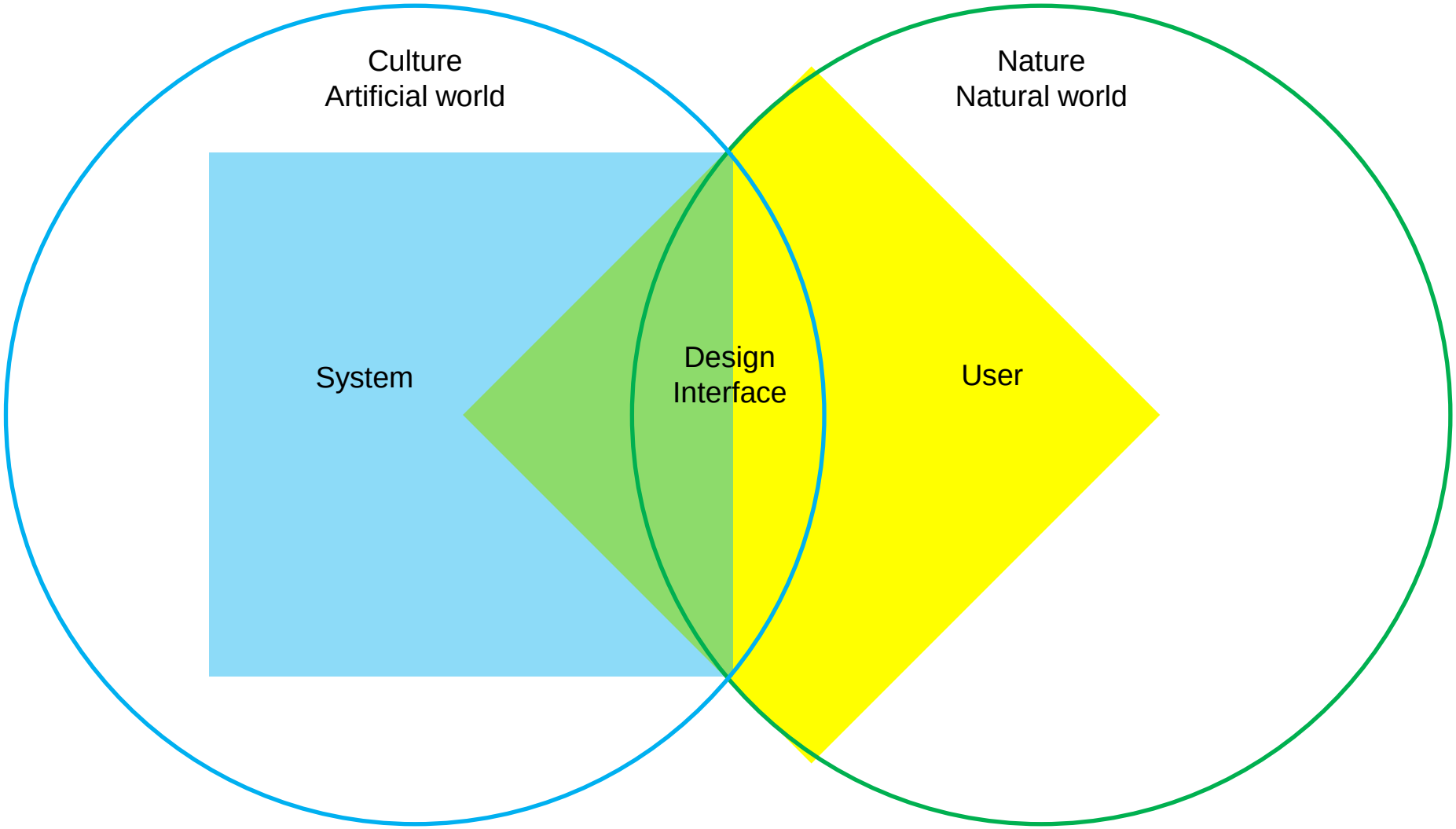
- Yuri Lotman described a culture as the “*secondary modelling system*” because he considered language as the «*primary modelling system*» and as the «*central coding mechanism*» emphasizing modelling as the cornerstone of any cultural practises. (*Lotman, 1970*)

