On the Poetry of Design

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Abstract. This paper seeks to answer the questions why the original design concept was invented and what disciplines were responsible for its development. Therefore, significant works from the Classical Antiquity and Renaissance are selected for analyzing the invention of the original design. The paper comes to the conclusion that design was created from the disciplines poetry, music, philosophy, rhetoric, painting, sculpture and architecture. Especially, poetry was of particular importance for design. Finally, the paper describes how the poetry of design is related to interaction design.

Keywords: Disegno, Design theory, Renaissance, Poetry.

1   Introduction

The designer of today is faced with enormous tasks of accomplishing a wide range of skills. These skills often seem contradictory. John Kolko describes the education of a designer as follows: "We must train generalists. We must train specialists" [19]. Hence, according to Robert Bauer, a 'Renaissance Man' who can unify the technical, economic, cultural and artistic creativity is currently sought [5]. Interestingly, design as a standalone concept was already developed in the Renaissance for the first time with the Italian term 'Disegno'. Giorgio Vasari placed Disegno over the three arts: architecture, sculpture and painting [31]. It was the primary concept of supporting innovations by bringing ideas to life and creating "never-before-seen" things [8]. For Leonardo da Vinci, Disegno was not only a science but also a deity which can produce infinitely far more things than nature [10]. Hence, the Renaissance period could be labeled as the Golden Age of Design.

This paper aims to bring a new perspective to design theory. It seeks to answer the questions why the original design concept was invented. The departure point of this analysis is the philosophy of Aristotle, who argued that we can only know each thing if we recognize its original causes [4]. In achieving this, the paper first describes the selected books which were significant for this analysis. Then, it points out, which disciplines were responsible for the invention of the original design. Finally, it introduces the poetical philosophy of design and how it is connected to interaction design.

2   Selected Works

In recent related works, we have studied the original design concept with its method and techniques [14][15][16]. As mentioned before, this analysis aims to find out why design was invented. Hence, the paper analyzes the origin of the design concept. Therefore, significant works are selected and divided into two parts: The first part consists of six main authors of the classical antiquity - three Greek (Plato, Aristotle and Plotinus) and three Roman authors (Cicero, Horace and Quintilian) - which significantly influenced the first design concept and the Renaissance thinking. The second part includes writings of six important Italian Renaissance humanists beginning with Francesco Petrarch who is known as the father of Humanism and ending with Giovanni Pico della Mirandola who authored the book 'De hominis dignitate' (Oration on the Dignity of Man) which was called the 'Manifesto of the Renaissance'. In addition, to understand how these writings influenced the development of design and the Renaissance thinking, it is necessary to consider other important works from authors such as Alberti [1][2], Da Vinci[11], Ghiberti [17],Vasari [31] and Vitruvius [32]. Figure 1 and Table 1 present the selected authors and their writings.
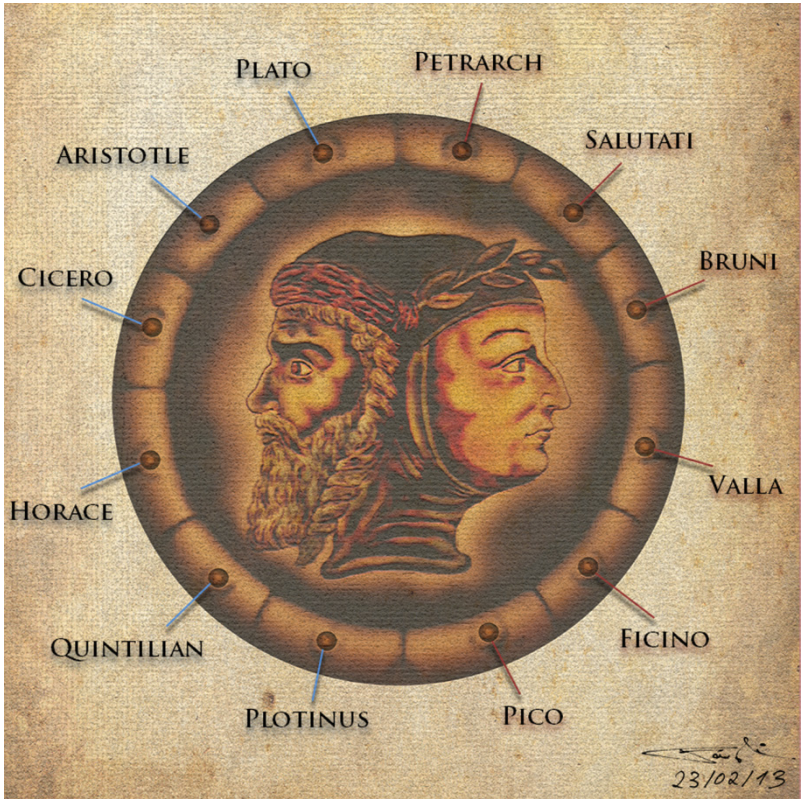

