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CONSISTENCY IN BOOK DESIGN

LCCE® publications: Intoverkko Project

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Opinnäytetyön nimi Yhtenäisyys Kirjan Ulkoasun Suunnittelussa LCCE®-julkaisut: Intoverkko-hanke		55 sivua 6 liitesivua
Toimeksiantaja Intoverkko-hanke		
Ohjaaja Minna Malja, FM, graafinen suunnittelija		
<p data-bbox="137 687 1394 719">Tiivistelmä</p> <p data-bbox="137 719 1394 853">Opinnäytetyöprojekti on Intoverkko-julkaisun ulkoasun suunnitteluprosessin analyysi sekä jälkiarviointi. Intoverkko-hanke oli Kymenlaaksossa toteutettu LCCE®-hanke vuosina 2013–2014. Projektissa olivat mukana Kymenlaakson ammattikorkeakoulu (Kyamk) sekä Kouvolan seudun ammattiopisto (KSAO).</p> <p data-bbox="137 887 1394 1021">Opinnäytetyötutkimuksen tavoitteena on analysoida kirjan ulkoasun suunnittelu-, ja julkaisuprosessia sekä arvioida projektia ja tehtyjä suunnitteluvaihtoehtoja kriittisesti jälkikäteen. Suunnitteluprosessin ymmärrys on tutkimuksen päätavoitteita. Opinnäytetyötutkimuksen päätyökäsitteet ovat itsereflektointi sekä jälkianalyysi prosessin tuotoksesta.</p> <p data-bbox="137 1055 1394 1189">Tavoitteena oli suunnitella LCCE®-hankkeen julkaisuille uudenlainen ulkoasu. Haasteena oli suunnitella visuaalisesti puoleensavetävä ja luettavuudeltaan hyvä julkaisu koostuen taitosta, typografiasta, kuvastosta ja yhtenäisestä infograafisesta tyylistä läpi julkaisun. Intoverkko-hankkeen julkaisu on saatavilla painettuna 400 kappaleen painoksena sekä verkkoversiona.</p>		
<p data-bbox="137 1451 1394 1482">Asiasanat</p> <p data-bbox="137 1482 1394 1518">Graafinen suunnittelu, kirjan suunnittelu, taitto, kuvitus, infografiikka, painatus, typografia</p>		

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<p>Abstract</p> <p>This thesis is the design process analysis and post-critique on Intoverkko publication's design. The publication was created for the Intoverkko Project, which was an LCCE® project in Kymenlaakso region from 2013 to 2014, concerning the educational institutions Kymenlaakso University of Applied Sciences (KyUAS) and Kouvola Region Vocational College (KRVC).</p> <p>The thesis aim is to analyze the book design and publishing process and justifying the chosen design solutions. As the design project was concluded in 2014, the thesis emphasizes post-critique on the publication's design. The main learning tools of the thesis are self-reflection and post-analysis of the process outcome.</p> <p>The aim was to create a new visual style for the publication in comparison with the former LCCE® publications. The challenge was to create a visually appealing and legible publication including the layout, typography, imagery and consistent infographic design throughout the publication. The Intoverkko publication is available printed in 400 copies and as an e-book version.</p>		
<p>Keywords</p> <p>Graphic design, book design, layout, illustration, information graphics, printing, typography</p>		

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1 LIST OF CONCEPTS

Design process: *Seven steps (define, research, ideate, prototype, select, implement and learn) through which a design job progresses from start to completion (Ambrose & Harris 2010, 178).*

Element: *Any distinct part of a layout such as the logo, headline, images, or borders (Ucreative 2014).*

Font: *A complete combination of characters created in a specific type, style, and size (Ucreative 2014).*

Grid: *A two-dimensional format made up of a set of horizontal and vertical axes used to structure content (Ucreative 2014).*

Information design: *Information design as a discipline has the efficient communication of information as its primary task, and this implies a responsibility that the content be both accurate and unbiased in its presentation (Wilbur & Burke 1998, 6).*

LCCE®: *Learning and Competence Creating Ecosystem. It is a new pedagogical and organizational approach to studies where the role of the school is to enable and facilitate learning, not dictate strict curricula to be followed (Kyamk 2016).*

Page layout: *Deals with the setup and style of content on a page. An example of a page layout is the pages in magazines or brochures (Ucreative 2014).*

Sans serif: *A style of typeface that means “without feet” (Ucreative 2014).*

Spread: *Two pages aside each other that together create the visual unit (Ucreative 2014).*

Symbol: *A pictorial element that communicates a concept, idea or object, but without a logical meaning between them (Ambrose & Harris 2010, 88).*

Typeface: *A typeface consists of a series of fonts and a full range of characters such as, numbers, letters, marks, and punctuation (Ucreative 2014).*

Varnishing: *A print finishing effect that is colourless coating to enhance the visual appearance of a printed product (Ambrose & Harris 2010, 164).*

Weight (typography): *The range of a stroke's width. Also known as semi-bold, light, and bold. Some typeface families have many weights like ultra-bold and extra-light. Associated with the heaviness of the stroke for a specific font, such as light, regular, book, heavy, black, and extra bold (Ucreative 2014).*

Width: *Refers to whether the basic typeface has been lengthened or compressed horizontally. The typical variations are condensed, normal, or extended (Ucreative 2014).*

X-Height: Height of the lowercase letters without ascenders or descenders (Ucreative 2014).

2 INTRODUCTION

The thesis aim is to describe the design process and the justifications for the design solutions. As the design process was concluded in 2014, the thesis creates post-critique on the found solutions. As a starting point and as the main guideline for the project the customer's brief is presented. After this the used research methods as well as the research questions are presented. As one of the methods is the comparison analysis, the former LCCE® publications are briefly presented in order to compare them to the new design.

The Intoverkko publication's design process (Appendix 1) is described step by step in sections that are typography, colour scheme, layout, information graphics, imagery and cover design. The printing process is explained in detail. At the end of the thesis the outcome and post-critique of the design are presented. The references used include books and online articles and the list of references is available at the end of the thesis.

3 BACKGROUND

The Intoverkko Project was looking for a design student to design the LCCE® publication to be printed in 400 copies and to be available as an e-book. The Intoverkko Project team was looking for the publication to be designed in a way different from the former LCCE® publications. The goal for the graphic designer thus was to create a whole new stylistic approach having a visual

reference to modernism and sketchbooks as well as maintaining visual consistency between the different design elements and creating well working information graphics. The visual base materials provided were the Intoverkko logo and the photography to be used for the book layout.

The first stage of the design process is defining the brief, which has a specific goal yet may have variety in its implementations (Ambrose & Harris 2010, 15). What is good to know about the brief before starting to work on the process is that the keywords defined in the brief may have different possible interpretations. Especially the term modern may have multiple different approaches of which a narrow presentation has been chosen for the Intoverkko publication in order to avoid unnecessary complexity. The secondary reference to sketchbooks or hand-drawn notes is easily defined and approached as it merely affects the ornamental additions of the design, unlike modern which defines the whole design approach to the project.

The consistency of the overall design of the publication concerns especially the information graphics: the book would have multiple different graphics of which some would be more complex and have a higher level of abstraction. Designing legible and visually consistent information graphics would be one of the main emphases of the design process.

4 FRAME OF REFERENCE

The frame of reference of the Intoverkko Project are the people working with the project and the organizations related to it as well as the sponsors and the students having taken part in the projects described in the publication. The main contact person during the design process was Project Manager *Pasi Korhonen*, with whom the design solutions were mainly discussed. Other coworkers were Editor *Leena Muotio* and *Antti Hieta*, the other Project Manager of the project. The rest of the Intoverkko team consisted of the authors of the articles who had been leading different client projects with the students of the organizations Kymenlaakso University of Applied Sciences (KyUAS) and Kouvola Region Vocational College (KRVC).

These two organizations related to the Intoverkko project, KyUAS and KRVC, are educational institutions in the Kymenlaakso region. The students of these institutions were the ones with whom the LCCE® projects were realized. These projects that create co-operation between the educational institution, the company and the students are discussed in the articles of the publication. As the Intoverkko Project is a European Union (EU) funded project, which also received regional funding, the sponsoring parties were the EU and the Centre for Economic Development, Transport and the Environment (ELY). The Intoverkko Project's publication may in the future be used as a hand-out representing the university as a promotional material and this way the project's frame of reference may include future partners yet unknown.

5 TARGET GROUP

The target group of the Intoverkko Project mostly consists of the personnel working in the educational institution creating the LCCE® projects (KyUAS), which combine the co-operation between the students, the educational institutions and the companies. A possible future target group includes readers to whom the publication is given as a handout in order to represent the projects carried out in the educational institution.

6 RESEARCH METHODS

The starting point of the thesis research is defining the research questions and the used research methods used in the thesis project are defining the research questions, analyzing the design process, comparison analysis of the former LCCE® publications, self-reflection and interview. The interview was concluded with Senior Lecturer *Tarja Brola* who, with her professional knowledge gave advice on the technical aspects, for instance the linguistic layout settings of the design.

6.1 Definition of the research questions

1. How to design a visually consistent book combining multiple different graphic design elements?
2. How to convey the information of the graphics in a legible yet visually appealing way?
3. How to answer the brief requirements with the design?

6.2 The design process: stages of thinking

The concept of the design process by Ambrose and Harris is a process of creating a practical solution to the design problem, according to the brief (Ambrose & Harris 2010, 11). One of the research methods is analyzing the design process. In Design Thinking (Ambrose & Harris 2010) this design process is divided into seven stages: define, research, ideate, prototype, select, implement and learn. As this is not clearly a linear process, the thesis does not linearly use it as a reference. Especially during the fourth and fifth stages, prototyping and selecting the final choices, the Intoverkko Project does not clearly follow this process guideline, as the design struggled with trial and error. Thus the finalized design prototypes were changed as the design process encountered difficulties.

6.3 Comparison analysis: former LCCE® publications

The comparison analysis of the former similar products is defined as a design process stage called *primary research* (Ambrose & Harris 2010, 18). As described in the second stage of the design process information should be gathered before further ideation and defining the previous similar projects is the primary step. As defined in the brief, one of the book design aims is to avoid the former LCCE® publications' design. The thesis research uses two former LCCE® publications by KyUAS for comparison analysis: *Towards a Learning and Competence Creating Ecosystem* and *Haasteista mahdollisuuksia LCCE®-opettajuudessa*.



Figure 1. Cover. *Haasteista mahdollisuuksia LCCE®-opettajuudessa*. (Ruuhonen 2012)

Figure 1 illustrates the cover design of the former LCCE® publication, which consists of illustrative photography, book title and logo of KyUAS. What should be done differently for the Intoverkko publication's cover design is to use illustration in place of photography and to create scale hierarchy with the typography.



Figure 2. Spread layout. *Towards a Learning and Competence Creating Ecosystem LCCE®*, 11–12. (Ruuhonen 2010)

As shown in Figure 2, the layout design of the articles of the former LCCE® publications are built of the heading written in coloured sans serif typeface, the body copy written in a serif typeface with a layout of two paragraphs and the photographs of the authors of the articles and using illustrative photography

taking space of the whole page. The illustrative photography is mostly nature themed.

The Intoverkko publication's design should aim to use fewer design variables in order to maintain simplicity, such as text colouring in the headings and using the photographs of the authors. In addition, the illustrative photographs should be partly replaced with hand drawn illustrations. The photography to be used would partly be informative and article related. To increase legibility the use of tall paragraphs should be avoided, in order to reduce the amount of text per page.



Image 3. The Zones and Spaces for Learning

15

Figure 3. Information graphics. *Towards a Learning and Competence Creating Ecosystem LCCE®*, 15. (Ruohonen 2010)

As shown in Figure 3, the information graphics in the former LCCE® publications have been created either in black and white or in monochromatic colours. The size of the graphics is small in relation to the layout. Their position is mostly below the body copy text or placed in between the text.

The design of the Intoverkko publication's information graphics was one of the most important design changes that would take place. The black and white

colour scheme should be replaced with a main colour with an analogous colour scheme. The position of the information graphics should not be on the side of the text or in between the paragraphs. Instead the graphics may take the whole size of a page. The size of the graphics should be more dominant in relation to the whole layout. The reason for these changes is to add to the value of the information graphics, underlining their meaning and making the layout visually more balanced as they also serve an illustrative meaning, however this is secondary to their communicative function.