- While Lotman highlighted semiotic mechanisms of culture that could determine two models of culture: «*a culture chiefly oriented towards content and represented as a system of rules*» and «*a culture oriented primarily towards expression and represented as an aggregate of normative texts*»; the basic opposition of the first type of culture, that is, «*organized-nonorganized*» and its particular cases as "*cosmos - chaos*," "*ectropy-entropy*," "*culture-nature*," determined the same distinction between natural and artificial worlds that was proposed by Herbert Simon.

- Linking Lotman’s model of culture with Simon’s concept of artificial worlds provides possibility to interpret design practises as a modelling and correlate design concepts with respective semiotic models.



Model of Design as Semiotic Bridge



Modified General Interface Model by Mihai Nadin

The Semiotic Hierarchy

- Jordan Zlatev proposed the Semiotic Hierarchy as an attempt to overcome the increasing fragmentation of the conception of meaning by providing «*integrational semiotic framework*» (*Zlatev 2009*).

- The Semiotic Hierarchy was formulated as partially based on the tripartite ontology of Popper. The three worlds according to Popper are: «*The physical World 1 of bodies and physical states, events and forces; the psychological World 2 of experiences and of unconscious mental events, and the World 3 of mental products*.» (*Popper 1992, Zlatev 2009*). Or, in other words, World 1 is the world of physical and biological objects and events, World 2 is the world of mental (semiotic) objects and events and World 3 is the world of objective scientific knowledge (some product of semiotic activities).

The Semiotic Hierarchy II

- It was also influenced by Pierce's universal categories: Firstness, Secondness and Thirdness. These universal categories were used by Pierce as a model of interpretation of wide variety of phenomena describing Firstness as quality, Secondness as relation (reaction) and Thirdness as a representation (mediation).

The Semiotic Hierarchy III

- The Semiotic Hierarchy was also ontologically supplemented by adapting evolutionary-phenomenological-semiotic aspects of linguistic and the role of language as a particular “social institution.” (*Zlatev, 2009*).

- Thus Zlatev constructed The Semiotic Hierarchy and methodological pluralism that allowed grouping of methods on «the basis of the type or perspective adopted for the particular phenomenon under study» (*Zlatev, 2009*).

Example of Methodical Pluralism

Examples of methods, grouped in terms of type of perspective, used in developing a synthetic cognitive semiotic theory such as The Semiotic Hierarchy (Zlatev 2009).

Perspective	Method	Appropriate for the study of
First-person	Conceptual analysis Phenomenological reduction Imaginative (eidetic) variation	Normative meanings, rules Perception Mental imagery
Second-person	Empathy Imaginative projection	Other persons (e.g. as in conversation analysis), “higher” animals
Third-person	Experimentation Brain imaging Computational modelling	Isolated behaviours (e.g. spatiotemporal utterances) Neural processes