Fig. 1. Selected authors for the analysis

Table 1. Selected books for the analysis

Author	Book	Year
Plato	*'Ion'*	~ 399 BCE
	'Symposium'	~ 385–380 BCE
	'Phaedo'	~ 385–378 BCE
	'Timaeus'	~ 360 BCE
Aristotle	*'Poetics'*	~ 335 BCE
	'Nicomachean Ethics'	~ 350 BCE
	'Metaphysics'	~ 350 BCE
	'Rhetoric'	~ 367-347 BCE
Cicero (Marcus Tullius Cicero)	*'De Oratore'*	55 BCE
Horace (Quintus Horatius Flaccus)	*'Epistula Ad Pisones'* (*'Ars Poetica'*)	~ 18 BCE
Quintilian (Marcus Fabius Quintilianus)	*'Institutio Oratoria'*	~ 95
Plotinus	*'Enneads'*	~ 270
Petrarch (Francesco Petrarca)	*'On the Solitary Life'* *'De sui ipsius et multorum aliorum ignorantia'*	~ 1346 – 1356 ~ 1368
Coluccio Salutati	*'De laboribus Herculis'*	1406
Leonardo Bruni	*'De studiis et litteris'*	~ 1426
Lorenzo Valla	*'De voluptate'*	1431
Marsilio Ficino	*'Theologia Platonica'* *'De amore'*	1482 1484
Pico (Giovanni Pico della Mirandola)	*'De hominis dignitate'*	1486

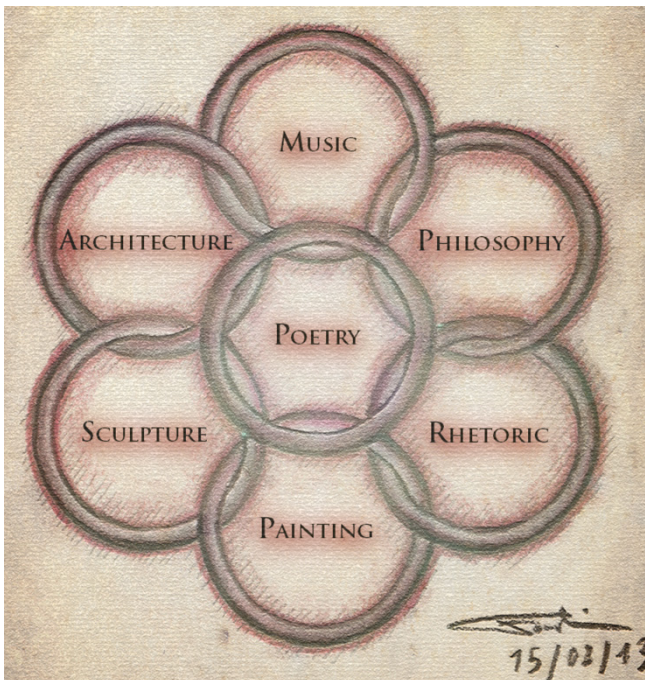## 3   Disciplines of the Original Design

One of the peculiarities of that time was that the Renaissance humanists tried to free themselves from the scholastic restraints of the Middle Age and to initiate a 'New Golden Age'. They found a way by studying the classic antiquity and by learning from the ideal past.

Furthermore, they tried to form a new order of sciences and thinking. Hence, the Renaissance period can be labeled as an age of increasing, decreasing, comparing and especially harmonizing different disciplines. The goal of the Renaissance to harmonize different disciplines was surely influenced by the book of Cicero 'De Oratore' ('On the Orator'). He wrote that "the great men of antiquity, embracing

something of superior magnificence in their ideas, appear to me to have seen further into the nature of things than visual faculties of our minds can penetrate" [9, p.197]. Moreover, he argued that all things "formed one system and were linked together in strict union" and cannot be separated from each other. The same effect could be seen in the disciplines, which were "linked together in one bond of union", and it was possible to discover a wonderful correspondence and harmony of all sciences. Therefore, design can be called a product of such a harmonization process.

Of particular importance for the invention of design was poetry. During the Renaissance period, it grew up to the art of all arts [30] and can thus also be called the mother of design. The term poetry is etymologically derived from the Ancient Greek word 'poiesis' which means 'to make' or 'to create things'. Interestingly, classical authors like Aristotle, Cicero or Diogenes Laertius divided sciences in three categories: the theoretical, the practical and the poetical [4][9][20]. The poetical sciences concern the activities for the creation of a work or work piece. Apart of poetry, as depicted in Figure 2, design was especially invented from the disciplines music, philosophy, rhetoric, painting, sculpture and architecture. In the following, the correspondence of the different disciplines to poetry is described and the question why they were necessary for the invention of design is answered.