7 BOOK DESIGN

The book design consists of 175 pages and book covers with a content of 13 articles. The Intoverkko book brief's requires a modern design and a resemblance to sketchbooks. The rough idea of the overall style was discussed with the Project Manager Pasi Korhonen and was presented to the other team members. The design of the Intoverkko book consists of typography, which partly is chosen based on the idea of modernism, colour scheme with one main colour, photography taken by the team members, information graphics and hand-drawn illustrations, cover design and layout designed in respect of all the other design elements and composition rules. The following design sections defining the different design phases can both be defined with the design process stages (Ambrose & Harris 2010, 24–26) *implementation* and *making choices*. The process, as it has been complex and changing is a cycle of trial and error, making prototypes of the pages, making choices and replacing the selections with new prototypes.

The tools used for the design are the Adobe design programs Adobe InDesign, Adobe Illustrator and Adobe Photoshop. Adobe InDesign was used for designing the layout and typography work and Illustrator was used to design the information graphics. Adobe Photoshop was used to make slight adjustments to the imagery: illustrations and photography. In addition, traditional drawing tools, pencil and pen were used to draw the illustrations. Of these tools Adobe InDesign has great importance on how the layout turns out.

7.1 Modernism

As modernism is set as the stylistic starting point in the briefing, the interpretation of the term for the project should be defined in detail. The characteristics of modernism include its vagueness, which makes the analysis of the movement challenging. Barnard states that there are two different beliefs concerning modernism in graphic design field (Barnard 2005, 114). The first is the concept called *form ever follows function* (Louis Sullivan 1896; Barnard 2005, 114). This means that the graphic design would have no other element than the essential, in other words, designing without ornament. All a graphic designer would have to do in designing graphic products would be *to find the optimum solution to the design problem* (Walker 1989, 159; Barnard 2005, 114).

The modernist approach to graphic design should focus on the essential. As stated by Aynsley, the ways to express modernism in graphic design are the simplicity, lack of ornament and preference for asymmetry (Aynsley 1987; Barnard 2005, 138). Lupton and Phillips also discuss the idea of simplicity: the modernist layout uses asymmetry, white space and sans serif typography (Lupton & Phillips 2008, 58). This definition of modernism in graphic design is the rough guideline of the visual style of the Intoverkko publication. This has been applied in the choice of the sans serif typeface of the headings, Futura, the use of the white space in layout and minimizing the use of ornamental elements apart from the illustrative imagery.

The second belief regarding modernism according to Barnard is the focus on improvement and development. He refers to Milton Glaser, who has stated modernism's main aspect being progress, as its origins are in the time of technological development (Glaser 1997b, 132; Barnard 2005, 114). Barnard explains that modernism in graphic design, according to this second belief, is about finding a new, *unseen* way of designing. Characteristic for modernist graphic design thus is questioning traditional ways of communication and solving design issues with new technologies of representation (Barnard 2005, 115).

Thus, in order to successfully design the Intoverkko publication, so that it represents the modernist movement as stated in the briefing, the selected design elements should be chosen according to the definition of modernism in

graphic design. In common language, the term modern is often understood as something new and *unseen*; however it is also important to respect the traditional ways. This is why the design of Intoverkko book is more a mixture of these two beliefs; *form follows function* (Louis Sullivan 1896; Barnard 2005, 114) as well as the *unseen* designing. An additional guideline is ambiguity, as typical for modernist communication is the use of uncertain meaning and multiple interpretations (Barnard 2005, 115–119).

7.2 Typography

The starting point in choosing the typefaces was to select a sans serif typeface for headings, in respect of the style of modernism. The typeface chosen for the headings is Futura and the typeface for the body copy is Candida. The requirements for the choices of the typefaces were that they should both be legible both in printed and online media, as the book would both be printed and produced as a pdf.

7.2.1 Futura

Paul Renner created Futura in 1927 (Prepressure 2015) and it is a geometric grotesque typeface created during the Bauhaus during 1919–1933, which was a modernist movement (Barnard 2005, 124). The modernist sans serif typefaces have a good legibility, thus Futura is an ideal choice for a modernist typeface for a book's headings, as proposed by Jan Tschichold, the sans serifs being undecorated, economical and easy to read (Barnard 2005, 127).

Due to being created during the Bauhaus movement, Futura is designed in respect of geometry. Futura is based on geometric shapes, which were common visual elements during the Bauhaus design style (Prepressure 2015). However the form of Futura is not completely a geometric typeface, as the basis of the Futura capital letters are the stone carved capitalis monumentalis-letters and their forms and proportions, which are not purely geometrical. The avoidance of strictly geometrical form in Futura typeface serves as improvement in the legibility (Itkonen 2007, 56).

Being a geometric grotesque, Futura is best suited to headings rather than body copy. This is because the geometric grotesques have a monotonic line thickness that has a tendency of tiring the reader in long texts. If Futura would be used for the body copy, the paragraphs would result ragged in justification as result of the variations in the x-height and ascenders (Itkonen 2007, 48). This is why the use of Futura in Intoverkko book is limited to the headings, subheadings, information graphics and references, as in these sections the amount of information is scarce. But, as the typeface family has multiple weights, there is a great variety of the usage. This allows the use of the weight contrast being effective (Itkonen 2007, 58).

ABCDEFGHIJKLMNO
 PQRSTUVWXYZÀÁÊË
 ÌÍÎÏÐÑabcdefghijklmno
 pqrstuvwxyzàáêëïðñ&
 1234567890(\$£€.,!?)
49

Figure 4. Futura BT. (Identifont 2016)

ABCDEFGHIJKLMNOPS
TUVWXYZÀÁÊËÌÍÎÏ
abcdefghijklmno
pqrstuvwxyzàáêëïðñ
&1234567890(\$£€.,!?)
54

Figure 5. Futura Condensed. (Identifont 2016)

The two weights used the most are Futura BT (Figure 4) for subheadings and Futura Condensed (Figure 5) for headings and information graphics. In the case of the information graphics, there are a couple different usages of the typeface families due the wide variety. The typeface should be legible both in negative and positive colour, meaning whether it being white text on darker colour background or darker colour on white background. Another usage is

that the text in some information graphics is aligned in a way other than horizontally. Futura has multiple weights with good legibility, which is why it has been a good choice to be used in smaller point sizes.

7.2.2 Candida

The typeface for the body copy text, Candida, was chosen because of its high legibility in smaller point sizes in printed and web media. Candida was created by Jakob Erbar and was published after his death in 1936 by Ludwig & Mayer (MyFonts 2016).

ABCDEF GHIJKLMN
 OPQRST UVWXYZÀ
 ÅÉÎÏ abcdefghijklmn
 opqrst uvwxyz à å é î ï ø
 ü & 1234567890 (\$ £ . , ! ?)

43

Figure 6. Candida. (Identifont 2016)

Candida (Figure 6) has three weights available; regular, italic and bold, and all of these are used in the *Intoverkko* book's typography. The body copy is written in point size 9, as, with the good legibility of the slab serif typeface, this point size is legible both in print and online medias. In some parts of the text, italics are used for emphasis on singular words; bolding is used in the same manner. The classification of Candida is challenging, as it may be seen to belong to a couple of different type groups: *egyptiennes* (slab serifs) or heavy serif antiques. According to the information obtained on Candida (Myfonts 2016) it is roughly classified as an *egyptienne* and a heavy serif antique. Itkonen states that the group heavy serif antique and their resemblances *egyptienne* and *Clarendon* are hard to classify, as they have multiple variations. The classification may even be impossible, thus it is realistic merely to aim for a rough definition in the case of Candida as well. Candida may be considered an *egyptienne* for the rectangular serifs being attached to the

ascender in a straight angle. However, as the changes in the line width indicate antiqua classification, Candida cannot be clearly classified *egyptienne* (Itkonen 2007, 43).

Thus Candida, while having the slab serifs of an *egyptienne*, has the variation in the line widths as an antiqua, as explained by Samara that as a mixture of serif and sans serif styles, the slab serif is defined by its consistency in stroke weight (Samara 2004, 21). This however, does not apply to the design of Candida as it has serifs more like hairlines and the overall weight of the line is dynamic. This is why, in these terms, Candida would rather be classified in the category of the heavy serif antiquas. The variation of the line widths raises the legibility of the typeface, as the weak point of the *egyptiennes* is the relatively low legibility for the body copy because of their monotony of the line widths and the high consumption of the space. As Itkonen states, the *egyptienne* typefaces may be suitable for body copy text. The downside of this choice is the large space consumption of the *egyptienne* letters, which results in less signs per line. The strong serifs may also decrease legibility (Itkonen 2007, 49). This is why the choice of the *egyptienne* typeface is not ideal for the body copy text of a book, however, as Candida has only mild slab serifs and a more antiqua look, it is not a typeface compromising its legibility. It is also less space consuming with the mild slab serifs and delicate line widths in comparison with an *egyptienne* typeface with heavy line width in general and stronger slab serifs.

The problem of choosing a strong personality *egyptienne* for a printing product is its space consumption. The use of strong serifs should be avoided depending on the typeface personality, as they are not the most economical. As a derivant of the new antiqua group their space consumption is high and the form is wide (Itkonen 2007, 46). However this problem typical for *egyptienne* typefaces does not clearly line width-wise apply to Candida as it is in these terms closer to a heavy serif antiqua classification.

Considered a heavy serif antiqua, Candida has high legibility. As Itkonen says, the heavy serif antiquas work well in printing, resulting in a clear quality. They are as well non-problematic as positive and negative colour, this is why many newspaper typefaces have been heavy serif antiquas. The typeface makes the text easier to read as the heavy serifs guide the eye with an emphasis on

the horizontal alignment of the lines (Itkonen 2007, 46). Itkonen explains the x-height having to do with the legibility of the typeface, meaning that the letters should have openness and have space inside them in order to improve the legibility in smaller point sizes as well. Also a large x-height is useful (Itkonen 2007, 70); Candida has a tall x-height, which raises the legibility especially on the screen even though the point size is only point size 9.

7.2.3 Typography combination

The typeface classifications should be taken into consideration when making the typeface combinations. Candida may be classified in the group of heavy serif antiquas, which is a derivant from the new antiqua. This is why Candida is a good pairing with geometric grotesques, as the new antiqua group are relatively geometric. Itkonen describes the formal similarities of these two groups being the staticity and geometry. He also defines the new antiqua type being hard to combine with other font classes. And as the classification of Candida is vague, the definition of the *egyptienne* may also be taken into consideration. The static *egyptienne* and Clarendon are defined by a straight axis, wide letters and a high x-height. These similarities to the form of the grotesque typefaces make them a fitting pairing (Itkonen 2007, 85).

The historical periods are should also be taken account of. Even though the new antiqua derivant heavy serif antiqua may go well hand in hand with the geometric grotesque, historically they represent different eras, which creates conflict for the combination. Itkonen recommends that another way to combine typefaces is to take a look in the production of the type developer. As many designers have repeatedly worked on similar form thematics, the other type designs, however being independent, clearly have something in common (Itkonen 2007, 85). Different type developers created Candida and Futura, yet the earlier works of Candida's designer Jakob Erbar include Erbar grotesk (Macmillan 2006, 78), a geometric grotesque designed in 1922 that has been a predecessor of Futura. This taken into account, the designer who along with Candida created Erbar grotesk, may be seen having design-wise a similar approach to typography as Paul Renner, the designer of Futura.

One thing to consider about the typeface combination is the x-height. Candida, being a heavy serif antiqua based in new antiqua, has a high x-height, and Futura being a geometric grotesque has a low x-height. This way, the typefaces do not ideally fit together, and this may be an aspect to be reconsidered if the book was to be redesigned. However, the x-height differences do not heavily clash when the different heights are not used on the same line – as would not be the case as there are different typefaces and styles for the body copy and headings. As Itkonen says, the differences of the x-heights between the different type classes are common. In general, the x-height of grotesques is greater than that antiques (Itkonen 2007, 92). This said, it should not even be the aim, as uncommon as it would be, trying to find a typeface pairing that would have an identical x-height.

7.2.4 Typography use

To avoid the visual heterogeneity of the typography, several different typographical styles are used. The main typographical groups are the headings and the body copy text, and the other ones are subheadings, captions, citations and information graphics. The typographical hierarchies for Intoverkko book are designed by creating contrast. According to Itkonen there are several different ways to create typographical contrast. In the use of typography, the size contrast, form contrast, weight contrast and colour contrast are the most important ones (Itkonen 2007, 81).