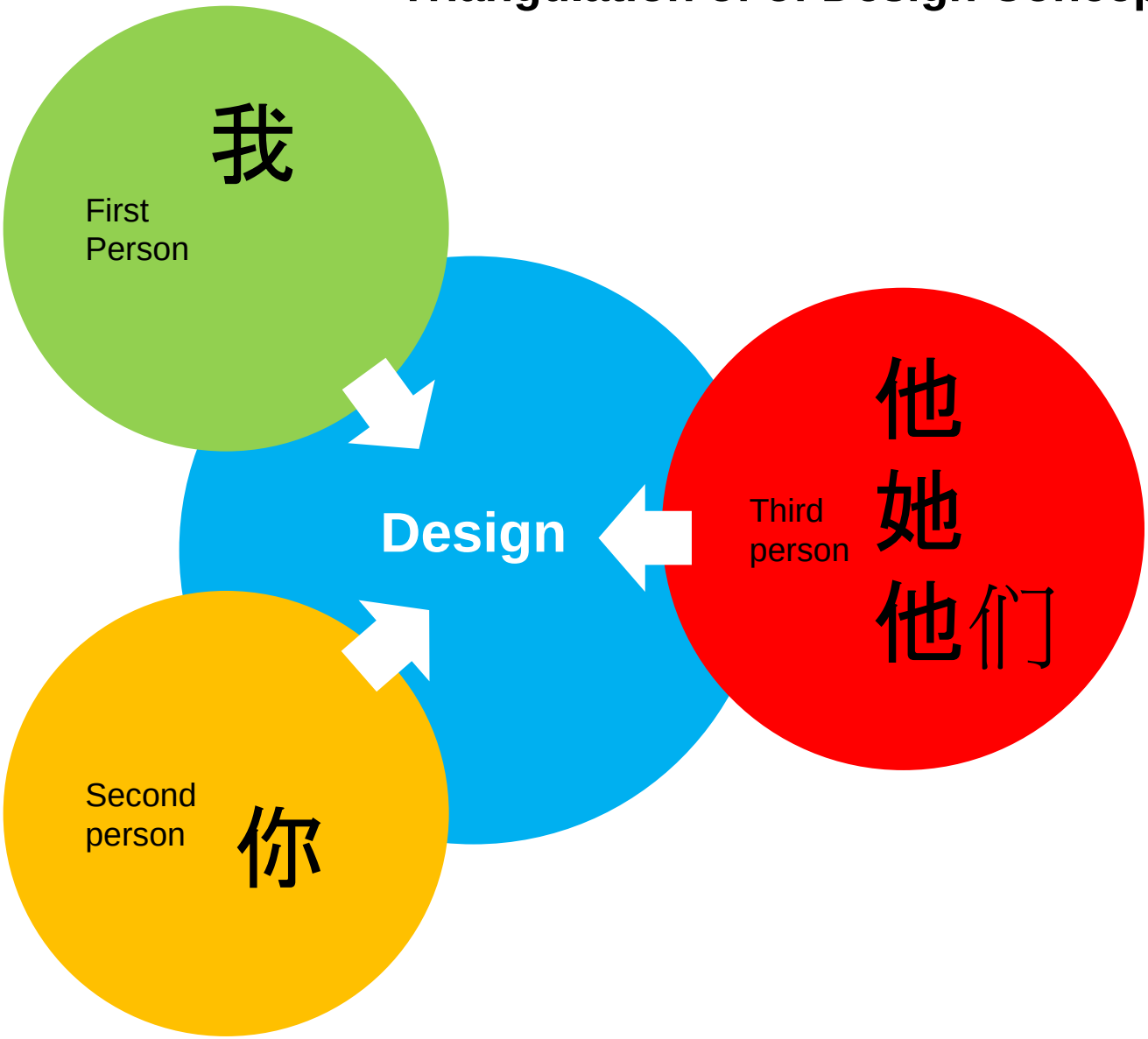
The Semiotic Hierarchy and Triangulation of Methods

- The synthetic cognitive semiotic theory *Semiotic Hierarchy* developed by Zlatev regarded the possible ‘triangulation’ of methods from three perspectives, which were called ‘subjective’, ‘intersubjective’ and ‘objective’.

- Suggested methodological framework that explore methods by linking their underlying concepts with their particular viewpoints also should be used to explore and classify design semiotic models.

- The methodological framework that can allow to account these subjective and objective viewpoints and to map them onto network of conceptual consequences they imply can be built by applying the “triangulation” of methods toward concepts, types, modelling systems and research models of design.