Fig. 2. Disciplines of the original design

3.1   Music

In the Renaissance, music was called the 'unknown method' [12] and the 'true magic' [13]. It had the magical power to combine contrasted things. Music was the science of reconciliation of opposites and love in relation to harmony and rhythm [27]. Hence, music was strongly connected to the theory of harmony, which was also important for the creation of things. Alberti defined harmony with the following words: "harmony as that consonance of sounds which is pleasant to the ears". For him, the same effect could also be achieved with the eyes. Beauty was the "harmony of all parts in relation to one another" [2].

In the Classical Antiquity, there was a great correspondence of poetry and music. Music and harmony were parts of poetry [3] and the poets of that time were also musicians who sang their own verses. Both arts had the capacity to inspire oneself and others and Plato's theory of 'Poetic Inspiration' was of particular importance for the invention of design. Plato argued in his early dialogue 'Ion' that poetry was not a 'techne' (art or skill) but rather a product of divine inspiration [25]. The Renaissance linked the artist with the poet1 and thus the artist's inspiration was also divine. Zuccari claimed that 'Disegno' has an etymological meaning: 'Segno di Dio' (sign of God in Man) [33]. As an inspired creator and as a lover, the artist had the divine ability to see the true beauty, only with his mind. According to his genius imagination, he could invent never-before-seen things and envision the future.

3.2   Philosophy

Pico criticized the lack of appreciation for Ancient philosophy with the following words: "For the whole study of philosophy (such is the unhappy plight of our time) is occasion for contempt and contumely, rather than honor and glory. The deadly and monstrous persuasion has invaded practically all minds, that philosophy ought not to be studied at all or by very few people; as though it were a thing of little worth" [12]. Moreover, he pointed out that the true philosopher was not someone who sought money or profit but wisdom. For the Renaissance, true richness should be sciences. For Castiglione, sciences were the noblest gift of the humanity [7]. Furthermore, a philosopher was a universally educated person who strived to know not only the divine but also the human things [9]. The true or ideal poet was also a philosopher [24] who dealt thus with human subjects. Hence, the focus of the Renaissance turned more towards the human rather than God and was the reason why the scientists and thinkers started to study non-Christian sources. The Renaissance can be labeled as the rebirth of philosophical thinking. For design, the focus on human and philosophy was necessary for its invention. The theory of 'Disegno' was mainly based on the neoplatonic, pythagorean, aristotelian and epicurean philosophy.

Another interesting correspondence between poetry and philosophy was the fact that Plato was not only a philosopher for the Renaissance but also a poet. Especially Ficino believed that Plato used poetry for hiding the truth behind allegories and the

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1 Cennini was the first who establish the connection between artist and poet [8].

mask of figurative language [13]. Even Pythagoras, Socrates and Orpheus wrapped the secrets and the mysteries of their philosophy in "veils of poetry" [12] [13].

3.3   Rhetoric

For Quintilian, the negative definition of rhetoric as 'the power of persuading' had its origin from Isocrates, who characterized rhetoric with the words: 'worker of persuasion'[29, p.303]. Rhetoric was the "power of a bad man" [29, p.301] to speak in a persuasive manner for transforming the inferior position to a superior one and to succeed without regard to morality. It had the ability to control and steer the hearts of the hearers to any direction that is desired by the orator. Furthermore, Quintilian argued that Plato didn't criticize the 'true rhetoric'. He argued: "Plato does not regard rhetoric as an evil, but holds that true rhetoric is impossible for any save a just and good man" [29, p.313]. Hence, the true or ideal orator should be a good man and should use the power of rhetoric to lead others to the good. For Quintilian, rhetoric was the 'science of speaking well' [29, p. 317]. This definition "includes all the virtues of oratory and the character of the orator as well, since no man can speak well who is not good himself." [29, p. 317]. For design, this thinking was relevant: Only a good person can create good things.

The rhetorical system was of great importance for the invention of design. The Renaissance used it to extent the theory of poetry and also painting. Especially the rhetorical parts 'inventio' (invention), 'dispositio' (arrangement) and 'elocutio' (style) were adapted to the mentioned theories. Moreover, Salutati ordered poetry as a part of rhetoric and defined that the poetic style is a necessity for creating a graceful and dignified speech [30]. In poetry, it was not only important 'what' but also 'how' it is said or written. For Bruni, it was a barren attainment to say only the truth without using the "art of expression" [6, p. 124].These two sides should not be separated but build a perfect familiarity. For him, poetry had "a stronger attraction for us than any other form of expression" [6, p.131]. For design, this high status of form and beauty was essential for its invention. In addition, the similar goal of poetry and rhetoric was also relevant for design. As Horace pointed out, poetry should be delightful and useful [18]. Rhetoric had also the goal to delight and inform the hearer [29]. For this reason, design should unify utility ('utilitas') with beauty ('venustas') [31].