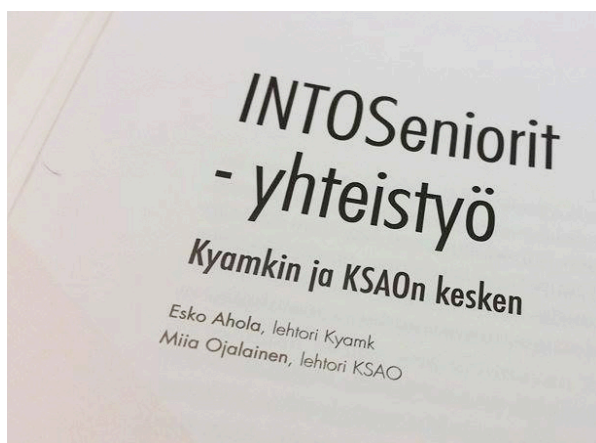


Figure 7. Article headings and author names. (Liakka 2016)

As Lupton and Phillips state, using a similar size in a design lacks contrast in scale thus appearing dull and static (Lupton & Phillips 2008, 41). The size contrast is an easy way to create dynamics for an otherwise static layout. The size contrast is created between the different typographical styles, for example the headings and body copy text by the variations in typeface weights and point sizes, as shown in Figure 7.



Figure 8. Article headings and subheadings. (Liakka 2016)

The most apparent use of size contrast is in the typographical choices of the headings of the articles (Figure 8), which are written in Futura Std Light Condensed in point size 41. The subheading is the same typeface in point size 13. The author names are written in Futura Light point size 7, with bolding made with Futura book point size 7. Figure 8 shows the heading's relation to the body copy text.

Itkonen advises being careful especially in print book typography on the heading and body copy contrasting. Overly large changes in point size should be avoided in the book typography, the difference of two point sizes would already be a difference between the heading and the body copy (Itkonen 2007, 81). Intoverkko publication's design does not follow this advised guideline as the reason for setting the headings to be much larger in point sizes than usual is to emphasize visual hierarchy of the headings having greater importance by size as the differences in importance can be presented with scale contrast, which also implies motion (Lupton & Phillips 2008, 43).

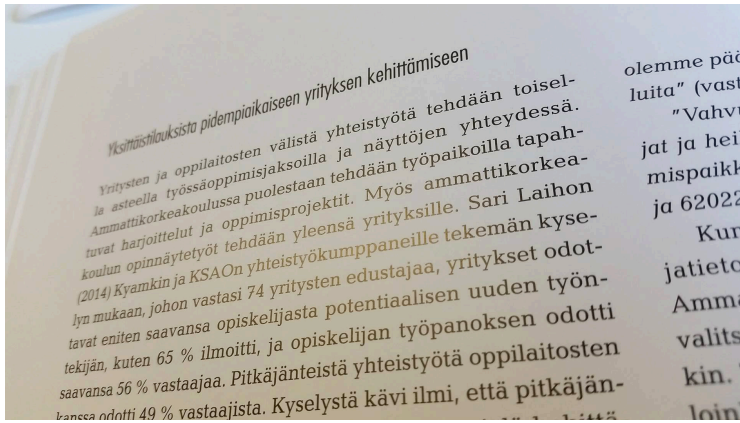


Figure 9. Body copy text and the subheadings. (Liakka 2016)

The shape contrast is the contrast between the typographical styles and is formed with two clearly different typefaces (Itkonen 2007, 81). In Intoverkko book the typographical pairing (Figure 9) has a strong contrast between the heavy serif antiqua Candida for body copy and geometric grotesque Futura for headings.

Figure 9 portrays the basic typographical layout for pages: Candida regular is used for body copy text in point size 9 and Futura Light condensed for subheadings in point size 13. In some cases in body copy text, Candida bold of point size 9 is used, to emphasize singular words. In some cases Candida italics point size 9 is used for citations in body copy. The point size 9 for the body copy is chosen in order to create good legibility. The body copy text's point size has for print media cases greater importance than if the publication would only be available on web media, as print media has no zooming in possibility. Commonly point size 10 is the average for print media, however, taking account of Candida's high x-height and spacious design, these aspects maintain good legibility also on a tad smaller point size 9.

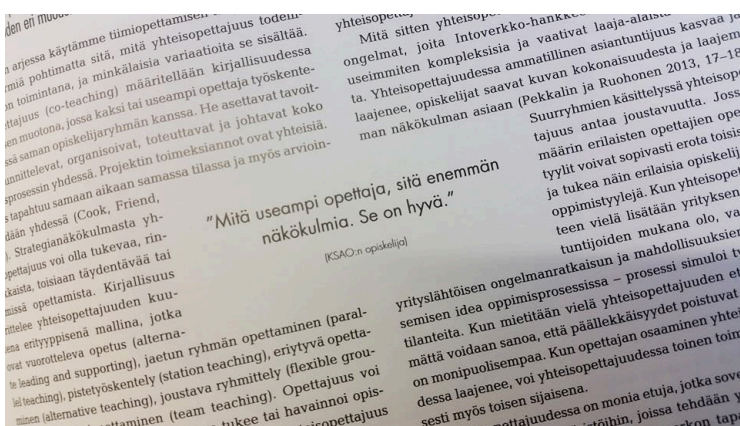


Figure 10. Citation. (Liakka 2016)

As shown in Figure 10, in the case of citations, Futura book in point size 12 is used alongside with Futura book 9. The reason for this choice is that the citation should differentiate enough from the body copy yet be legible at the same time. The point size is one smaller than the subtitles, as in not to be too dominant in comparison to them. The weight contrast (Itkonen 2007, 82) is used especially in the information graphics' typography, as they use only Futura for the typeface, thus the way to create contrast and hierarchy in the information graphics is to use different weights of the same typeface. Pairing two weights of grotesque creates the weight contrast. Most grotesque typefaces have multiple weights. The more there are weights, the smaller the differences between them. Thus contrast large enough may not always be created between two weights of mild difference between them (Itkonen 2007, 82). This is the reason for using heavier weight differences especially in information graphics, in order to maintain the contrast and creating hierarchy.

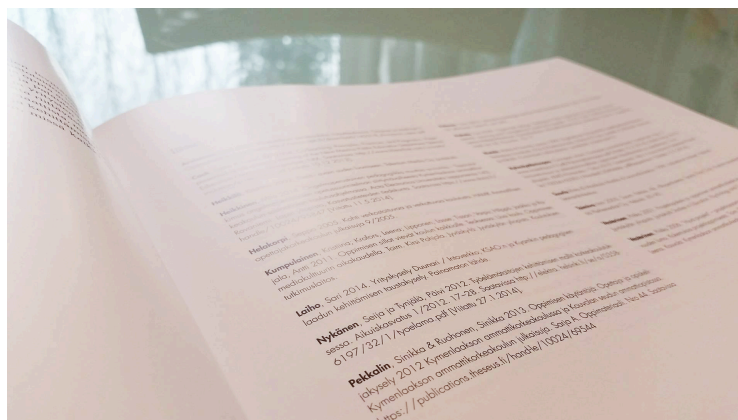


Figure 11. The article references. (Liakka 2016)

As shown in Figure 11, the article references are written with the same style as the author names: Futura Light point size 7, as the habit of marking the article references is to use a point size as small as possible. Futura book point size 7 is used for boldings in order to differentiate the name of the reference from the further information provided. Analyzing the point size choice afterwards, the size may have been slightly larger to improve legibility, as even though the bold weight may have good contrast to the background, the light weight may be already a bit challenging to read.

7.3 Colour scheme

The colour scheme of Intoverkko publication is created with a limited colour palette with the ideology *less is more*, as described by Rutter Kaye the tendency in the 21th century aiming for a limited colour palette in a layout with a lot of white space (Rutter Kaye 2002, 84). To maintain the consistency of the different design elements in the book layout, the different design elements are themselves kept simple, in order to avoid having too many variables within the design. This, concerning the colour scheme, means that one main colour is chosen and the other colours used are analogous. Defined by Lupton and Phillips analogous colours are *hues that sit near to each other on the color wheel have minimal chromatic differences* (Lupton & Phillips, 2008, 73).



Figure 12. Main colour (C=100 M=0 Y=0 K=0). (Adobe InDesign 2014)

Shown in Figure 12, the chosen main colour for the publication is blue (C=100 M=0 Y=0 K=0). The blue is used throughout the book in the cover design, in some of the subheadings and in the information graphics. The choice of the main colour mostly roots from its cultural meaning, which, by Arntson would be an association with calmness (Arntson 1993, 143). The reason for choosing a colour with a *calm quality* is that the colours of the Intoverkko book are not chosen to be in a dominant role, other than in the design of the information graphics. Overall, the colour choice is a secondary design element whereas the typography for example would be primary design element thus having greater importance for the overall composition of the book design.



Figure 13. Analogous colour CMYK (C=100 M=77 Y=0 K=0). (Adobe InDesign 2014)



Figure 14. Analogous colour CMYK (C=99 M=4 Y=67 K=0). (Adobe InDesign 2014)

The other colours as shown in the figures above (Figures 13, 14), are analogous colours for the main colour (C=100 M=0 Y=0 K=0). Using analogous colours provides a way to maintain harmony while differentiating the elements from another, as described by Lupton and Phillips that using the analogous colours together creates minimal color contrast and harmony as a result of having an element in common (Lupton & Phillips 2008, 72). Using more than one colour is essential in order to differentiate the elements and create contrast within the information graphics, but this has to be done in a way that indicates the information graphics being one element separate from the other content. This is the reason for limiting the use of the analogous colours only for the information graphics in Intoverkko publication, underlining its value as a design element of different nature than for example the illustrations.

7.4 Layout

In Intoverkko book, the most evident aspect of the layout is the horizontally wide format. As defined by Rutter Kaye, the physical form of the design sometimes has a huge influence on the communication, for example a flipbook having a reference to a film festival (Rutter Kaye 2002, 3). The idea of the horizontal format is indeed to make a reference to the flipbooks, illustrated with sketches, thus being suitable to support the brief's requirement for the sketchbook resemblance. Acknowledging this though requires connotational

(Barnard 2005, 35) knowledge of this type of notebooks, which may not be an association common enough to rely on to justify the layout format. This horizontal alignment of layout enables the grid to be built of multiple columns, giving more options for the placement of the elements.

The main design guideline for Intoverkko book prefers modernist approach, which layout-wise would mean using asymmetrical grids. The layout design choice of the publication is to use a symmetrical grid for spreads. The reasoning for not designing asymmetrical grid is a practical solution, as it was schedule-wise more realistic designing the 175 pages on one set symmetrical grid, considering the margins and columns. This grid then is from time to time given ambiguous and asymmetrical freedoms in the case of the information graphics and illustrations.

Even though the layout design mostly respects continuity and repetition, Rutter Kaye recommends incorporating an element of surprise to the design (Rutter Kaye 2002, 2). The *element of surprise* on the spread layout is provided by the use of the imagery, citations and the information graphics rather than the article typography. The aim by all means had not been to create identical spread layout throughout the publication, as the *element of surprise* would be essential to maintain the interest and to step aside of the repetitive patterns. This also serves the modernist ideal of ambiguity, which is an essential reference to modernism while the symmetry of the layout is not able to do this.

7.4.1 Layout & Grid settings

The layout is created on the layout program Adobe InDesign with multiple customized settings concerning the paragraph adjustments. These choices were discussed with Senior Lecturer Tarja Brola as a professional interview, which has been one of the research methods. The linguistic settings tailored for the Finnish language hyphenation, paragraph adjustments of justification and word spacing are edited solely based on the professional interview (Appendix 2).