Triangulation of of Design Conceptions



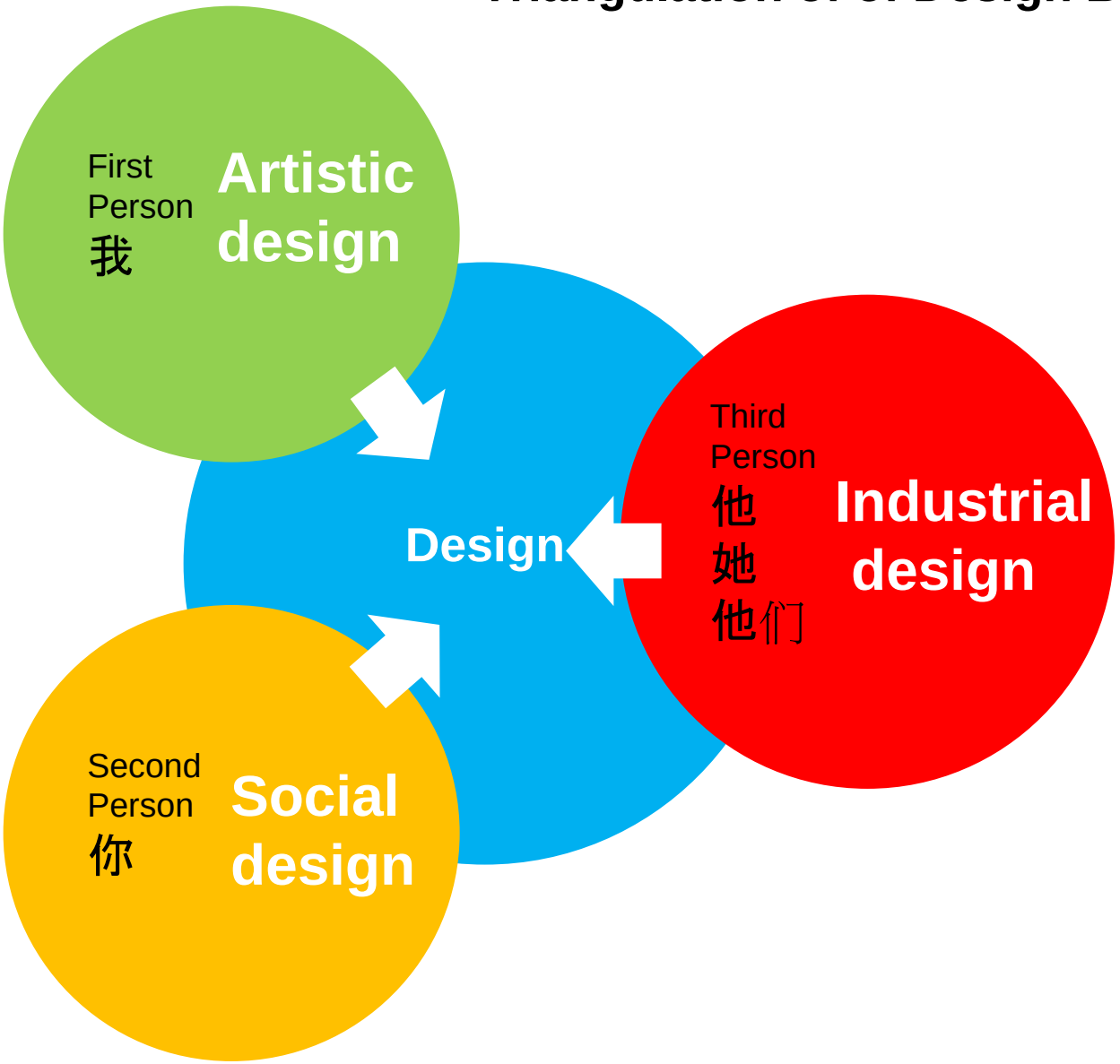
Design as part of complex semiotic activities

- Application of the Triangulation of methods allowed to formulate three general conceptual models within design: the design as an artistic expression of individual designer, the design as communication and the design as part of product production. These three general conceptual models referred to three general types of design: Artistic design, Social design and Industrial design.

