Researching Visual Application Respectful of Cultural Diversity

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Abstract

The general intention of this paper is to provide insight into a problematic area, that of visual application respectful of cultural diversity, and to demonstrate the relevance of graphic design research in a societal environment. The paper presents methods and results from two completed research projects in the field of intercultural visual communication. The key findings of Research Project 1 are methods of multilingual typography communicated by type specimens and text samples, annotations on books, visual examples from Chinese designers and texts. The most important results of Research Project 2 are visually communicated by 120 newly drawn infographics. In addition, a new research plan will be discussed, namely the development of visual identities for public institutions that implement cultural and social diversity policies. The proposed design methods in all three projects respond to the complexity of changing social requirements and forms of communication. They have been developed through visual applications of design that focus on the approach called "research through design." The fundamental research goal is to practice sovereign interaction, also with visual differences, and thus counters the tendency of globalization and commercialization to equalize differences.

Keywords: diversity; globalization; intercultural visual communication; multilingual typography; public institution; visual identity.

Introduction

of the course globalization, In mediatization, and digital networking, typefaces from Asian. Latin. and Arabic origin come together with increasing frequency characterize the appearance of international institutions, universities, trade fair sites, airports, internet portals, and city districts. coexistence of characters from different cultural backgrounds increasingly affects the basic principles of written communication, principles which have yet to be fully explored. The following paper presents methods and results from two completed research projects in the field of intercultural visual communication.

Research project 1 is confined to the following main questions: What practices, knowledge, interdisciplinary, and transcultural skills are necessary to help communication designers create adequate and differentiated solutions in a globalized world? How can we simultaneously present information, structures, and designs from different linguistic and cultural backgrounds and still let these systems equally coexist?

After finishing Research Project 1, we 2, shifting our launched focus transcultural potential of graphics, diagrams, and images from China. In the Ming Dynasty image encyclopedia 三才圖會 Sancai Tuhui (1609), we found an outstanding collection of diagrams and illustrations that provided us a rich source of graphic clues about China's real view of the world. The question is, with what visual means can this image-based knowledge be made accessible to another cultural context in the current day? To what extent do traditional Chinese representational forms differ from contemporary Western visual representations?

With the experiences, methods, and skills acquired from the two research projects, we now venture to apply our method of providing information to a public characterized by a significant linguistic, ethnic, and social diversity. A third research project is planned to develop a visual identity and signage for a public hospital in Switzerland as an example of a contemporary globalized, multilingual, and broadly intercultural public institution.

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Before we provide insight into the first two research projects, we wish to outline the field of research—graphic design research in a social context—on the basis of a few central terms. First of all, the term that defines the research thematically—diversity. The notion of social 'diversity' has been greatly expanded in recent years; instead of migration research, we now refer to diversity research.¹ The reasons for this new focus lie in "general tendencies towards individualization, an increase in migration-based diversity, an increase in the value of antidiscrimination discourses."²

Social design places the original idea of design—the improvement of living conditions—at the center. Most research projects related to social design can be found in the areas of industrial or urban design rather than graphic design. How is social design understood in the field of visual communication? With the term "socio-design-communication design," Bazon Brock, drawing on Lucius Burckhardt, gave a name to the conceptual shift in design.3 Sociodesign does not refer primarily to the design of objects but to processes of interaction. Sociodesign refers to that which, in our object-like living space, mediates social issues, or that which as a form of action cannot be materialized. Through this branching out into all areas of life, design, as Bruno Latour has discussed,4 is capable of adding an ethical dimension to reality. It cannot hide behind socalled matters of fact but functions in terms of social and political coordinates that constantly remain changeable and that also include contradictions.

The most important issues to which our research projects are linked culminate in the terms "problem-oriented design" and "wicked"

¹ See Boris Nieswand, "Diversity and Society," Research report 2010—Max Planck Institute for the Study of Religious and Ethnic Diversity, 2010, accessed September 8, 2015, http://www.mpg.de/359276/forschungsSchwerpunkt, n.p.

problems."⁶ According to Jesko Fezer, "problem orientation designates the concerns of relating design to the contradictions, potentials, and circumstances of reality."⁷ Coined by Horst Rittel, the term "wicked problems" is used "for the description of complex, not entirely controllable problems in planning processes (such as in urban development, healthcare, or public administration)."⁸

Rittel states that, unlike "tame problems," "wicked problems" do not lend themselves to exhaustive description, so that it is hardly possible to pass them onto a third party without additional information for problem solving.9 For this reason, it is also difficult to design a definitive formulation, because it anticipates far into the solution area. Rittel goes so far as to say that each formulation of a "wicked problem" corresponds to an explanation of the solution and vice versa. "This means that understanding the problem is identical with solving it." ¹⁰

This relates to both the specific "reasoning of designers" and the nature of design problems: "There is no clear separation of the activities of problem definition, synthesis, and evaluation. All of these occur all the time. A design problem keeps changing while it is treated, because the understanding of what ought to be accomplished, and how it might be accomplished is continually shifting. Learning what the problem is IS the problem. Whatever he learns about the problem, becomes a feature of its resolution." 12

Among the most important characteristics of "wicked problems" is that they cannot be completely solved; the potential to improve the solution always remains. The level of the problem can also be generally recognized in the case of every "tame problem." By contrast, "every wicked problem . . . [can] be considered a symptom of another problem and, of course,

³ Bazon Brock, *Modern ist's*, *wenn man es trotzdem macht*, October 1983, accessed September 8, 2015, http://www.bazonbrock.de/essenzen/?id=232. Brock's reference is to Lucius Burckhardt, "Design Is Invisible" (1980), in Lucius Burckhardt Writings: Rethinking Man-made Environments; Politics, Landscape and Design, ed. Jesko Fezer and Martin Schmitz (Vienna and New York: Springer, 2012).

[&]quot;See Bruno Latour, "A Cautious Prometheus? A Few Steps toward a Philosophy of Design," in Networks of Design: Proceedings of the 2008 Annual International Conference of the Design History Society (UK) University College, Falmouth, 3-6 September 2009, ed. Fiona Hackney, Jonathan Glynne, and Viv Minto (Boca Raton: Universal Publishers, 2009), 2-10.

⁵ Jesko Fezer, in Lucius Burckhardt, *Design heisst Entwurf*. Studienheft Problemorientiertes Design, 3, ed. Lucius Burckhardt (Hamburg: Adocs Verlag, 2013), cover. Jesko Fezer accessed March 8, 2016, http://adocs.de/node/95.