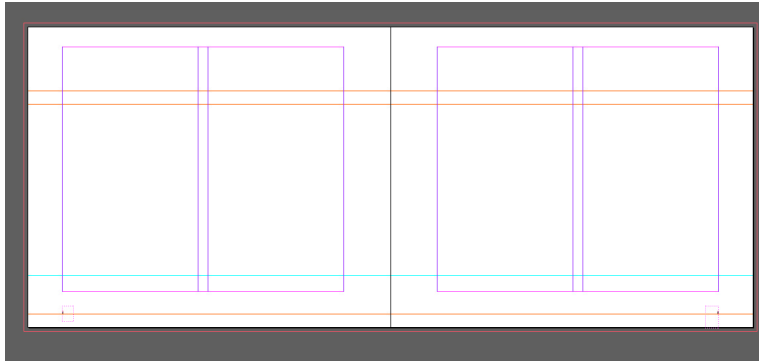


Figure 15. Adobe InDesign grid settings. (Adobe InDesign 2014)

The layout is built on the grid (Figure 15) which is the basis for the placement and the composition of the elements. The grid used is a multi-column grid, divided in two columns. Roberts and Thrift state that the grid's columns are built based on the choice of the typography point size and legibility (Roberts & Thrift 2002, 18). The width of a column is chosen based on the legibility of the paragraph. The column width is 95.5 mm, which with Candida 9 point size body copy text creates the lines having around 60 letters, which is considered ideal for book legibility (Itkonen 2007, 92).

The layout's grid is symmetrical, considering the margins. Even though the brief prefers a modernist design approach, the symmetrical layout is a practical choice to maintain the book design's legibility. As explained by Ambrose and Harris, the symmetrical grid is usually calmer to read than the asymmetrical one. Having the pages mirrored to one another symmetrically guides the eye to look in a balanced space rather than sensing movement, which then again would be the case if the grid was asymmetrical (Ambrose & Harris 2009, 61).

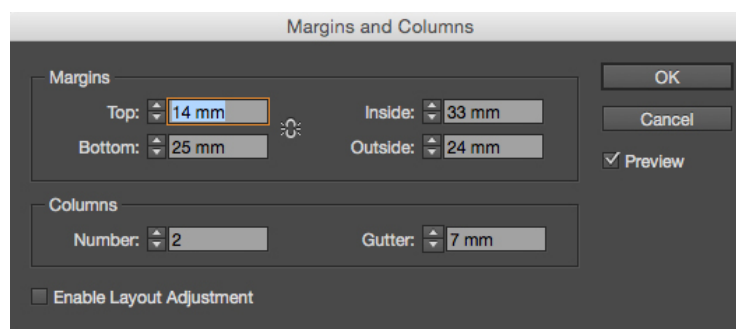


Figure 16. Adobe InDesign margins and columns. (Adobe InDesign 2014)

As shown in Figure 16, the margins are 24 mm outside and 33 mm inside, 14 mm on top and 25 mm on bottom of the page. The aim is to have as spacious layout as possible. Itkonen explains that the inner margin of the print publications mostly is defined by the choice of binding. The glue binding of soft covered publications leaves a large gap in the inner margins as it makes opening the book less convenient (Itkonen 2007, 105). This is why the Intoverkko book's inner margins are chosen to be larger as the choice of the binding of the printed book is glueing, thus requiring larger inner margins to facilitate reading. In addition, as the book format is horizontal instead of the typical vertical one, the saying about the margins does not apply at all points; in order to maintain the balance of the page layout, the bottom margin should be bigger than the top (Itkonen 2007, 104). But as the spread format is horizontal, this is not as evident as in vertical format, in which the illusion of the text sinking to the bottom would more easily be apparent.

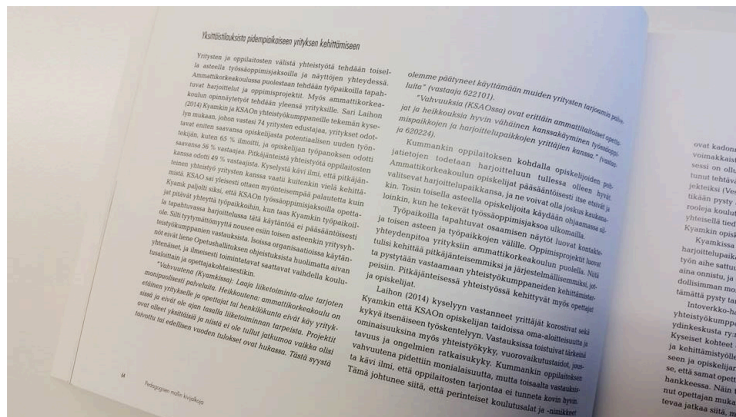


Figure 17. Example page layout. (Liakka 2016)

Figure 17 presents the horizontal layout, where the page width is greater than the height. The page measurements are 255 mm width and 210 mm height. This layout format allows the use of paragraphs vertically short and wide enough to have good legibility. The typical layout of the pages is built of two columns of body copy text with width of 95.5 mm per column and gutter of 7mm between them. The page layouts consist of body copy text, the headings, page numbering and captions for imagery and infographics as well as imagery and infographics. The number of signs per line affects the legibility, as explained by Itkonen: the eye movement enables the registration

of 5–10 letters at a time, meaning a couple of words maximum. This is why the length of the line is around 60 signs, which is the average in the Intoverkko publication's body text (Itkonen 2007, 92).

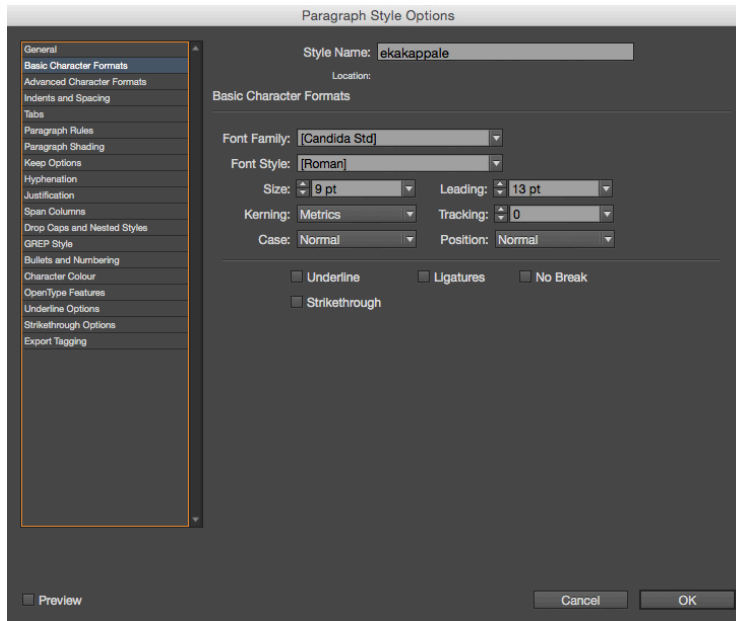


Figure 18. Adobe InDesign basic character formats. (Adobe InDesign 2014)

The paragraph style options (Figure 18) set for typography aim to maintain a reasonable size legibility, with a minimum point size possible, thus point size 9 was chosen for the body copy text as the typeface choice Candida works well in smaller point sizes. The leading settings are set to be 4 points greater (13 point size) than the point size of the text (9 point size). This is a bit more than on average for a couple of reasons: the legibility is greater with more spacious leading with long paragraphs and with a typeface with a high x-height.

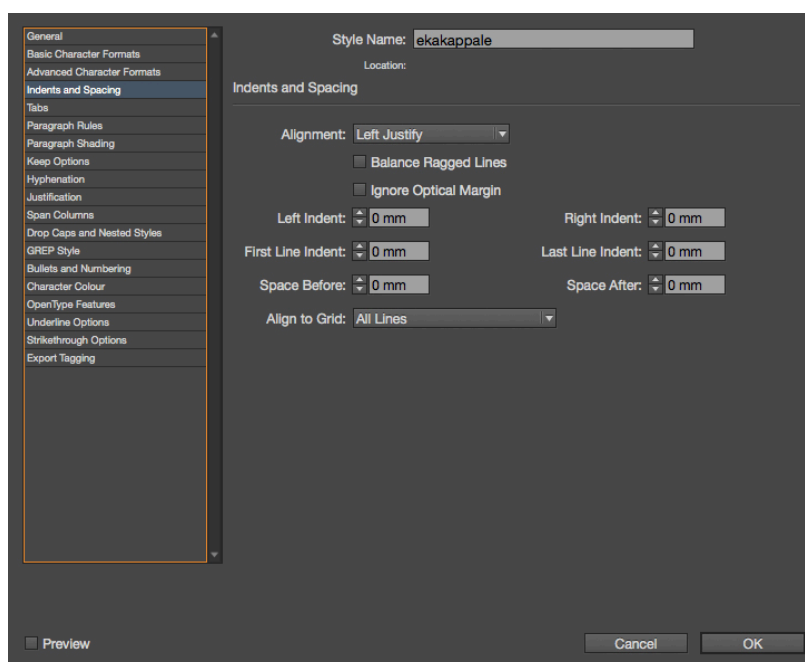


Figure 19. Adobe InDesign indents and spacing settings. (Adobe InDesign 2014)

The paragraph style options (Figure 19) are set to use left justification, which helps in avoiding ragged lines in columns. The paragraph setting presented here defines the first paragraph forming the base for the second paragraph style, which is otherwise identical but uses first line indent of 5mm. This solution ensures the reader is able to differentiate the paragraphs from another, as no space after the paragraph is used to indicate the difference. All paragraph lines are aligned to the baseline grid, in order to ensure unity.

The modernist approach to the design raises a problem with the use of the justification for the body copy text. As Roberts and Thrift define in *The designer and the grid* (Roberts & Thrift 2002), modernism abandoned the body copy justification, as it conflicts with the idea *form follows function* (Louis Sullivan 1896; Barnard 2005, 114). The justified text in the eyes of modernism does not serve the purpose of legibility. The most functional typesetting would according to modernism be left-ranged, as the reading process occurs from left to right, each word would have a separation of equal word space. Thus the justification is a decorative addition that serves no function (Roberts & Thrift 2002, 20). Analyzing the justified design solution afterwards, if the book would be redesigned with an emphasized modernist expression, the typesetting should be changed to the left-ranged one.

7.4.2 Critique on layout solutions

The Intoverkko book's layout design is the part of the design process having the most aspects to be reconsidered. There are many layout adjustments concerning the paragraph settings for the body copy text that would require further attention. These further customizations would for instance include kerning. As Itkonen describes, the width of the kerning of the body copy text affects legibility. Set slightly wider than the default, the kerning may make the reading process more convenient. Also, the higher the x-height of the typeface, the more kerning is needed. With the body copy typeface Candida of high x-height, the layout may have profited from wider kerning (Itkonen 2007, 93). The paragraph adjustments concerning the hyphenation, justification and word spacing should have been given more importance, these aspects had not been neglected but these subjects would require attention in why these selections were made. The baseline grid as well could benefit from customization: for example the baseline settings could be different depending on whether the x-height is considered the strongest point of the letter, or the top of the ascender (Roberts 2002, 26).

Regarding legibility, what should be reconsidered would be the physical form of the book layout that is designed to be in a horizontal format. Even though the format supports the idea of modernism's aim for creating *unseen* solutions (Barnard 2005, 115), it does not essentially support the idea of functionality, as one thing affecting the legibility of a book is its physical format. The reason for the printed books mostly being designed in the vertical format is that they are more convenient and ergonomic to read. This ergonomics has been compromised in the design of the Intoverkko print book, and as a suggestion the possible redesigned version could be in a square format. Thus the traditionally used vertical format would be avoided, maintaining the modernist feeling and the legibility of the physical book would be improved from the horizontal format.

Aspects then again speaking for the horizontal book format solution would be those that it allows the layout be spacious and enables the use of the multi-column grid. The multi-column grid allows the composition have more variation among the elements. In comparison to the layout of the vertical layout the horizontal format makes possible the spacious use of the

paragraphs, without them being too narrow for the book use. The preference for using more than one paragraph per page is to give more variety to the layout design and the placement of the elements.

Another layout issue concerns the use of empty space. The spread layout is a multi-column grid of four columns, two columns per page, with wide margins. This leaves plenty of empty space around the text content. The use of the empty space profits from having elements placed proportionally and this positioning has not at all parts been balanced.

7.5 Information graphics

The Intoverkko publication has in total 20 different information graphics thus making the design element an important part of the book (Appendix 3–4). There have been several guidelines for designing the graphics. Using colour scheme of the main colour (C=100 M=0 Y=0 K=0.) along with its analogous colours: hues of blue and green. The typeface used for the information graphics is Futura. Several different point sizes and Futura typeface weights are used and text's colours vary from negative (white) text to any colour used in the information graphics. The representation of the information graphics is non-figurative. Explained by Cairo, the information graphics representing an abstract phenomenon are non-figurative. When the subject is presented with symbols there is no literal relation between the subject itself and its expression (Cairo 2013, 19). This is why the forms used for the design of the graphics are in most parts not defined by the information contained.