Three general conceptions of design

Type of Methods	*Point of View*	*Concept of Design*	*Type of Design*
Subjective methods	First person	Design as an artistic expression of individual designer	Artistic design
Intersubjective methods	Second person	Design as mean of service and communication	Social design
Objective methods	Third person	Design as part of product production	Industrial design

Triangulation of of Design Branches



Design as complex semiotic modelling activity

- Three formulated general conceptual models interrelate with three modelling practise of designers: Design as an individual artificial modelling system, Design as the collective artificial modelling system and Design as an collective modelling system not necessary released as an artificially constructed

- Considering role of research as the problem solving concept of design is replacing former methodological approaches, general conceptual models should be accompanied with corresponding research modelling and dominant applied design research methods.

Three general types of design modelling systems

Type of Methods	*Point of View*	*Concept of Design*	*Type of Design*	*Modelling system*
Subjective methods	First person	Design as an artistic expression of individual designer	Artistic design	Design as an individual artificial modelling system
Intersubjective methods	Second person	Design as mean of service and communication	Social design	Design as the collective artificial modelling system
Objective methods	Third person	Design as part of product production	Industrial design	Design as an collective modelling system not necessary released as an artificially constructed

Three general types of design modelling systems II

Type of Methods	*Point of View*	*Concept of Design*	*Modelling system*	*Research modelling*
Subjective methods	First person	Design as an artistic expression of individual designer	Design as an individual artificial modelling system	Invention of individual models
Intersubjective methods	Second person	Design as mean of service and communication	Design as the collective artificial modelling system	Construction or exploration of communication models
Objective methods	Third person	Design as part of product production	Design as an collective modelling system not necessary released as an artificially constructed	Elaboration of general models, invention of new general models

Three general types of design modelling systems III

Type of Methods	*Point of View*	*Concept of Design*	*Research modelling*	*Design research methods*
Subjective methods	First person	Design as an artistic expression of individual designer	Invention of individual models	Methods of artistic practices and research
Intersubjective methods	Second person	Design as mean of service and communication	Construction or exploration of communication models	Methods of social sciences
Objective methods	Third person	Design as part of product production	Elaboration of general models, invention of new general models	Methods of engineering sciences

Design as part of complex semiotic activities

These conceptual models should be related toward the three main categories of design research proposed by Nigel Cross:

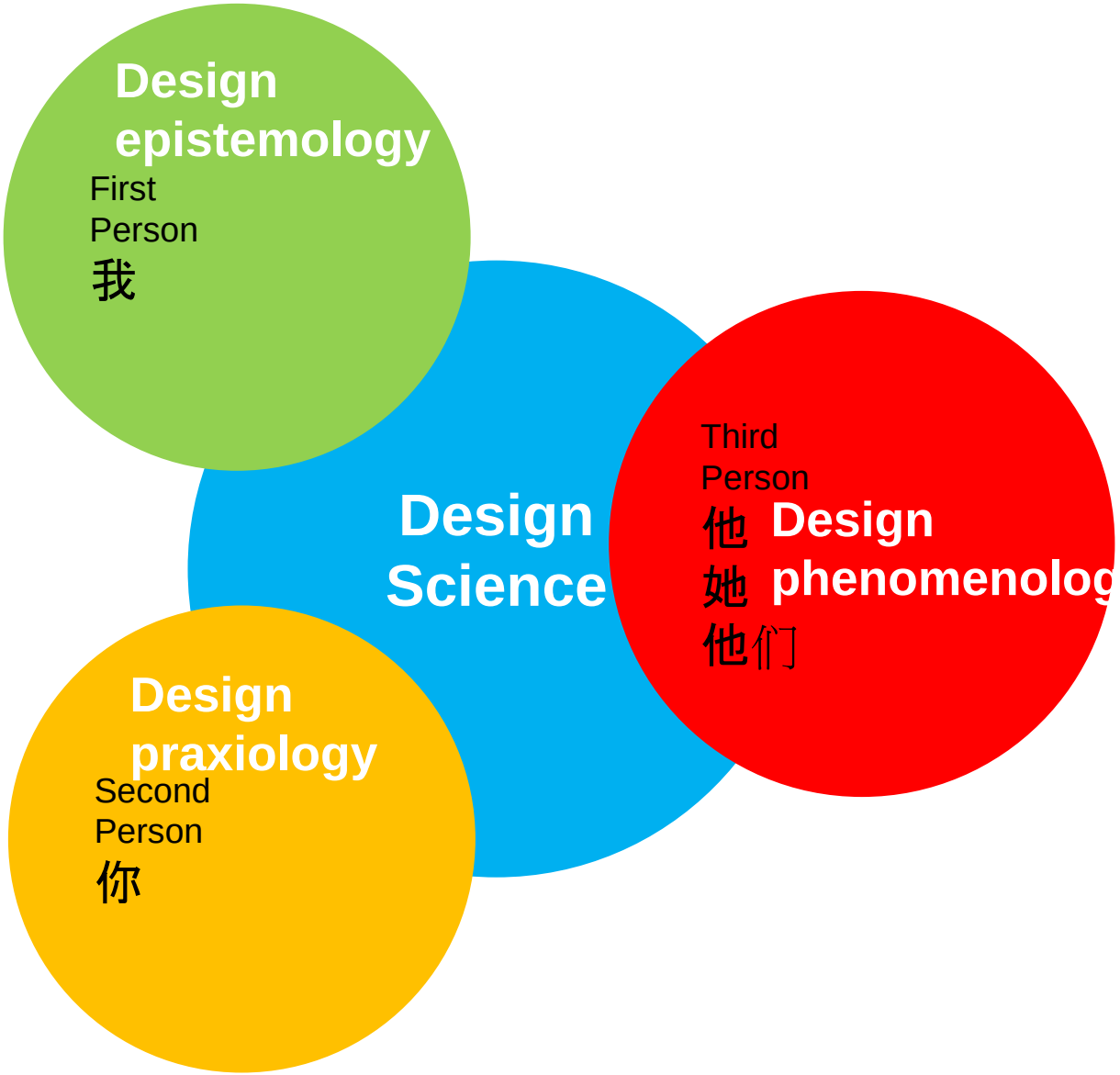
- ***design epistemology*** *- study of designerly ways of knowing*
- ***design praxiology*** *- study of the practices and processes of design*
- ***design phenomenology*** *- study of the form and configuration of artefacts*

(*Cross, 1999*)

Triangulation of methods (design research)

Type of Methods	*Point of View*	*Modelling system*	*Research modelling*	*Categories of design research*
Subjective methods	First person	Design as an individual artificial modelling system	Invention of individual models	Design epistemology - study of designerly ways of knowing
Intersubjective methods	Second person	Design as the collective artificial modelling system	Construction or exploration of communication models	Design praxiology - study of the practices and processes of design
Objective methods	Third person	Design as an collective modelling system not necessary released as an artificially constructed	Elaboration of general models, invention of new general models	Design phenomenology - study of the form and configuration of artefacts

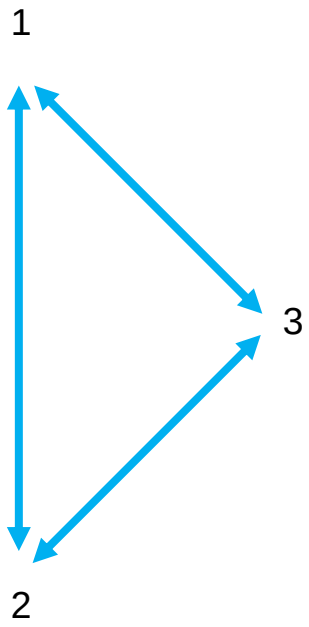
Triangulation of Design Research



Trikonic of Design Operations

Accounting the implication of Pierce's universal categories, the Trikonic technique of triadic analysis-synthesis, which has been developed by Gary Richmond (*Richmond, 2005*), will be applied to identify, describe and category different vectors of research operations.