⁶ Horst W. J. Rittel, *On the Planning Crisis*: Systems Analysis of the First and Second Generations, Reprint 107 (Berkeley: Institute of Urban and Regional Development, 1972), reprinted from BedriftsØkonomen (Norway), no. 8 (1972).

⁷ Jesko Fezer, in Lucius Burckhardt, *Design heisst Entwurf*. Studienheft Problemorientiertes Design, 3, ed. Lucius Burckhardt (Hamburg: Adocs Verlag, 2013), cover. Jesko Fezer accessed March 8, 2016, http://adocs.de/node/95.

⁸ Claudia Mareis, Design als Wissenskultur: Interferenzen zwischen Design- und Wissensdiskursen seit 1960 (Bielefeld: Transcript, 2011), 46.
⁹ See Rittel, On the Planning Crisis, 392.

¹⁰ Ibid.

¹¹ See Horst W. J. Rittel, "The Reasoning of Designers," Working Paper for the International Congress on Planning and Design Theory in Boston, MA, August 1987, published in *The Universe of Design: Horst Rittel's Theories of Design and Planning*, ed. Jean-Pierre Protzena and David J. Harris (Abingdon: Routledge, 2010).

¹² Ibid., 188-89.

since nobody should try to cure symptoms you are never sure that you are attacking the problem on the right level, for curing symptoms can make the real disease worse." In the end, Rittel describes every "wicked problem" as being unique: once-discovered solution strategies cannot simply be transferred onto new questions, because concrete design tasks contain many sub-questions related to the specific object and correspond to many potential sub-solutions.

Tackling these types of problems, or, formulated positively, challenges, demands that decisions be made at every step of the solution, or as Jörg Petruschat puts it: making a selection and taking a position. Hat is, before the problem has been adequately discussed. This requires that we to a certain extent also resist the pressure to want to solve a problem as quickly as possible.

Every research project begins with an intensive examination of the entire field of research, which enables a deeper understanding of the problem. This approach also distinguishes problem-oriented design from the goal-oriented solution of an individual assignment. This is because in problem-oriented design "the idea [is not]... the first step."15 Communication design that is oriented toward higher-level social problems, such as toward the diversitycompliant representation of public institutions, cannot be oriented exclusively toward single. detached design tasks. Social and ethical questions require more long-term thinking and thinking in terms of processes. Dealing with cultural. linguistic, and social differences that boundaries be demands constantly renegotiated. That's why they cannot be completely solved; the potential to improve the solution always remains.

Research Projects

The following chapter provides insight into two completed research projects¹⁶ and discusses

a research plan to develop visual identities for public institutions that implement cultural and social diversity policies. The research is based on an intrinsic method of inquiry, whereby the visual analysis of a growing number of examples is translated graphically in order to establish various degrees and intensities of coexistence. The clustering of new described variables allows the visual analysis to take on greater depth.

The three presented research projects are consequently based on decades of critical engagement in design issues for public spaces institutions within internationally recognized projects by Ruedi Baur. They focus on rather urgent present-day needs of intercultural communications to enhance the visual praxis in actual design applications based on cultural coexistence. The understanding of the actual cultural coexistence directly shapes design of applied characters as a typographical research; it shapes and defines the coexistence of visual cultures as a pictorial research; and it demands a corporate design that is respectful of diversity, which leads to a systematic combination of typographical and pictorial design research presented in the three given projects.

Research Project 1: The Coexistence of Chinese and Latin Characters

To begin, five preparatory workshops were conducted at Chinese art and design universities: March 2009: Hong Kong Polytechnic University (School of Design); April 2009: Nanjing University of Art and Design (School of Design); October 2009: China Academy of Arts, Hangzhou; November 2009: Luxun Academy of Arts, Dalian; and March 2010: Central Academy of Arts, Beijing. In November 2007, we had a kick-off workshop at the Zurich University of the Arts (Design Department).

Historical Introduction

Historically, "multilingual typography" has a long tradition, as seen in the multilingual Bible editions of the Christian missionary presses and historic research reports by the Jesuits in China. In the mid-nineteenth century, inventions and innovations by, among others, William Gamble of the American Presbyterian Missionary Press, Commercial Press, and Kaiming Shudian, as well as endeavors after the founding of the People's

¹³ See ibid., 393.

¹⁶ See Jörg Petruschat, "Wicked Problems," lecture at the conference "Practice-Based Research," Bauhaus University, Weimar, December 2, 2011, accessed September 8, 2015, http://www.redesign.cc/Petruschat/Wicked_Problems_2_files/58_Petruschat_Wicked_Problems.pdf.
¹⁵ Ibid. 12.

¹⁶ For an extensive presentation of the first research period, see Ruedi Baur, Ulrike Felsing, and Roman Wilhelm (Eds.), *Die Koexistenz der chinesischen und lateinischen Zeichen*, special issue of Typografische Monatsblätter, no. 4–5 (2012); see also "Coexistence of Symbols," Civic

City, accessed May 17, 2016, from http://civic-city.org/?page_id=7 90#?page_id=1076.

Republic of China all made significant contributions to the formation of a modern Chinese typography.

Contemporary research approaches in the area of multilingual typography often explore the development of new typefaces from a combination of two different writing systems. Among the most important analyses here are the publications beginning series of Typographic Matchmaking by the typographer and designer Huda Smitshuijzen AbiFarès. 17 The book presents Latin characters that a team of Arabic and Dutch designers expanded using Arabic characters. A further publication. Typographic Matchmaking in the City, 18 examines multilingualism in the urban context.

As early as 1967–70, the typographer and designer Helmut Schmid, a pioneer in the area of multilingual typography, developed a character set with the syllabary face Katakana Eru, which is situated conjunctively between Japanese characters and the Latin alphabet, and creates a harmonious combination of the different character sets. ¹⁹ This work also foregrounds the new development of writing.

Even so, arriving at an equitable communication with font and character sets from different cultures does not only require the development of new typeface and character systems. Above all it demands researching the basics of multilingual design and developing methods for the visualization of information that enables the coexistence of characters from different languages. With "coexistence" we are referring to the equal interaction of characters and typographies from different cultures.