The primary function of the information graphic is to be informative and secondary function to be visually appealing. Successful information graphic achieves these two functions by fulfilling the primary one, meaning the visual success derives from the way the meaning is conveyed (Cairo 2013, 20). As defined, the design of the information graphics respects the ideology of form deriving from functionality (Louis Sullivan 1896; Barnard 2005, 114). This ideology also is fitting to the idea of modernism. During the book design process, the first and the main part of the design of the information graphics is to find a way to visualize each of the graphics' information into a clarifying, understandable form.

Stated by Wilbur and Burke, when building an information graphic it is essential to note what type of information the graphic conveys. The information may be static, as in the case of maps. The reader extracts the information what they need for understanding the graphic. But in the case of many infographics, the content may not be found directly in the information itself but in the movement or change (Wilbur & Burke 1998, 6). As stated in *Information graphics* (Willbur & Burke 1998), even if the literal amount of information would be limited, the visual indicators of the differences and relations, for instance change or hierarchy, may communicate more than the words. This is what defines good information graphic, as it succeeds in transforming the verbal communication into a visual form.

The visual presentations of ideas can be divided into several different categories. As Ambrose and Harris explain, signs are often used to convey short, important messages in a simplified way. Proposed by American philosopher Charles Sanders Peirce signs may be grouped into three categories. These categories are icon, index and symbol (Ambrose & Harris 2010, 88). Intoverkko publication's infographics mostly utilize the sign-type symbol; which, by definition of Ambrose and Harris is *a pictorial element that communicates a concept*, idea or object, but without a logical meaning between them (Ambrose & Harris 2010, 88). This means that the graphics are designed with a high level of abstraction, thus making it especially important to maintain visual clarity in order to communicate the message correctly.

Wilbur and Burke define there roughly being three different types of categories of information graphics. The first category is an organized arrangement of facts or data, for example maps and timetables. From these graphics the needed information is obtained by simply extracting it. The second category presents a process or a situation, a guidebook or a bar chart for example. In these graphics the reader needs to recognize the change that defines the process. The third category is the design of control systems and user manuals, for example that of a product or vehicle. There the reader follows a step-by-step process (Wilbur & Burke 1998, 7). Of these three categories, Intoverkko book's information graphics mostly fall into the second one, as most of the graphics present a change in action, for example the Process-meter graphic (Figure 20). Some of the graphics belong to the first category, for example the timetables.

Wurman provides a concept referred to with an acronym LATCH to serve as a tool in organizing the information of the graphics. In the LATCH concept the information is divided in five different categories, of which **L** stands for location, **A** means alphabet, **T** is to be organized by time, **C** is category and **H** is hierarchy. The organization of these categories goes from the smallest to the biggest value and Wurman states as well that the primary aspect of defining how to organize information is to decide how it is meant to be found (Wurman 1997, 17).

Wurman states that in order to start organizing the information, it should be classified with the help of the LATCH concept. Dividing the information into sections of hierarchy, organizing by time and category had been a starting point of the design of the graphics of Intoverkko publication. As the information graphics are built of information of different values, it is essential to be able to at first classify them into different groups. The starting point is to set up what information should be emphasized and given more importance and visibility in relation to the others.

As Maria Giudice and Lynne Stiles state in *Information Architect* (Wurman 1997, 76) one of the most vital aspects of working with information graphics is communication with the working team. The design process of information graphics is mostly about the discussion of the possible presentation of the information. This is because the graphic designer cannot have as much of knowledge of the information as the other working team. Especially in the cases of graphics with multiple different information elements the face-to-face meetings are essential in order to communicate the meaning successfully. In the Intoverkko Project the meetings with Project Manager Pasi Korhonen were held from time to time while planning the most complex infographics of the book.



Figure 21. Infographic, pages 76–77. (Liakka 2016)

Figure 21 shows information graphic utilizing the whole spread. The graphic is designed in an ambiguous puzzle shape that is built of five pieces. The two pages are asymmetrically designed. This puzzle graphic presents a style different from the former example, as the typographical styles have emphasis on Futura BT and not on Futura Condensed. The colouring is also darker, using only one shade of dark blue. This spread is an example of the use of an element of surprise (Rutter Kaye 2002, 2), stepping aside the logical repetition, whether being successful or not for the overall unity of the book's design it succeeds in creating a surprise.

7.6 Illustration

The imagery used in the book consists of illustrations and photography. The illustrations are the element of the book that brings the briefing's preference for hand-drawn inspired design. The desired style is achieved by illustrating the book with non-finished sketches. Maintaining the illustrations' paper-texture is the main aspect on mimicking the original drawings. In other words, the illustrations of the very original hand-drawn sketches rely on the optical illusion, texture, created by photography.

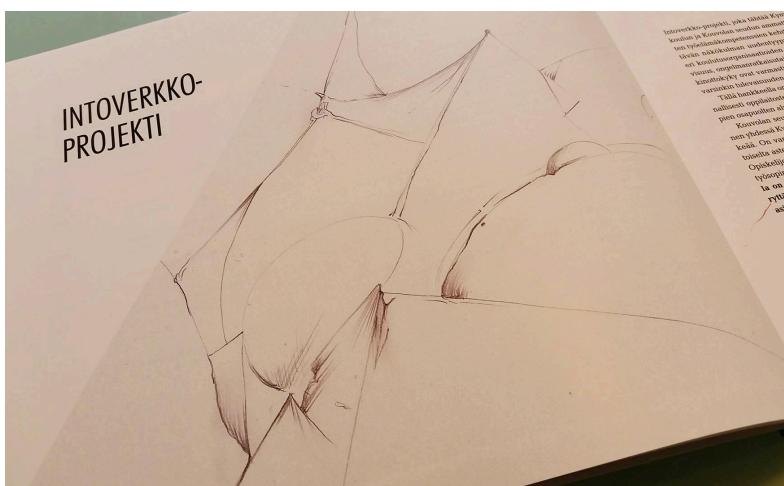


Figure 22. Illustration, page 8. (Liakka 2016)



Figure 23. Article illustration, page 60. (Liakka 2016)

The article illustrations, as shown with the example Figures 22 and 23, are designed having modernism in mind, thinking of the modernist concept of aesthetic self-reflexiveness. This concept, defined by Boyne and Rattansi is the first feature of modernism (Boyne & Rattansi 1990, 6; Barnard 2007, 112–113). Self-reflexiveness in modernism means to consider *one's own practice by using that practice*, being the work's statement of itself within the design (Barnard 2005, 112). The Intoverkko book's illustrations thus are non-finished drawings representing themselves in a design product representing a developing idea. The illustrations reflect the concept of the Intoverkko Project's idea of a developing network of the LCCE® project (Kyamk, 2016).

The illustrations of the book are original hand drawn pencil sketches scanned on Adobe Photoshop where they have been mildly modified mostly by using

the tools for adjusting the tones and contrasting. The idea is for them to be clearly non-finished sketches showing the texture of the paper they have been created on. Another reason for maintaining the original paper texture is so that it serves as a background in the otherwise simple image. As Lupton and Phillips state, the task of the texture generally is to be the ground rather than a figure being in a supporting role to the primary image. The supportive role however does not mean the texture would be passive, as it enhances the design (Lupton & Phillips 2008, 68).

The illustrations' grainy texture is purely visual, as the paper used for printing is non-texturized. The aim of the illustration texture is a visual detail for the eye of the viewer as the content of the abstract illustrations otherwise are simple (Lupton & Phillips 2008, 53). Furthermore, this is a subtle way to achieve the wished sketchbook resemblance having a reference to physical quality paper, such as aquarelle paper that usually has a texturized surface. The illustration texture supports the idea of the sketches and non-finished drawings.

Being graphic design, the aim of illustration is to convey a meaning. As explained by Lipton, illustration literally illustrates: it simplifies the complex concepts. Illustrating strips the visual communication to the essential and takes away the unnecessary (Lipton 2002, 172). Despite the illustration subjects of *Intoverkko* book being abstract, there still is the need to convey the meaning behind the design. In this case the use of signs, which are icon, symbol and index, should be limited to maintain the abstraction.

Barnard presents two terms to define the understanding of the signs, denotation and connotation (Barnard 2005, 35). The denotational meaning is a literal way of experiencing the signs of the image and answers to the question *what is the picture of* (Barnard 2005, 35). This direct use of signs would be helpful if the goal would be to create something visual that has a clear reference to something it represents. Connotation then again is a less direct way of understanding as it answers to the question *what does the image make you feel* (Barnard 2005, 35). Connotational meaning relies on individual or cultural associations and these associations cannot be experienced in a correct or an incorrect way (Barnard 2005, 36). Connotation is the way the individual understands the cultural meanings, which derive from the values

and beliefs. In graphic design context it is about understanding the visual references, such as images, as a result of being a member of the social group in which they are presented (Barnard 2005, 35).

Avoiding the literal visual expression, the illustrations of *Intoverkko* book rely on connotation rather than denotation. In *Intoverkko* book, the illustrations thus rely on the cultural associations the viewer creates. The illustrations have a mild stylistic reference to Wassily Kandisky's artworks of composition (Appendix 5). Noticing this and whether the reference having been successful or not, it is not essential in order to *read* the image correctly, as there is no correct or incorrect way to do so. The background also holds a reference to artist sketchbooks – reading which requires the cultural knowledge to register it.

The illustrations are used for articles without illustrative photography (Figures 24 & 25), and in these articles the illustrations are used as the same copy in different sizes, in different angles and with different cropping's that are mostly diagonal and non-symmetrical, in order to respect of modernism. The illustrations are also used for the cover design. Some of the illustrations benefit from a diagonal, ambiguous cropping. The cropping of the photographs creates a different meaning to them. This is a useful tool as the photography provided may have limitations. The cropping of the image can change the image's meaning and the way the information is communicated (Lupton & Phillips 2008, 103). This way of presenting the imagery supports the modernist idea of ambiguous meaning and dynamics.

7.7 Photography

The function of the photography mostly is ornamental. Some of the photography though has an informative function by being article-related. The photography imagery for the publication is a collection of photographs received from the team, the authors of the articles. In the case of some of the article specific photography, descriptive captions are used. The photography is presented aside the name of the photographer whenever it has been possible to be aware of the photographer of each photo.

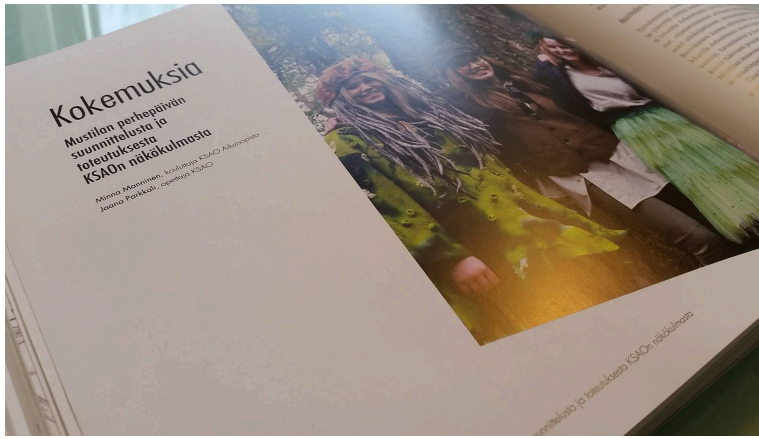


Figure 24. Photography, page 142. (Liakka 2016)



Figure 25. Photography, page 149. (Liakka 2016)

As Figure 24 shows, some of the photography uses a diagonal cropping as a visual effect. Most photographs though are presented with rectangular framing as in Figure 25. The photography is used in a couple of different ways: some of the photographs illustrate the whole page without having any other content, using them as the main image of the article aside the title of the article, as in to lead the reader to the content and mood of each article. Some of the photographs illustrate only half the page with regular rectangular cropping and some of the photographs are cropped in a diagonal way as in to better demonstrate the dynamic style of the book.

As a self-reflection on the use of the imagery, illustration and photography, what should be designed differently would be to replace the rectangular use of the photography and instead profit from the cropping tool as it has an emphasizing effect on the modernist message of the design. The static,

rectangular cropping has no movement in terms of the direction of the line, and thus removes the desired dynamics of the layout completely.