Trikonic of Design Research Operations



Design epistemology
First Person
我

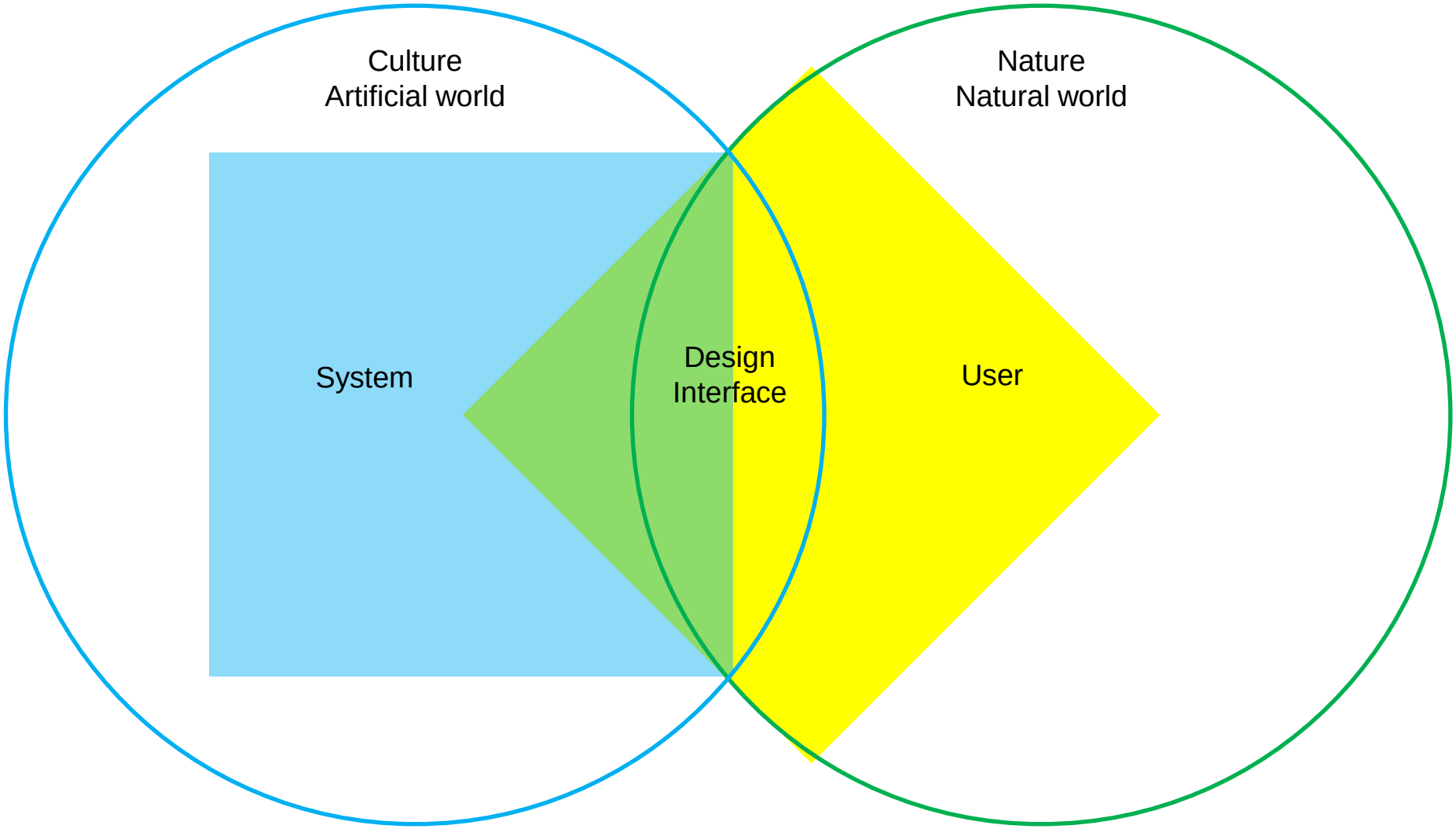
Design Science

Third Person
他 **Design**
她 **phenomenolog**
他们

Design praxiology
Second Person
你

1/3/2 - Vector of Process
1/2/3 - Vector of Order
3/1/2 - Vector of Representation
3/2/1 - Vector of Analysis
2/1/3 - Vector of Determination
2/3/1 - Vector of Aspiration