Chinese typography has possessed multiscript characteristics since as early as the 1950s, when, in the context of "modernization" among other things, Arabic numerals and certain Latin punctuation were adopted. Since the economic opening of the country in the 1980s, this ongoing process triggered a reflection on new methods for the visual depiction of information in different languages and the coexistence of Latin and Chinese characters. At this point, however, a content-related and methodical discrepancy emerges between Western and Chinese

Goals

The goal of the overall research is the development of design methods for the multilingualism. visualization of The research project focused on the formulation of auestions and requirements resulting specifically from the coexistence of Chinese and Latin characters. It is part of a planned research cluster program to extend the knowledge acquired from the preliminary research to other writing systems and visual cultures, including Arabic, Cyrillic, and Hindi. It made sense, in this case, to start the research cluster with an initial investigation into the universe of Chinese characters, as none of the writing systems in use today are formed in such a different way in relation to the Latin alphabet.

The significance of this project lies in the collaborative research on a long-inevitable question. A new, pioneering field of design was researched with the goal of promoting transcultural exchange and enabling equality in the visual representation of information from different language regions to make a productive contribution to the ongoing process of globalization. The conscious engagement with foreign characters was meant to allow designers to deal creatively, in a novel way, with their own writing system. Doing this requires certain design skills to be able to relate the characters

typographic practice: whereas the former focuses on the range between micro and macro typography, the latter concentrates more on stylistically modifying individual characters for the purpose of individual letterings. Standards of micro typography (e.g., digital typesetting standards) are still widely neglected, if you don't take into account personal research efforts, lectures, or publications. As a result, Keith Chihang Tam, former professor at the Hong Kong Polytechnic University School of (currently at the University of Reading), is striving to introduce complex typography as a discipline specific to the Chinese context. Similarly, Chinese typeface designer Sammy Or is engaged in expanding typography as an equitable subject within visual communication departments at academic institutions. Excellence in the area of multi-script typeface design also exists in Taiwan, such as at the metal-type workshop of Ri-Xing (日星) in Taipei, which also produces new typefaces, or the foundry Arphic Type (文鼎).

¹⁷ Huda Smitshuijzen AbiFarès, Typographic Matchmaking: Building Cultural Bridges with Typeface Design: 5 Arab-Dutch Design Teams Create Arabic Companions for Latin Fonts (Amsterdam: BIS Publishers, 2007).

¹⁸ Huada Smitshuijzen AbiFarès, ed., Typographic Matchmaking in the City: Propositions for a Pluralistic Public Space. (Amsterdam: Khatt Books. 2010).

¹⁹ See Helmut Schmid, Typography Today (Basel: Birkhäuser, 2006).

of "one's own language" to other writing cultures. Moreover, it requires special knowledge and sensitivity for the juxtaposition of several cultures.

Process of Research

Analysis: The data collection and findings about the fundamental differences between Chinese and Latin writing systems were based on an analysis and a comparison of Chinese and Latin characters in the area of micro and macro typography. "Micro typography" refers to the spacing between letters or symbols, glyphs of all sorts, the design of words and lines. This in particular the typographic presentation of short word units, with respect to their use for letterings in the area of corporate design and in orientation systems. About 200 pictures of bilingual signage and lettering from actual urban public spaces in Asia and Europe have been compiled for the visual analysis. specifically to put an emphasis on the slightly varying definitions of micro and typography and their relatedness to scripts in the locales discussed. While the Japanese writing system uses four distinct scripts (Kanji, Hiragana, Katakana, and Romaji; Emoji starting to be considered number five), the Chinese one uses only two (Hanzi, Roman letters and numbers). Depending on the distinct place of usage (Hong Kong or Taiwan are different from mainland China), deliberate foreign language terms are increasingly seen within the fabric of texts or letterings. While multi-script issues in distinct locale-based typography practice are mainly on the micro side of typography, deliberate multilingual design practice can only be approached by means of macro typography. If there are already many kinds of differences between the different scripts of a multi-script writing system representing a single language. how could we possibly define the differences and analogies when it comes to several languages having to relate to each other? Thinking of two layers of the same issue, we therefore used the same terms to distinguish between the "coexistence of characters" (multiscript micro typography) and the "coexistence of texts" (multilingual page layout issues).

General formal differences between the writing systems in the micro area include the following: whereas Latin letters are aligned along the baseline and bounded by the x-height as well as by ascenders and descenders, Chinese characters are aligned along a central axis and

have no fixed boundary lines above and below. In addition, word length in Western typesetting varies, while Chinese characters are always based on the square. The majority of Chinese characters have not just one but several meanings. By contrast, the letters of the Latin alphabet each correspond to a clearly defined phonetic sound.

Moreover, we also examined exemplary design practices of multilingual typography macro typography-typographical regarding arrangement and conception. approximately fifty books of multilingual literature, dictionaries, international magazines, and others were used for the visual analysis. The different layers of multilingual layout were made visible by reproductions of chosen multilingual print media, as well as by small commentaries directly referring to the page layout (Figure 1). By means of direct comparison, various problem areas and possible solutions were presented. They were always accompanied by a detailed analysis, thus allowing for a deepening of the reflection, both on a visual and on a verbal level. The aim was then to derive from the so found qualitative differences applicable visual design criteria, with which the differences between the Chinese and Latin writing systems can be balanced out.

The Development of New Design Methods: Subsequently, design variants of relationships between the writing systems were produced that are characterized by different qualities. Here we "balanced," designed "dominating," "corresponding" relationships. The goal was to achieve an equitable interaction of characters and typographies, but how is equitability defined? While characteristic differences of both writing systems are to be retained, equivalents, transitions, and relations are also to be produced, because the writing systems are meant to enter into a "dialogue." If at least one aspect of the characters creates equivalence color. through related formal brightness, materiality, font type, and style—then the other aspects may be different. The shorter the text, the more the "notational iconicity" 20 stands out, and the two writing systems interact directly.

²⁰ See Sybille Krämer, "Schriftbildlichkeit oder: Über eine (fast) vergessene Dimension der Schrift," in *Bild—Schrift—Zahl*, ed. Sybille Krämer and Horst Bredekamp (Munich: Fink, 2003), 157–176.



Fig. 1. Bilingual chinese-german edition of 道德经 Dàodéjīng from 老子 Làozi (Laozi). This example shows how the different layers of multilingual layout were made visible by small commentaries directly referring to the page layout.

General typographical rules of "coexistence" were adhered to in text form and illustrated by model sentences and texts as well as by means of exemplary designs by Chinese designers (Figure 2). In addition, schemata for the microtypographical area were developed that demonstrate the general formal differences between individual characters (Figure 3). An equalizing effect can be achieved here by balancing out differences. Here, attention should be paid to, among other things, the choice of font, spatial proportioning, column width, sentence length, but also the inclusion of images and captions and the use of the Romanized phonetic transcription "Pinyin." Figures 2 to 4 belong to a group of about twenty visual examples that have been created by the research team in order to demonstrate the various aspects of the coexistence of characters and typographies.