7.8 Cover design

The design of the Intoverkko book covers (Appendix 6) aims to communicate the book's content in the least complex way possible in respect of the lack of unnecessary ornament. As Lipton states, a book cover is a representant of the content and being well designed it informs the reader (Lipton 2002, 10). Lupton and Phillips state that hierarchies are required in graphic design to facilitate the communication with the reader. The hierarchies make it easier to navigate through the design (Lupton & Phillips, 2008, 115). The title's typography profits from hierarchy through contrast. This effect has been used by for example by the Russian constructivists, who discovered the dramatic use of scale helping to convey the political message with a powerful voice (Lupton & Phillips, 2008, 120).

The cover design creates hierarchy by scaling to demonstrate the importance of the elements. This is shown in the scale differences of the title and the text below it, in order to maintain the dominance. For the reader to immediately recognize the main idea of the book's content, the title's word *Into* is given the largest scale of the cover design's typography. This way the design facilitates the reader's navigation into the subject of the book.



Figure 26. Front cover. (Liakka 2016)

Shown in Figure 26 the front cover has three elements: the book title *Into-oppimisesta*, the name of the editor and illustration. The measurements of the cover design of the Intoverkko book are the same as the pages, 255 mm width and 210 mm height. The cover design has a print finishing effect spot UV-varnishing added to the titles, both on front and back covers. The front cover has a background that subtly illustrates the whole surface. As the illustration serves a supportive role in relation to the book title, it is given less colour value to contrast the text.

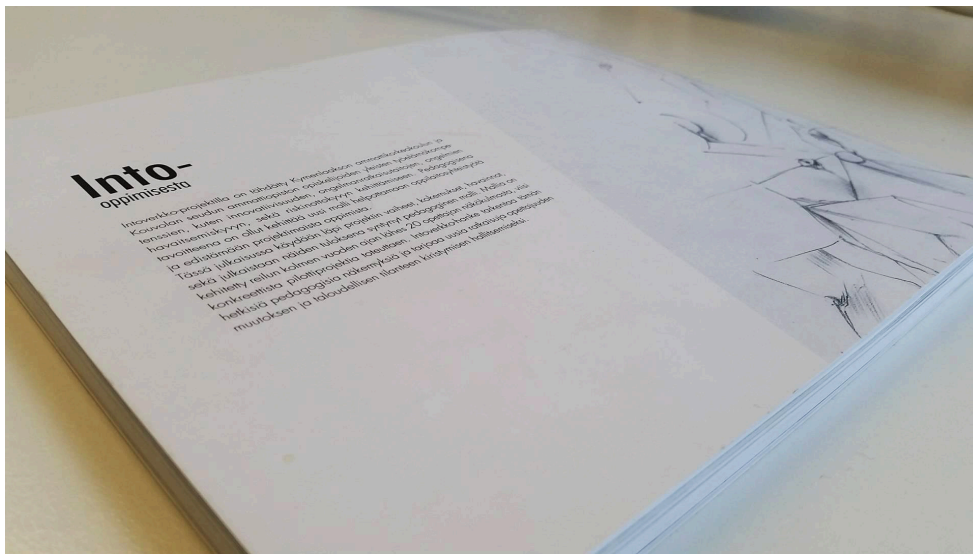


Figure 27. Back cover. (Liakka 2016)

As Figure 27 shows, the back cover also has three elements, the title, the description and an illustration and the spine has two elements, the title and a background colour. The back cover is illustrated in respect of the two-column grid used within the book layout. The descriptive text is written in Futura BT in order to make a difference to the body copy text, Candida.



Figure 28. Spine. (Liakka 2016)

Figure 28 presents the book cover spine. The measurements of the spine are 10 mm width and 210 mm height. The colour of the spine is set to be the main colour blue used throughout the publication.

7.9 Consistent book design

The aim of the book design has been to create consistency between the design elements. The different design elements are typography, layout, imagery and information graphics. Even though not each of the elements appear on every spread, there are several which utilize multiple of these different elements. The layouts of different spreads are built in respect of composition rules: hierarchy, balance, rhythm, repetition and composition. The concepts of symmetrical and asymmetrical composition and the element of surprise are utilized as well.

As stated by Lupton and Phillips, book design is formed by an underlying unity of elements covered with the variations on surface. Balance and rhythm together create dynamics: logical patterns and exceptions, repetition and surprise (Lupton & Phillips 2008, 29). The book design should aim to be built of elements of which none is clearly dominant in relation to another, having contrast too great results in losing the balance (Arntson 1993, 107). The reason for having a clearly different design for each separate design element is that they serve different purposes, for instance the illustrations' main task is

to indirectly convey an association, whereas the information graphics communicate the exact information as a primary task while their visuality is secondary. The aspects that tie together the elements are those that they are designed after the same brief and for the same final product. The design of each element is tailored in a way that they are represented in different ways.

The repetition of chosen elements is used to create patterns and logic in order to facilitate the reading process by giving clues of repeating patterns. The hierarchy is used to help in giving value and making differences between the elements, mostly with the use of scale difference in typography. This helps the reader to navigate through the layout by first going through the larger elements and the smaller ones after. The rhythm is created by the use of repetition of the elements and hierarchies as well as their relation. The rhythm should have an element of surprise (Rutter Kaye 2002, 2) to it to break the predictivity, as predictivity makes the reading process less interesting.

The rhythm cannot be achieved with static symmetry. The symmetry has to have an element that creates break to the logic. The idea of asymmetry is also supported by modernism, that prefers the use of ambiguity and vagueness, creating an element that is surprising or *unseen* – the term is at the core in defining the very idea of modernism, which aims to create something new that has not existed before. The Intoverkko book's layout composition thus, while adding the element of surprise, does have clear patterns by repetition that allow maintaining the consistency, while having the spice that indicates a design non-conventional.

Each of the design elements of Intoverkko publication should be built of limited number of variables. The preferred design guideline for the book would be to follow the rule of repetition (Lupton & Phillips 2008, 34): something that is presented once should be presented twice – the repetition creates rhythm and helps maintaining unity. The repetition created by the use of elements results in rhythm and the variations in contrasts then again create surprise. The repetition creates logical patterns, which make the layout more convenient to read. Also, too strict followance of the decided design rules proves at some points to be a problem and may lead to dullness with a complete lack of *the element of surprise*. There should be flexibility in order to create interesting design.



Figure 29. Page layout, page 5. (Liakka 2016)

In Figure 29, the layout of the page is built in respect of the scale hierarchy between the typographical elements and creating contrast between the ornament and the empty space. The colour hierarchy of dark colour having the most value ensures that even though there is an illustration, the bold title gains the most attention from the reader. The layout is built according to the two-column grid used throughout the book.



Figure 30. Spread, pages 28–29. (Liakka 2016)

The spread layout of Figure 30 is positioned symmetrically. The darker areas of each page, the dark area of the photograph and the body copy paragraph on the right page are symmetrical in relation to each other. The other text elements, caption and the name of the photographer, have different weights to

maintain the hierarchy and contrast. The spread is build of contrast between dark and light and assembling these elements symmetrically while maintaining the hierarchy.



Figure 31. Spread, pages 12–13. (Liakka 2016)



Figure 32. Spread, pages 142–143. (Liakka 2016)

The two spread layouts presented in Figures 31 and 32 are built on the same design using imagery in the middle of the spread between the heading and the paragraphs. The layout is designed in respect of the two-module grid and along with that the spread is divided in three sections that linearly change from diagonal into vertical. These spreads are an example where the modernist ideal for asymmetry is presented by keeping the number of the different design elements per spread in minimum. If there would be a great

variety of elements, the result could turn out confusing. The element of surprise (Rutter Kaye 2002, 2) has great efficiency enhancing the layout design when the risk of creating illogical confusion is scarce.

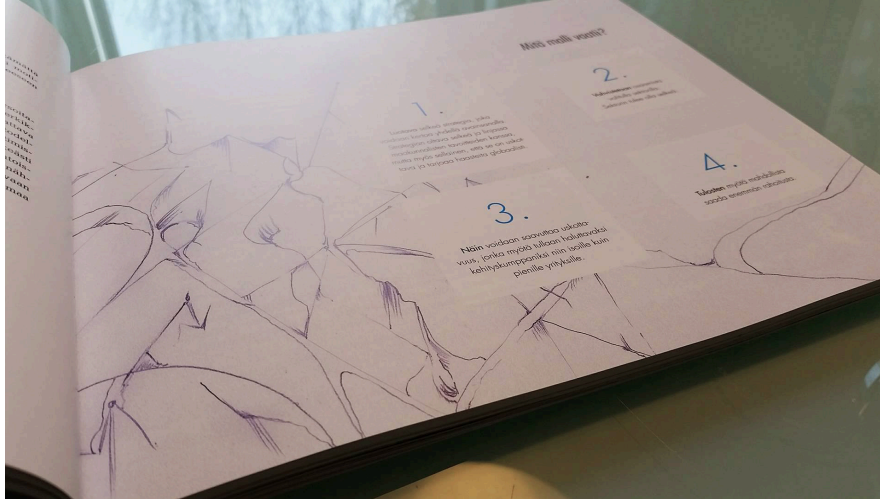


Figure 33. Information graphics, page 59. (Liakka 2016)

Figure 33 shows a page layout using illustration as a background for the informative numbered text boxes. In order to differentiate the page from a regular layout page of the two-module grid, the division of the page content is vertically divided into three columns, one section used for the illustration on left and the other two used for the text boxes forming two columns. This design is built according to the rules of repetition as well as contrasting the informative element from the ornamental background. This is an example of two different design elements working together to enhance one another.



Figure 34. Spread, pages 130–131. (Liakka 2016)

Figure 34 presents a spread that has content of citation, body copy text paragraph and a graphic. The layout of the spread is designed in respect of the rules of rhythm and balance. Lupton and Phillips describe that visual balance is created when the elements in space are positioned either evenly or proportionately. This balance is created by contrast in position and colour: a dark colour should have a lighter counterpoint (Lupton & Phillips 2008, 29). The elements on the spread are divided on the pages. The citation on the left page is placed in the same position symmetrically as the circle of the information graphic can be found on the right page. The colours are divided into the light colour scheme of the left page and darker colours on the right page's infographics in order to create contrast. The amount of empty space is the same in both pages. The alignment of the objects on each page is in the middle.

8 PRINTING

After the book design had been accepted by the customer, meaning having gone through the editing of Leena Muotio and receiving the acceptance of the Project Managers Pasi Korhonen and Antti Hieta as well as the authors of the articles, the next stage was to send the files for printing. Sending the publication files for print is the stage of the design process called implementation. During the implementation phase, the project is passed on to

the supplier of the final product, in this case the printing company (Ambrose & Harris 2010, 26).

8.1 Printing company

The choice of the printing company changed a couple of times during the project for budgeting reasons and, as the format of the book would be an uncommon horizontally wide format, this affected the choice of the printing company as well. As a result of competitive tendering the printing company to work with turned out to be Painokotka Oy.

8.2 Printing settings

The print order was to have 400 copies in offset printing, in four colours and soft cover with spot UV varnishing as a special effect. The paper chosen was a covered matte paper and the cover material is soft with matte finishing. The document settings for printing were 3 mm bleed and cropping marks on both the covers and pages. The colour profile was set to CMYK Euroscale Coated. Regarding the colour profiles, it was sufficient the profile being CMYK and setting it to Euroscale Coated was for the reason to make sure the document colour setting is as compatible as possible with the printing company. The files were sent as an exported pdf, the pages and covers as two separate files. Both these files were saved as pages instead of spreads, as it is important to have the bleed for the inner sides as well. The cover files were sent as two versions: the main cover file with all the content and another file with only the parts to be spot UV varnished in black on white.



Figure 35. Cover special printing effect spot UV varnishing on title. (Liakka 2016)

As shown in Figure 35, the cover has a special effect spot UV varnishing on the book title. The cover varnishing effect is a subtle way to enhance the book cover design. The use of print finishing techniques helps in communicating the message in a more effective way (Ambrose & Harris 2010, 162). In the cover, the varnishing adds value to the title thus giving it higher importance in the hierarchy among the other elements on the cover design.