Model of Design as Semiotic Bridge



Modified General Interface Model by Mihai Nadin

Triangulation of Relations between Natural and Artificial Worlds

Types of production	*Relations between design practises and Natural world*	*Type of worlds*
Pre - Industrial	Crafts that are necessary to survive in the Natural world	Natural
Industrial	Design practise as copying, extending and improving Natural world	Natural / Artificial
Post – Industrial	Design practise as preserving Natural world	Natural / Artificial / Ecologically sustainable artificially created

Triangulation of Sustainable Design Thinking

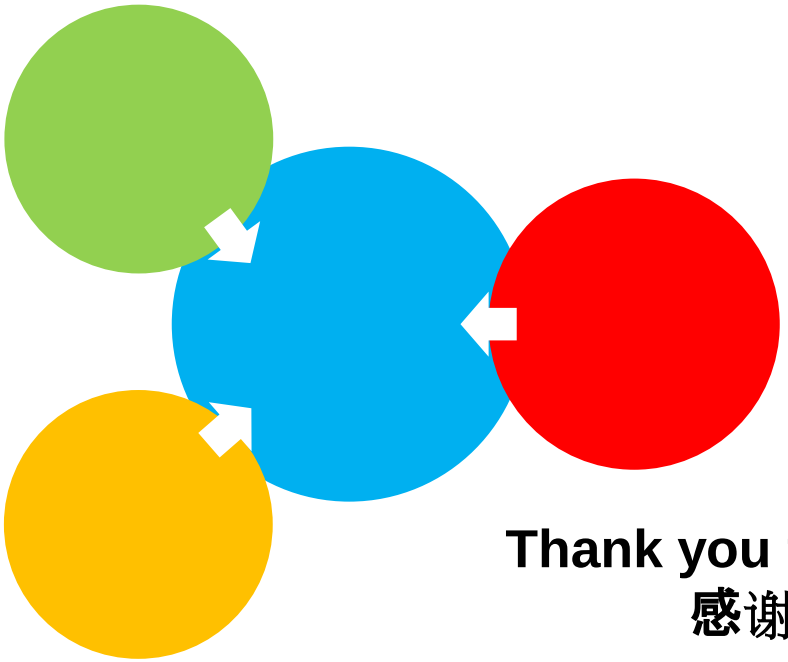
Type of Methods	*Point of View*	*Phases of Sustainable Design Thinking*	*Implications on Design Practises*
Subjective methods	First person	Critical self reflections about role of designers	Introduction of sustainable design methods
Intersubjective methods	Second person	Communication and manifestation of sustainable development strategies	Design as a tool of critical thinking
Objective methods	Third person	Legislative measures - The EU Ecodesign Directive that provides with consistent EU-wide rules for improving the environmental performance of energy related products (ERPs)	Products designed and produced in accordance with sustainable design principles become the manifestation of that principles

3 KEY – TAKE AWAY

1) Design practices are semiotic practices; especially considering design as invention, development and production of culturally embedded artefacts that serve as bridge between culture and nature.

2) Zlatev's Triangulation of methods allows interpretation of any semiotic phenomenon considering three perspectives, which were called 'subjective', 'intersubjective' and 'objective' determine.

3) Design semiotics models could be triangulated according with their concepts of design, types of design, modelling systems and also research modelling, research methods and research categories.



Thank you for your attention!

感谢您的关注！

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