Three degrees of mixing were distinguished, from each of which different typographical rules derive. In the first degree, both language

versions are presented one after the other within one medium. This can take place chapter by chapter or on a double page. Important to note here are, for instance, the clashing of a text with justified margins (Chinese) and one with a ragged right margin (Latin), and different line spacing and fonts. In the second degree, the different language versions are consciously set in relationship to one another, for example, in terms of sections, next to or one above the other, whereby they correspond more strongly, which, however, requires more compensation. In the third degree of coexistence, the writing systems are closely interwoven; here, the interaction between visual cultures is supposed to be readily experienced. This requires a highly sensitive typographic approach on all levels.

Three alternative categories were developed by Keith Chi-Hang Tam. In the first, "parallel bilingualism," two languages are presented equivalently. In the second, "code mixing," one language is imbedded within a sentence in another language. This deals with



Fig. 2. This typographical example illustrates general rules of "coexistence," the equal interaction of characters by means of size, weight, and style

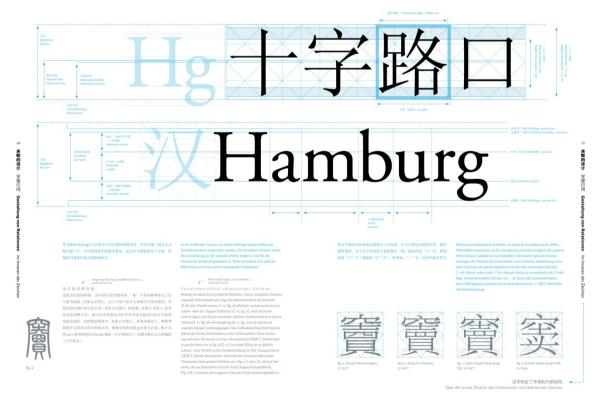


Fig. 3. This example demonstrates general formal differences between individual Chinese and Latin characters.

words and sentence fragments in particular. In the third, "code switching," one language is embedded in another language, whereby, however, entire sentences alternate. "Code mixing" and "code switching" are quite similar and chiefly differ in the amount of information that each presents.

In general, we can formulate a "rule of thumb" for multilingual design practice: when working with a large diversity of form, there are many points of reference for "foreign graphic elements," such as characters from other writing systems. These can be more easily integrated. If, by contrast, the design is highly homogenous, the foreign elements stand out from the overall image.

Applied Practical Applications: The research included two practical applications in the communication field. The first, in collaboration with the partners Swissnex—Swissnex Shanghai is an initiative of the Swiss State Secretariat for Education, Research, and Innovation (SERI) and the Swiss Federal Department of Foreign Affairs (FEDA)—and the ETH Zurich, Switzerland, a design concept for communication media (program, invitations, informational flyer, and posters) was developed for the scientific conference "Future Cities, Sino-Swiss Science, Industry, and Government in Dialogue" at Expo 2010 in Shanghai.

And in the context of the festival "Culturescapes," in Basel, Switzerland, we

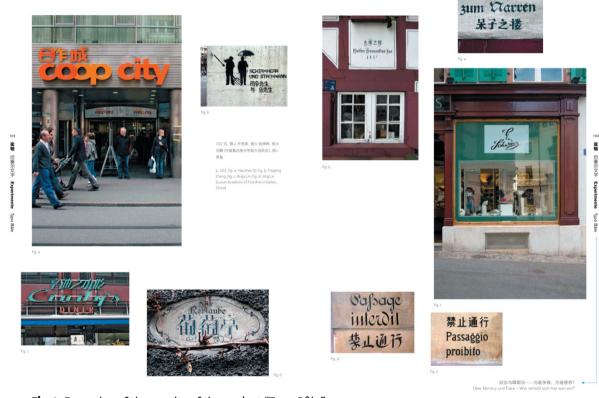


Fig. 4. Examples of the results of the project "Typo Bâle"

initiated the project "Typo Bâle," and we raised the following question to Chinese designers by issuing a "call for translation": "Imagine you wake up one morning and the European city in which you live appears transformed: all written information in public spaces is not only in Latin

script but also in Chinese characters. How does such a significant transformation affect the perception of this city?" *Translation* in this context is understood as visually relating to a specific place and its existing lettering. Posters of the designed translations were exhibited at the Unternehmen Mitte art space in Basel (Figure 4).

The project "Typo Bâle" was developed in collaboration with Li Degeng, a Beijing-based designer, researcher, and author. In addition to twelve renowned Chinese designers, two academic institutions participated in the project: the Luxun Academy of Fine Arts in Dalian, China, led by Prof. Wang Xiaofeng, and the Central Academy of Fine Arts in Beijing with Prof. Lin Cunzhen.

Research Project 2: The Coexistence of Chinese and Western Visual Cultures

The experiences and results of the first research project, which dealt with multilingual typography and layouts, have now been set in a larger context. We have initiated this second research project because the analyzed differences between the two visual cultures are found not only in the visual appearance of their writing systems but also in the different visual understanding of their images, which are based on entirely different cultural reference systems. What are these visual differences and how do they become visible?

Background

Traditional communication practices need to be questioned, not only in the field of typography but also with regard to the use of graphics, photographs, diagrams as well as infographics. The established view that images can be universally understood pertains at best to highly simplified graphic symbols, such as pictograms. In this context the functional side of language dominates; it is primarily a means of communication.

For conveying knowledge, however, this linear form of communication, oriented toward clarity, is often inadequate. Important here is to involve the beholder with the imagery in the process of exploring content and thus to facilitate a deeper understanding. Such complex imagery serving to disseminate knowledge is always linked to particular cultural concepts, which are not intuitively comprehensible in another culture and therefore must be "visually translated."

In commercial design practices. communication of content from other cultures often leads to disproportionate schematizations stereotyping. simplification and generalization, in favor of dominant Western concepts. A "coexistence" of different cultural is impeded reference systems representational system is completely replaced by another, two different systems are not set into a relationship to one another, hierarchies are applied arbitrarily, or the design method from one culture is applied exclusively.

The research project examined precisely these issues: it was important to develop a variety of methods that allow for specific and equal solutions—not one general system.

We understand the new design approaches not in the sense of a universal principle but as a dynamic process that, dependent on the corresponding context and in exchange with other cultures, continually seeks new solution approaches.

Research on the cultural implications of imagery is most often approached from a theoretical perspective pursuant to art-historical or visual-studies inquiry. Among the exceptions is the work of designer Henry Steiner, who explores the different design methods of "crosscultural design." His visualizations incorporating traditional Chinese symbols and pictures are—historically seen—exemplary.