9 OUTCOME

The Intoverkko Project's book consists of 175 pages with soft covers that have a spot UV-varnishing effect added to the titles on both the front and back covers as well as on the spine. The book is printed in four colours and is also available as an e-book. The book was printed in 400 copies. The book was intended to be used as a handout during the Intoverkko seminar at the end of 2014, but due to the schedule changes this unfortunately was not possible and in the end the book was sent to those ordering the book after the seminar. The customer was satisfied with the outcome of the Intoverkko publication and the way it differs from the former LCCE® publications.

10 CONCLUSION

As a post-analysis of the design process, overall the Intoverkko publication did achieve the design aim, which is a modern LCCE® publication with a visual resemblance to sketchbooks not carrying the design solutions created for the former LCCE® publications. In most respects the consistency and balance of the design elements were achieved. The issues that should be rethought concern primarily the harmony between the design elements.

Fulfilling the requirement of the briefing demanded analysis of the interpretations of the terms, as the references both to modernism and to sketchbooks are ambiguous. The sketchbook resemblance leaves many open options for the execution and the chosen approach was to keep the elements holding a reference to this term to a minimum, with the use of the book's form as well as with the illustrations. Modernism turned out being a complex guideline as in graphic design it may have a variety of interpretations. The visual references to modernism in book are numerous and at most part justified despite the conflict of whether to prefer asymmetry or symmetry for the layout design. This, in the case of book design, is a dominant design solution.

Problems arise when creating a combination that should be functional, in other words following the ideal of Bauhaus, while respecting the other interpretations of modernism. Arguably in practice, the concept of *unseen*, which also may be understood as breaking the pattern and thus creating an exception to the logic conflicts with the idea of pure functionality. This is why the book design has to be a compromise of functionality and legibility while remaining surprising. However, if the book was to be redesigned, the preference would be on the asymmetrical layout, provided the schedule would enable creating customized spreads instead of using one standard layout.

The information graphics had been a highly challenging design section. To maintain the level of communication, successful design of the information graphics requires consistency, meaning that the number of the variables of each visual element should be scarce. The element of surprise (Rutter Kaye 2002, 2) is not a bothering factor regarding the ornamental elements. In the case of the infographics then again, where visuality is a secondary function,

the element of surprise should be eliminated. The selection of the 20 information graphics turned out partly sporting an uneven quality, using too many variables of colours, forms and typeface weights.

The main research question was to analyse the consistency of the different design elements. The starting point was to design each of them based on the brief. The references to the brief keywords have appeared in the different design elements in non-similar ways, as it has not been the aim to create a series of elements having no contrast to another. This non-similarity between the different elements, such as between imagery and infographics, has been intentional, but the problem arises from having too many variables within the element groups. These elements have been combined with another in a way that partly steps too far away from the desired repetitive pattern.

As Ambrose and Harris state, despite being the last stage of the design process, learning stage may be recognized throughout the whole design process. Self-reflection at each stage is essential even though it would be the most effective after the project has been concluded (Ambrose & Harris 2010, 28). This is why the issues should be recognized during the design process, while it still is possible to make alterations. This said the design process should have begun by setting clear guidelines for each design element section of the project in order to maintain the unity. Each step away from the style used for the most parts of the design creates exceptions that are not logical. This breaks the pattern of repetition and replaces it with the element of surprise, which itself is not harmful but requires caution with its use in order to avoid confusion.

REFERENCES

- Ambrose, G. & Harris, P. 2009. *The fundamentals of graphic design*. Singapore: AVA Book Production Pte Ltd.
- Ambrose, G. & Harris, P. 2010. *Design thinking*. Singapore: AVA Book Production Pte Ltd.
- Arntson, A. E. 1993. *Graphic design basics*. Orlando: Harcourt College Publishers.
- Barnard, M. 2005. *Graphic design as communication*. London: Routledge.
- Cairo, A. 2013. *The functional art: An introduction to information graphics and visualization*. Berkeley: New Riders.
- Cullen, K. 2007. *Layout workbook: A real-world guide to building pages in graphic design*. Rockport: Rockport Publishers Inc.
- Itkonen, M. 2007. *Typografian käsikirja*. Helsinki: RPS-yhtiöt.
- Lupton, E. & Phillips, J. 2008. *Graphic design: The new basics*. New York: Princeton Architectural Press.
- Roberts, L. & Thrift, J. 2002. *The designer and the grid*. Hove: RotoVision.
- Ruohonen, S. & Mäkelä-Marttinen, L. 2010. *Towards a learning and competence creating ecosystem*. Kouvola: Kymenlaakso University of Applied Sciences.
- Ruohonen, S. & Pekkalin, S. 2012. *Haasteista mahdollisuuksia LCCE®-opettajuudessa. Learning and competence creating ecosystem - LCCE®*. Kouvola: Kymenlaakso University of Applied Sciences.
- Rutter Kaye, J. 2002. *Design basics*. Gloucester: Rockport Publishers Inc.
- Samara, T. 2006. *Typography workbook: A real-world guide to using type in graphic design*. Beverly: Rockport Publishers Inc.
- Wildbur, P. & Burke, M. 1998. *Information graphics*. London: Thames and Hudson.
- Wurman, R. 1997. *Information architects*. New York: Graphis Inc.

INTERNET SOURCES

- Cambridge Dictionaries Online. 2016. *Dictionary* [Online]. Available at: <http://dictionary.cambridge.org/> [Accessed 04 January 2016].
- Macmillan, N. 2006. *An A–Z of type designers*. London: Yale University Press. [Online]. Available at:

https://books.google.fi/books?id=jxV4qEoEo8C&pg=PA78&lpg=PA78&dq=jakob+erbar&source=bl&ots=-CmOnC48VT&sig=AKUyyhLWIZgJ2ya9FZ-pYMC-Juo&hl=en&sa=X&redir_esc=y#v=onepage&q=jakob%20erbar&f=false [Accessed 08 March 2016].

Manlapas, C. J. 2014. *Graphic design ABCs: A glossary of basic design terms*. UCreative [Online]. Available at: <http://www.ucreative.com/resources/design-terms/> [Accessed 10 February 2016].

Merriam-Webster. 2015. *Dictionary* [Online]. Available at: <http://www.merriam-webster.com/> [Accessed 04 January 2016].

MyFonts. 2016. *Candida typeface* [Online]. Available at: <https://www.myfonts.com/fonts/linotype/candida/> [Accessed 13 March 2016].

Prepressure. 2015. *Fonts. Interesting typefaces. Futura* [Online]. Available at: <http://www.prepressure.com/fonts/interesting/futura> [Accessed 07 January 2015].

FIGURE SOURCES

Figure 1. Cover. *Haasteista Mahdollisuuksia LCCE®-opettajuudessa*. Ruohonen, S., 2012. [Online image]. Available at: http://www.kyamk.fi/Kyamk/Organisaatio/Palveluyksik%C3%B6t/Kirjasto-%20ja%20oppimisteknologiapalvelut/Julkaisutoiminta/Julkaisusarjat/A-sarja/A38_esittely/ [Accessed 01 February 2016].

Figure 2. Spread layout. *Towards a Learning and Competence Creating Ecosystem LCCE®*. Ruohonen, S., 2010, 11–12. Available at: <https://www.kyamk.fi/Kyamk/Organisaatio/Palveluyksik%C3%B6t/Kirjasto-%20ja%20oppimisteknologiapalvelut/Julkaisutoiminta/Julkaisusarjat/A-sarja/A28%20esittely/> [Accessed 01 February 2016].

Figure 3. Information graphics. *Towards a Learning and Competence Creating Ecosystem LCCE®*. Ruohonen, S., 2010, 15. Available at: <https://www.kyamk.fi/Kyamk/Organisaatio/Palveluyksik%C3%B6t/Kirjasto-%20ja%20oppimisteknologiapalvelut/Julkaisutoiminta/Julkaisusarjat/A-sarja/A28%20esittely/> [Accessed 01 February 2016].

Figure 4. Futura BT. Identifont 2016. [Online image]. Available at: <http://www.identifont.com/similar?284> [Accessed 12 January 2016].

Figure 5. Futura Condensed. Identifont 2016. [Online image]. Available at: <http://www.identifont.com/similar?M3> [Accessed 12 January 2016].

Figure 6. Candida. Identifont 2016. [Online image]. Available at: <http://www.identifont.com/show?H4> [Accessed 12 January 2016].

Figure 7. Article headings and author names. Photograph. Liakka E. 2016.

Figure 8. Article headings and subheadings. Photograph. Liakka E. 2016.

Figure 9. Body copy text and the subheadings. Photograph. Liakka E. 2016.

Figure 10. Citation. Photograph. Liakka E. 2016.

Figure 11. The article references. Photograph. Liakka E. 2016.

Figure 12. Main colour (C=100 M=0 Y=0 K=0). Adobe InDesign 2014.

Figure 13. Analogous colour CMYK (C=100 M=77 Y=0 K=0). Adobe InDesign 2014.

Figure 14. Analogous colour CMYK (C=99 M=4 Y=67 K=0). (Adobe InDesign 2014.

Figure 15. Adobe InDesign grid settings. Adobe InDesign 2014.

Figure 16. Adobe InDesign margins and columns. Adobe InDesign 2014.

Figure 17. Example page layout. Photograph. Liakka E. 2016.

Figure 18. Adobe InDesign basic character formats. Adobe InDesign 2014.

Figure 19. Adobe InDesign intends and spacing settings. Adobe InDesign 2014.

Figure 20. Process-meter infographic, page 41. Photograph. Liakka E. 2016.

Figure 21. Infographic, pages 76–77. Photograph. Liakka E. 2016.

Figure 22. Illustration, page 8. Photograph. Liakka E. 2016.

Figure 23. Article illustration, page 60. Photograph. Liakka E. 2016.

Figure 24. Photography, page 142. Photograph. Liakka E. 2016.

Figure 25. Photography, page 149. Photograph. Brola T. 2013. Liakka E. 2016.

Figure 26. Front cover. Photograph. Liakka E. 2016.

Figure 27. Back cover. Photograph. Liakka E. 2016.

Figure 28. Spine. Photograph. Liakka E. 2016.

Figure 29. Page layout, page 5. Photograph. Liakka E. 2016.

Figure 30. Spread, pages 28–29. Photograph. Liakka E. 2016.

Figure 31. Spread, pages 12–13. Photograph. Liakka E. 2016.

Figure 32. Spread, pages 142–143. Photograph. Liakka E. 2016.

Figure 33. Information graphics, page 59. Photograph. Liakka E. 2016.

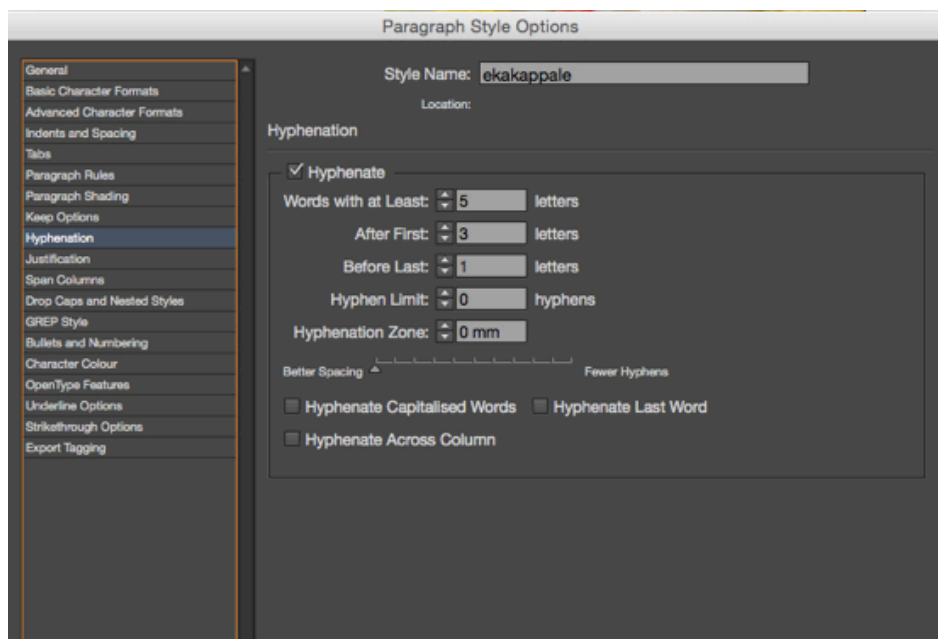
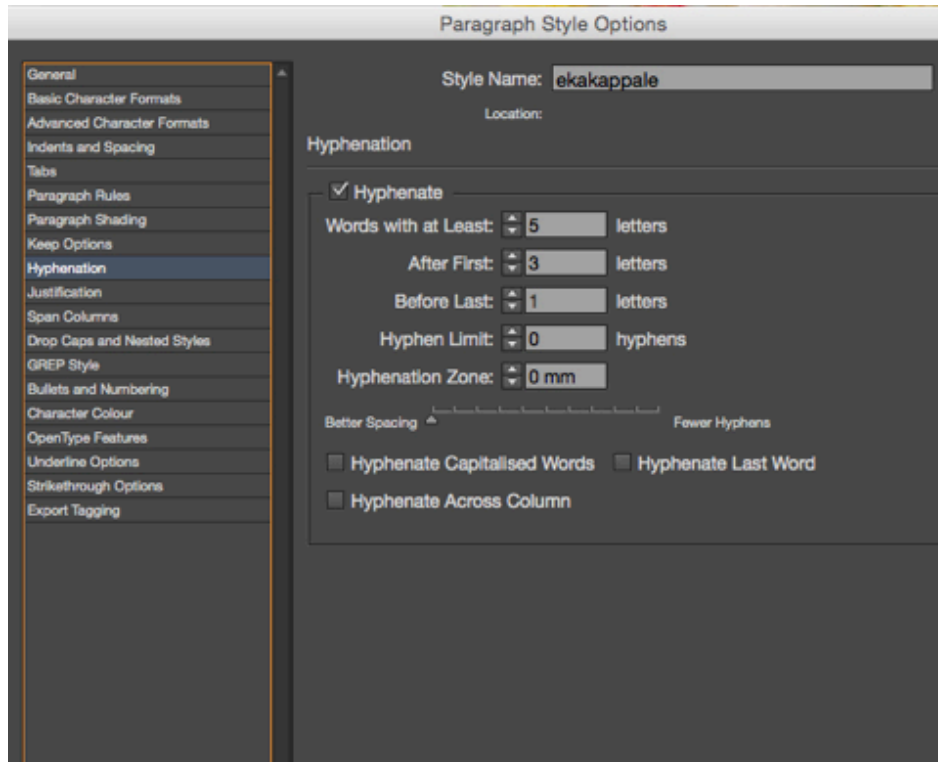
Figure 34. Spread, pages 130–131. Photograph. Liakka E. 2016.

Figure 35. Cover special printing effect spot UV varnishing on title. Photograph. Liakka E. 2016.

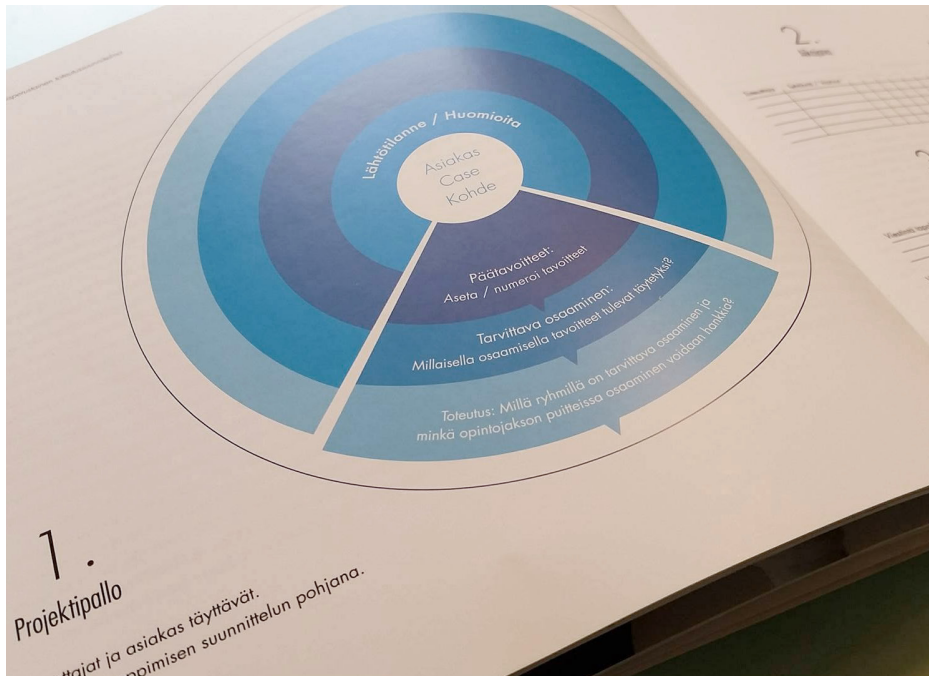
Mindmap

ESSI LIAKKA THESIS RESEARCH 2016		
Intoverkko-project		
1. BOOK-DESIGN		
DESIGN PROCESS		PRINTING
<p>Ideation Modernism "Sketchbook" -> Flipbooks</p> <p>Typography Futura: headings, subheadings, citations, information graphics Candida: body copy text</p> <p>Colour scheme</p> <p>Imagery Illustration: abstract, hand drawn Photography: informative, decorative</p> <p>Information graphics 20 graphics, Futura, forms, colours</p>	<p>Layout Composition of the elements Balance Rhythm</p> <p>Cover design Modernist: "Form follows function" Illustration Title</p> <p>Tools/Programmes Adobe InDesign Adobe Illustrator Adobe Photoshop</p>	<p>Company Painokotka</p> <p>Copy number 400</p> <p>Materials: Matte paper, soft covers</p> <p>Printing special effect UV varnishing</p> <p>To mention colour profile, bleed, pdf, four colour</p>
2. WRITTEN RESEARCH		
FRAME OF REFERENCE	RESEARCH	OUTCOME & CONCLUSION
<p>Client: Intoverkko-project Kymenlaakso University of Applied Sciences (KUAS) Kouvolan Seudun Ammattiopisto (KSAO)</p> <p>Contact people: Pasi Korhonen, Project manager Antti Hieta, Project manager Leena Muotio, Editor</p> <p>Other co-operative parties: European Union (EU) Elinkeino-, liikenne- ja ympäristökeskus (ELY) Students KUAS & KSAO</p>	<p>Questions & issues Consistency, balance & rhythm Infographics & communication Brief requirements: modern & sketchbook-like</p> <p>Comparison analysis LCCE-publications</p> <p>Design process: stages of thinking Ambrose & Harris</p> <p>Modernism Form follows function, different approaches</p> <p>Point & line to plane Kandinsky</p> <p>Self-reflection</p>	<p>Self-reflection & Post-analysis Critique Improvements Feedback Conclusion Future changes Other solution What has been success, what has been failure</p> <p>Outcome of the product Printed product</p>

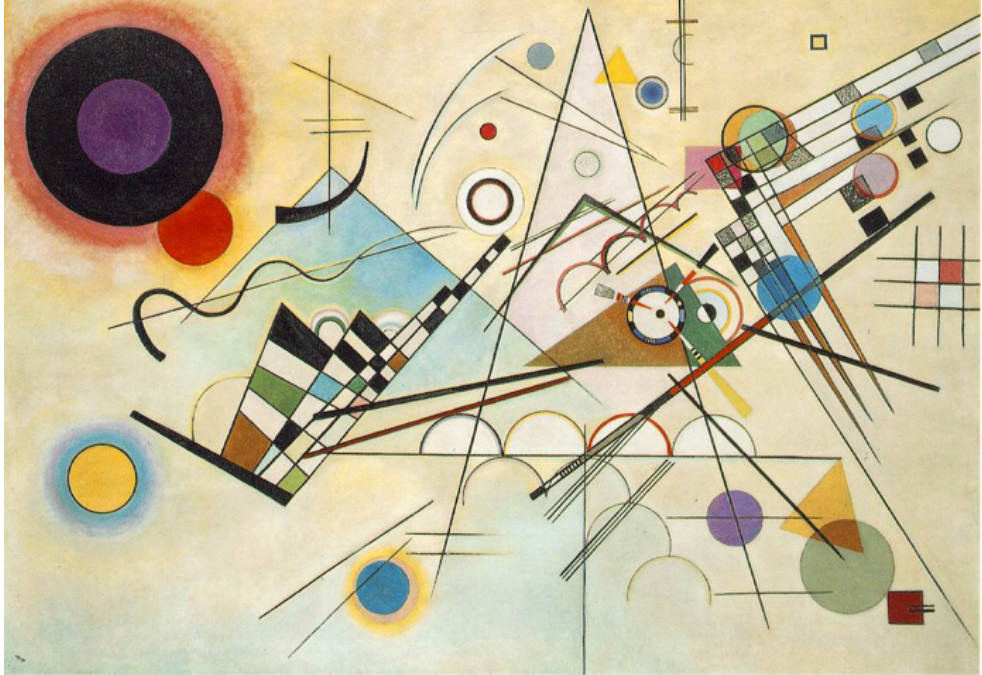
Adobe InDesign paragraph



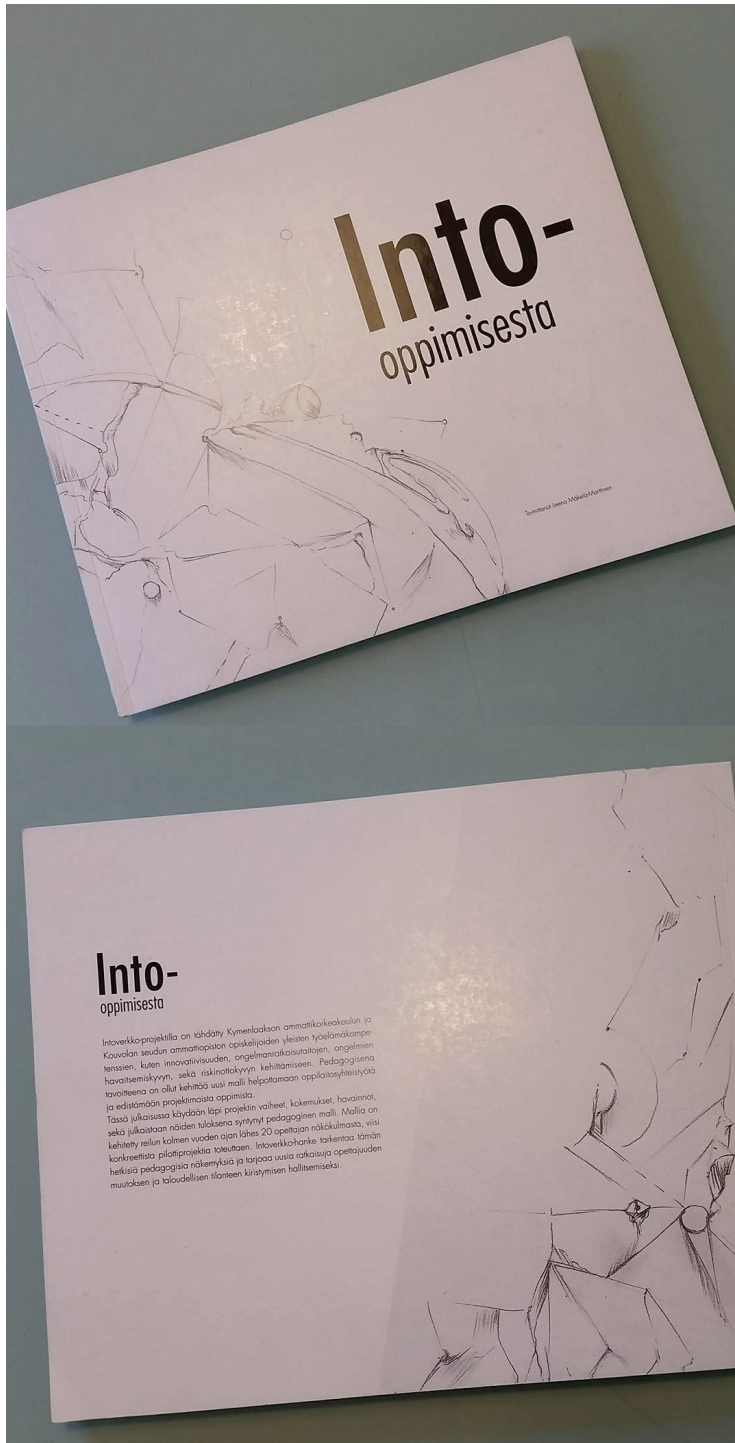
Information graphics B



Composition VIII Kandinsky, W. 1923



Cover design



Liakka E. 2016