Goals

The aim of the research was development and representation of design methods that produce a relationship of equality and mutual understanding between different visual cultures. Design processes were to be that created developed access understanding of representations from the most diverse areas of knowledge. Both cultures—the Chinese and the Western-were meant to benefit from it. The intention was to open doors rather than to formulate definitions. Furthermore, a compilation of the essential differences was to be gleaned from the juxtaposition of traditional contemporary Chinese and representational principles.

Theoretical Foundation

Nelson Goodman's symbol theory, Languages of Art: An Approach to a Theory of Symbols (1968), provided a suitable foundation for examining pictures in terms of their cultural references. With what Goodman sees as the central act of "reference," he stresses that the relationship between an image and the object it depicts is not a natural one based on resemblance. Instead, the relationship is a construct, the result of a conscious creative act. Even when the relationship appears natural, it is linked to cultural concepts—here Goodman speaks of a system of representation or reference. This system is "the standard for a given culture or person at a given time."23

Since pictorial representations are always linked to specific aspects of a cultural system of

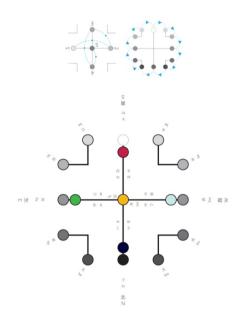
²² Henry Steiner and Ken Haas, Cross-Cultural Design: Communicating in the Global Marketplace (London: Thames & Hudson, 1995).

²³ Nelson Goodman, Languages of Art: An Approach to a Theory of Symbols (London: Oxford, 1968), 37.

reference, they cannot be understood as "universal" and require a "visual translation" when being transported into another reference system. The dimensions of "visual translation" that we have developed in our research range from visual and linguistic commentaries to visual "explanations."

"Visual translation" is less about finding Western equivalents; since the Chinese and

Western systems of reference are so predominantly different from one another that they mostly have no direct correspondences, for Western eyes, the differences remain *invisible*. Rather, it is about using redesign *to make* aspects of the representations' particular cultural system of reference *visible* in the newly drawn graphics (see Figure 5).



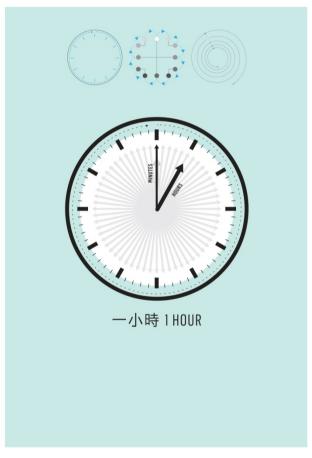


Fig. 5. Left: One figure of the Chinese "cord-hook diagram". Right: The clock—both are cyclical diagrams. Aspects of the specific cultural system of reference were made visible in the newly drawn graphics, especially through the small schemata above the illustrations (see also Figure 6 and 7).

Research Process

Selection and Description of the Original Graphics: Central to the investigation were diagrams from the illustrated encyclopedia 三才圖會 Sancai Tuhui,²⁴ an outstanding

compilation from the sixteenth century. Since at that time isolated information from the West—via such early China missionaries as Matteo Ricci (1552–1610)—was first being absorbed into Chinese general knowledge, we can assume that the encyclopedia's pictorial representations are to the greatest possible extent free from Western influences. Selected examples from other sources have been chosen to complement and sharpen aspects of the visual research.

²⁴ First, a facsimile edition was used: 圻王 Qi Wang & 思義王 Siyi Wang (1609), 三才圖會 *Sancai Tuhui* [Collected Illustrations of the Three Realms] (Taibei: Chengwen, 1970). Later on, a digital version of the complete edition was used: 圻王 Qi Wang (1609); Huang Sheng 黃晟 [ed., 18th century], Huai yin cao tang 槐陰草堂 [1609 print plates, revision, and reproduction Qianlong (1735–1795)], accessed September

^{9, 2015,} http://ostasien.digitale-sammlungen.de/cn/fs1/search/query.html?mode=simple&hl=true&fulltext=三才圖會.

Around one hundred illustrations showing as many different representational principles as possible were selected from the encyclopedia systematically described, and accompanying texts translated. For the juxtaposition with traditional Chinese diagrams, different contemporary Chinese and Western diagrams offering both thematic and formal points of reference for comparison were chosen. Because the aim was to show the greatest possible variety of representational principles, the infographics were derived from a diversity of sources.

Classification in the Respective Reference **Systems:** The illustrations were subsequently of their analyzed in terms specific representational principles of knowledge transfer. Depicted were the hallmarks of the cultural frame of reference of the Ming dynasty (1368-1644) and the contemporary Westerncharacterized frame of reference. representational principles were substantiated by means of 120 newly drawn examples. At this

point, one example should be mentioned: traditional Chinese diagrams of temporal processes are cyclical, repetitive, and each closed in itself, whereas in contemporary Western diagrams time is mostly represented as a line, namely as a timeline starting at a defined origin leading to an open end (see Figure 6). Cyclical diagrams are uncommon in the West; the clock is one of the few exceptions (see Figure 5. left). The forms of linear timelines appear based on a continuous linear and sometimes logarithmically structured line, with a defined beginning and an open end. The year zero is irrelevant for the traditional understanding of history; nor is another generally valid starting point established.

Redesign as Visual Translation: For the "visual translation" of the original Chinese graphics, the following key question stood in the foreground: Does access to the illustrations tend to be possible, or is decisive cultural "knowledge" lacking in order for them to be understood?

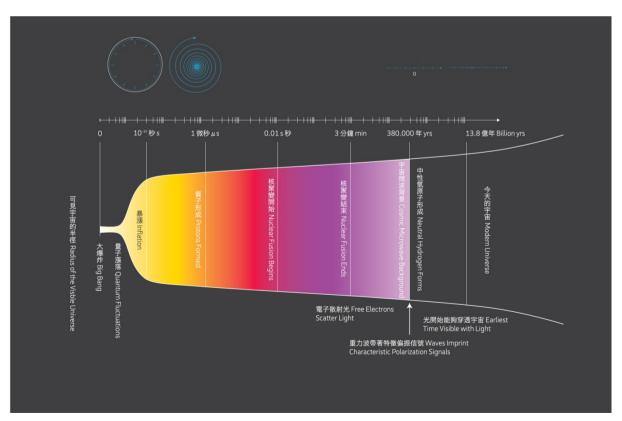
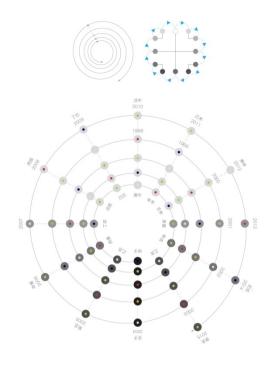


Fig. 6. This redesigned example illustrates the Big Bang and expansion of the universe. Time is depicted on a logarithmically structured line with a defined beginning and an open end.



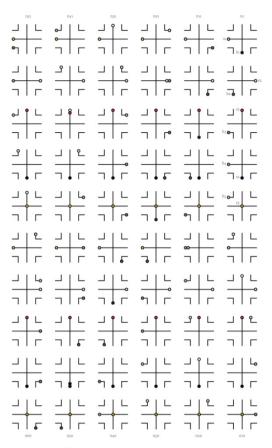


Fig. 7. *Right*: Redesign of the "cord-hook diagram," from the Xingde 形德 (Punishment and Virtue) manuscript, discovered at the beginning of the 1970s at Mawangdui 馬王堆 (Changsha, Hunan; 168 BC). *Left*: Spiral-shaped visual translation of the sexagenary cycle.

We want to demonstrate the approach of visual translation by a single figure of the 刑德圖 xíng-dé tú "cord-hook diagram." It is shown opposite to the clock (for the entire diagram with all sixty figures, see Figure 7, right). This diagram presumably dates to the second century BC and depicts the sexagenary cycle (a calendar) as described in detail by Marc Kalinowski in his essay "Time, Space and Orientation: Figurative Representations of the Sexagenary Cycle in Ancient and Medieval China."25 In our redesign we try to create access to the understanding of the diagram by adding visual elements, such as the small schemata above the illustrations and the explanatory text. We attempt to show the specific concept and cultural reference system. In Western diagrams, "time" refers to specific,

measured amounts of time. Time is understood as a continuous and homogenous process, which can be recognized in the continuous grid of the clock emphasized in our design.

In traditional Chinese diagrams, on the contrary, time refers to the concept of "time," closely linked to the traditional system of correspondences. The system of correspondences embraces a synopsis qualities of nearly all areas of knowledge and life, and assigns the most diverse categories. such as cardinal directions, colors, bodily organs, sensations, flavors, etc., to an established canon of equivalents. Time (the five seasons: summer, autumn, winter, spring and mid-summer) and the "five phases of transformation" (fire, metal, water, wood, and earth), are set in relation to space (the five cardinal points: south, west, north, east, and center).

We have visualized these symbolic, qualitative relationships in the different versions of the sexagenary cycle diagram, especially with

²⁵ Marc Kalinowski, "Time, Space and Orientation: Figurative Representations of the Sexagenary Cycle in Ancient and Medieval China," in *Graphics and Text in the Production of Technical Knowledge* in China, ed. Francesca Bray and Vera Dorofeeva-Lichtmann (Leiden: Koninklijke Brill, 2007), 137–68. In this context we also found the original of the diagram we have than redesigned.

"real" colors: red represents south, summer, and fire; white (now light blue) represents west, autumn, and metal; black represents north, winter, and water; green represents east, spring, and wood; and, finally, yellow represents the center, the midsummer, and the element earth. We have also drawn the 刑德圖 xíng-dé tú "cordhook diagram" as a spiral. A spiral calendar display is less clearly conditioned by the beginning and end as the linear representation (see Figure 7, left), combining the idea of time as "unwinding a line" with cyclical repetition.

Redesign as a form of "visual translation," interpretation, and newly generated knowledge was the central method developed in this research and is thereby its most significant result. Based on the original depictions, 120 new infographics were drawn that were augmented with aspects of the-not directly visible-system reference that were lacking for contemporary understanding of the diagrams. Aspects of knowledge about the conditions of image production and reception, such as reading cardinal points. direction. construction and function of the graphics, were integrated as well as emphasized in the new drawings. In this way we were able to create access to the diagrams in the knowledge trove of 三才圖會 Sancai Tuhui, which was one of the main goals of our research.

Deriving Suggestions for the Design of Infographics: Drawing on the entire investigation, we derived basic suggestions for the design of infographics in an intercultural realm; our focus here was on specific intercultural issues. An ethical dimension appears in many design and content-related questions of detail. For instance, in new drawings of persons and especially faces there is a significant risk of stereotyping; here we recommend that designers follow closely the old traditional representations.

Yet an ethical dimension of the research also appears in a general question: In which way can information from different cultural contexts be represented with their respective specific imaging systems, such that these systems coexist on an equal footing? The decisive point is not to assume that the reference system of the "self" is known. Beholders might think they know it because it is so familiar to them. Sometimes, however, upon considering the reference system more closely, they become aware that they

cannot further qualify their "own" reference system. "Pure," "unmixed," and defined cultural systems do not exist; it is only through the juxtaposition of traditional Chinese and Western frames of reference that systems of the "other" and the "self" are constructed.

Discussion

The research of design methods in the field of intercultural visual communication offers us valuable methodological practical and knowledge in design. Through the collaboration with Chinese project partners we have achieved a high degree of sensitivity on the issue of culturally determined patterns of perception and, at the same time, appropriate methods for dealing with cultural difference. As a result of this research experience, we are now able to research further on developing visual identities for public institutions that implement cultural and social diversity policies.

Our society has become increasingly diverse and therefore also more complex. The causes for this lie in the increasing diversity related to migration, and in the increasing recognition of former "marginal groups," such as the elderly, people with disabilities, and ethnic minorities.26 One consequence of development is the massive change communication requirements. This applies especially to public institutions that implement social diversity policies, that is, that interact with target audiences distinguished by an increasing linguistic, ethnic, and social diversity.

The aim of this planned research is to develop and implement new design methods for the "visual identities" (corporate design) of public institutions. The approach is to develop. by way of applied examples, the visual identity of a public hospital (Lausanne University Hospital / Centre hospitalier universitaire vaudois, CHUV) in Lausanne, and a foundation disabled people (Stiftung Balm) Rapperswil, Switzerland. Switzerland has a tradition of coexistence with its four distinct national languages: German, French, Italian, and Romansh. Today, however, migration and globalization demand a much wider concept of multilingualism for the communication of a public hospital, as for any public institution. The CHUV, for example, communicates with an audience that is characterized by great linguistic,

²⁶ Nieswand, "Diversity and Society," n.p.

ethnic, and social diversity. The hospital aims to simultaneously address different target audiences in a very specific manner: their patients, employees, and potential employees (the hiring of physicians, researchers and lecturers in the field of medicine).

order to respond to these communication requirements, the new design method aims to strongly counterpoint constant, identity-endowing visual components with dynamically variable and differentiating visual appearances. The planned task is to develop such constant and variable components for the new signet, the corporate typeface, the new color spectrum, and the new visual imagery of the CHUV. The new identities should have the potential to support democratic processes. Since they represent the institutions not only on a also symbolic level. they constitutively collaborate on the design through the use of realistic means—such as multilingualism and differentiating visual imagery— and they should facilitate social integration. They reflect the interests of the parties involved and address their cultural, linguistic, and social diversity. As such they contribute to making communication comprehensible internally. such as for employees, and externally, such as for patients. Issues of self-conception will not be dominated by projections of desires (target image).

The two-part result, which on the one hand will make the application examples publicly visible, and on the other is meant to supply methods for the development of diversitycompliant corporate design, aims at contributing fundamentally to improving the quality of visual identities of public institutions. Through a publicly effective identity, the influence of communication design on processes of perception with regard to "identity," "culture," and "society" are to be rendered visible. According to the United Nations "Convention on the Protection and Promotion of the Diversity of Expressions," "cultural Cultural diversity. flourishing within a framework of democracy, tolerance, social justice and mutual respect between peoples and cultures, is indispensable for peace and security at the local, national and international levels."27

State of the Art

Corporate Design: Here comprehensive investigations were conducted thematizing the institutional requirements for corporate identity (CI) concepts.²⁸ Seldom are the approaches to the CI concept, that is, the analogy between natural and institutional "persons," critically questioned. The most important authors taking a critical approach to the subject are Elio Pellin,²⁹ Christian Jaquet,³⁰ and Ulrike Damm.³¹ To date, however, scarcely any design methods, such as in the area of diversity, have been derived from their investigations that go as far as intended by our project.

Currently, we do not have suitable forms of corporate design for public institutions that integrate society's growing cultural and social diversity. Despite the fundamental reformation of the organizational structure of public institutions. known as "New **Public** Management." in the 1980s and conventional methods of corporate identity are most often adopted in an uncritical manner. These methods are particularly problematic for public institutions because they build on uniformity, that is, on a uniform essential core, often conduct communication stereotypical perceptions of the self and the other.

In recent years corporate design has developed from an isolated specialized field into multidisciplinary method of visual communication in the public sector (environmental graphic design). Noteworthy examples are image campaigns, infographics (corporate information design), and orientation systems (signage). Oftentimes designers are only brought onboard late in the process, to repair "communicative deficiencies." They are faced with the fact that it is precisely public institutions that need sensitivity toward and an awareness of the issue of the increasing diversity of the groups interacting here.

²⁷ UNESCO, "Convention on the Protection and Promotion of the Diversity of Cultural Expressions," Paris, 2005. Accessed July 10, 2015, http://unesdoc.unesco.org/images/0014/001429/142919e.pdf.

²⁸ Klaus Birkigt, ed.. Corporate Identity: Grundlagen Funktionen Fallbeispiele (Lech: Landsberg, 1980); Norbert Daldrop, ed., Kompendium Corporate Identity und Corporate Design (Stuttgart: avedition, 1997); André Vladimir Heiz, Grundlagen der Gestaltung, vol. 4: Identitäten und Differenzen (Sulgen: Niggli, 2012).

²⁹ Elio Pellin, ed., Weiss auf Rot: Das Schweizer Kreuz zwischen nationaler Identität und Corporate Identity (Zurich: Verlag Neue Zürcher Zeitung, 2004).

³⁰ Christian Jaquet, Corporate Identity für Verwaltungen und Gemeinden (Bern: Verlag Haupt 2005).

³¹ Ulrike Damm, "Über Ursachen und Konsequenzen der mangelnden Differenzierung in der visuellen Unternehmenskommunikation," *PAGE* (Ulm), no. 10 (2006), 49.

Problem-Oriented Design: Communication design, seen as an integrated process that also includes sociocultural, ethical, and political dimensions, first began to gradually prevail in the 1970s. Our project aims at assuming an exemplary role here. Communication design that is oriented toward general social problems, such as the changed communication requirements of public institutions, can no longer be oriented exclusively toward the design of isolated communication media. Social issues demand more long-term thinking and researching.

Design and Democracy: Research conducted for the democratic development of public space is carried out above all from the perspective of urban development, architecture, the social sciences, and social planning. Up to the present, the issue of the democratization potential via communication design rests largely on the approaches to a democratic attitude in design that was developed between 1953 and 1968, in particular at the Ulm School of Design in Germany. To date, searching for comprehensive revisions on this complex of topics has been in vain. A discourse on design and democracy certainly exists, but the integration of current aspects regarding demographic change, which are also implemented on a practical level, has vet to be achieved. Important conceptual approaches are offered here by various essays, for instance, by Guy Bonsiepe³² and by the design and research studio Metahaven, which, in collaboration with Daniel van der Velden, has published its observations.33

Background

Since the 1970s, corporate identity is one of the dominant concepts for managing businesses and optimizing their external and internal perception. Originally, the concept of "personal identity" formulated by the psychoanalyst Erik H. Erikson³⁴ was used and applied to companies in a highly simplified fashion.³⁵ A CI is based "on a company's long-term objective and on a defined (target) image"; it has the goal of "bringing all the company's tools of action into a unified framework for external and internal representation."³⁶ In the CI, "the 'nature' of a business is revealed through the design. Therefore it can be successful only if this 'nature' is indeed coherent and effective in itself."³⁷

This is where criticism arises: a person's identity evolves in a rather long-term, complex process of development; it does not represent a fixed "target image" that individuals set for themselves and then realize. This is why the "ideological anchoring" 38 of Klaus Birkigt's CI concept is so strongly emphasized. The CI concept is predestined to be exploited for purposes of manipulation, because "normative "with the aid are enforced stereotypical perceptions of the self and the other."39 The CI concept is not only used for commercial businesses; it is also increasingly applied to federal public corporations. Today, public institutions are understood as public services and operate according to the rules of "New Public Management." 40

If criticism is already directed at the highly simplified application of the notion of a "personal identity"⁴¹ to companies, it inevitably becomes more vehement when this notion is transferred onto public institutions. As Schneider argues:

When a government is understood as a corporate performance, it needs to formulate a solid core in accordance with corporate identity, and this core then needs to serve as a value reference to guide all conduct and statements. According to Pellin and Ryter, this "will not be possible in democratic systems." It would presuppose an authoritarian, extremely hieratic federal organization, like those of totalitarian states. 42

As Mastronardi and Schedler assert, governments are not dealing with "customers to whom they simply need to present themselves as efficient service providers; the administration is dealing with citizens who are fundamentally

³² Gui Bonsiepe, "Demokratie und Gestaltung," lecture on the occasion of the awarding of the doctoral degree Doctor honoris causa from the Universidad Tecnológica Metropolitana, Santiago de Chile, June 2005, accessed August 26, 2015, http://www.guibonsiepe.com/pdffiles/Demokratie_und_Gestaltung.pdf.

³³ Metahaven, "Brand States: Postmodern Power, Democratic Pluralism, and Design," in *Uncorporate Identity* (Baden: Lars Müller Publishers, 2009); Metahaven, "Peripheral Forces: On the Relevance of Marginality in Networks," in *Deep Search: The Politics of Search Engines*, ed. Felix Stalder and Konrad Becker (Piscataway, NJ: Transaction Publishers, 2009), 185–197.

³⁴ Erik Homburger Erikson, *Childhood and Society* (London: Imago, 1950).

³⁵ Klaus Birkigt, Corporate Identity: Grundlagen Funktionen Fallbeispiele (Lech: Landsberg, 1980).

³⁶ Ibid., 1.

³⁷ Pellin, Weiss auf Rot, 34.

³⁸ Ibid.

³⁹ Ibid.

⁴⁰ See Beat Schneider, *Design—Eine Einführung* (Basel: Birkhäuser—Verlag für Architektur, 2005), 217.

¹¹ Erikson, Childhood and Society.

⁴² Schneider, Design-Eine Einführung, 217.

involved in the process of shaping collective identity."43

This also applies to the form of internal and external communication of public institutions and services, such as hospitals. Today, public hospitals communicate with a public that is characterized by a significant linguistic, ethnic, and social diversity. Public hospitals also exemplify the increasing complexity of many businesses that are affected by mergers, in part due to cost-saving measures, but also in part to boost their corporate dimension and become more competitive. Many such businesses are several organized in semi-independent subsidiary institutions that are often scattered over a large territory. These institutions want to be perceived as autonomous specialty branches and at the same time in terms of their affiliation with the main institution.

This multiple perspectivity is an enormous challenge for communication, particularly in the area of spatial orientation (signage)—that is, where corporate design is most visible in public institutions. In this context, design methods that are typically used in corporate design, such as extreme simplification and uniformity, are inappropriate.

Many foundations engaged in supporting the rights of handicapped persons are in need of fundamentally revising their identity. This need exemplifies the shift in society's perception of "minorities" (antidiscrimination discourse). When it has now become increasingly "difficult to push through rules and standards of behavior with reference to the culturally founded notions of normality of a majority society," but corporate identity just as often operates with "stereotypical perceptions of the self and of the other," a reformulation of design methods is of fundamental importance.

Concluding Thoughts

Communication designers are increasingly confronted with the task of implementing multilingual and intercultural documents, visual identities, and signage, since the target audiences being addressed reflect an increasing cultural and social diversity. Our research aims at providing conceptual input and suggestions for this purpose.

With Research Project 1, practical design handling knowledge and methods for multilingual typography, specifically with respect to typographical arrangement, layout, and conception. were developed. General typographical rules of "coexistence" adhered to in text form and demonstrated by model sentences and texts as well as by means of exemplary designs by Chinese designers. The research was published in a special issue of the Swiss Typografische Monatsblätter.

The most important results of Research Project 2 demonstrate a more intense knowledge and awareness about why Chinese and Western diagrams are so different. The research describes, in steps of recognition, how the reference system defines the specific quality of each culture. The description of these reference systems and how they functionally relate to these specific qualities encompass the openness and variability of symbolic space in Chinese graphics.

Thus Chinese graphics can be understood as visualizations of qualitative correlations between elementary, opposing forces, between heaven and earth, light and darkness. As we have mentioned in the description of the 刑德圖 xíng-dé tú "cord-hook diagram," time (the five seasons) is linked to the cardinal points and therefore also bears the manifold meanings and associations of the traditional system of correspondences.

In contrast, current Western infographics have a defined grid of definitions that relates to distinct empirical data obtained on the basis of objective measurements. Among the constitutive conditions of contemporary Western representation are the continuity homogeneity of diagrams. This is particularly evident in the time display: the clock, the calendar, and historical timelines. Time is understood as a continuous and homogenous process, which can be recognized within the continuous temporal grid of the clock.

Traditional Chinese graphics, by contrast, tend to develop self-contained "cycles." Time is understood in cyclical continua as times of day, seasons, world times. Dynasties can be understood in this way, as a sequence of cycles, each with its own beginning and end, and whose development takes place to a certain extent cyclically.

The goal of Research Project 2 was to develop an equitable relationship and at the

⁴³ Philippe Mastronardi and Kuno Schedler, *New Public Management in Staat und Recht: Ein Diskurs* (Bern: Haupt, 1998), 94.

⁴⁴ Nieswand, "Diversity and Society," n.p.

⁴⁵ Pellin, Weiss auf Rot, 34.

same time create *access* to the understanding of visual representations from two different cultures. By developing various methods of visual translation, we reached this goal. In the previously shown example of 刑德圖 xíng-dé tú "cord-hook diagram" and the clock, "translating visually" means making the original graphics' cultural concepts visible in new drawings. The different methods of visual translation are explained through 120 graphics in a forthcoming volume by Lars Müller Publishers.⁴⁶

The research presented here are examples of research through design in the area of "social design" or "Visual Application Respectful of Cultural Diversity." In all three projects, a characteristic feature of so-called wicked problems has been revealed: each "wicked problem" is to some extent unique: found solution strategies cannot simply be transferred onto new questions. Concrete design tasks must always be developed anew in dialogue with other cultures and people. The design methods in the research project have been developed as an open system of sets that can be modulated and combined, so they can provide a basis for a specific and unique application solution with respect to specific questions regarding place and content. We want to encourage future users to acquire for themselves the necessary knowledge as far as possible for specific investigations, so that they can make decisions and assume responsibility on their own. In this sense, "social design" is less about focusing on "brilliant ideas" or "aesthetic perfection." Rather, its central concern is to generate the greatest possible scope for action for every concerned individual person.

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 $^{^{\}rm 46}$ Baur, R. & Felsing, U. (2017) «Coexistence of Symbols». Baden: Lars Müller. (in press)

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