3.4   Painting

As Castiglione described, nature was like an elegant and great painting and aimed to create the most perfect [7]. Alberti characterized it as the extraordinary master of all things [1]. For him, painting is like an "open window" through which the outside world could be observed [1, p. 39]. Da Vinci used the metaphor of a mirror to describe the goal of a painter: "His mind will (…) be like a mirror, reflecting truly every object placed before it, and become, as it were, a second Nature [11, p. 206]. The mirror metaphor and the philosophy behind painting were derived from Plato, who defined painting as the imitation ('mimesis') of things [28]. The Renaissance had increased the value of Plato's definition: The painter must clearly understand the

things in nature in order to imitate it. Hence, he must observe and analyze things in nature to create the most beautiful and perfect thing. This thinking played a significant part in design.

'Ut picture poesis' (As is painting so is poetry) was a statement of Horace [18], *who described the correspondence between painting and poetry.* Even Da Vinci analyzed the similarities between both arts and defined painting as 'silent poetry' and poetry as 'blind painting' [11]. For Cennini, the painter was like a poet free in mind and had the fantasy to create things, which were never seen in nature [8]. According to him, design ('disegno') was the bridge between mind and hand. Hence, the artist was able to design things solely in the mind and then, ultimately, to hold them in his hands.

3.5   Sculpture

For the Italian Renaissance, the ancient Greek sculptors embodied the excellence of the art. Therefore, they tried to imitate beauty and perfection. For design, sculpture played an important role for the invention of modeling ('modello') or prototyping. As Vasari pointed out, "sculptors, when they wish to work a figure in marble, are accustomed to make what is called a model for it in clay or plaster" [31, p. 148]. This technique was also used in architecture and was responsible for evaluating the design concept. Accordingly, the artist could represent his idea in a three dimensional model in order to define how it could look like in reality. Hence, it was possible to evaluate the effect of the work on the viewer and to verify their "quality" ('qualitas') [2]. Furthermore, it made it easier for the laymen to understand the artist's intention and to calculate the costs. Mostly important for the invention of Design was also the work of Ghiberti. He described that two theories were necessary for sculpture: the theory of drawing ('teorica disegno') and the theory of perspective ('prospettiva'). "In going around from view to view", the sculptor must analyze his work from different perspectives in order to understand his concept completely.

Vasari defined sculpture as "an art which by removing all that is superfluous from the material under treatment reduces it to that form designed in the artist's mind" [31, p. 143]. This definition was strongly derived from Plotinus' theory of Beauty and was used by Pico as a poetical allegory for describing the dignity of man. Like a "sculptor of himself" ('plastes et fictor sui ipsius'), man had the freedom to form his nature according to his desires and judgement [12]. This freedom was according to Pico God's greatest gift to Humanity. Man was allowed to be whatever he chose to be [12]. Hence, he was a sculptor or designer of his own identity.

3.6   Architecture

With his treatise '*De Architectura libri decem*' Vitruvius wrote the oldest book on architecture by being the only one which survived from the Classical Antiquity. For him, architecture was divided in three parts: *"the art of buildings, the making of timepieces, and the construction of machinery"* [32, p.22]. The goal of architecture was not only to develop buildings, but also to create complex things. Of particular

importance for design was his arguing that all created things *"must be built with due reference to 'firmitas' (stability), 'utilitas' (utility) and 'venustas' (beauty)"* [32].

Etymologically, the term 'architecture' is composed of the Greek words 'arché' (supreme, principle, first) and 'techné' (art, craft, work), which thus means 'first art' or 'supreme work'. This meaning was also relevant for the invention of design and can be described by Aristotle's theory of poetical sciences. For him, all created things were produced by nature or art. Moreover, things were unions of form and matter. However, all artistic or artificial things could only be created, when the form of it was already in the mind of the creator [4]. The form was the cause and the principle ('arché') for the creation of the thing. This thinking was related on Plato's 'Theory of Forms'. Due to Vasari, design ('Disegno') was "like a form or idea of all objects in nature" [31, p. 205]. Moreover, he described that "design is not other than a visible expression and declaration of our inner conception and of that others have imagined and given form to in their idea" [31, p. 205]. Hence, design was the principle and the supreme work of all artificial and artistic things.

Moreover, based on Plato's dialogue 'Timaeus' [26], the Renaissance humanists like Ficino characterized God as an architect who artfully created the universe [13]. Therefore, Cellini and Vasari described God as a designer, who was responsible for the design of all things ('primo disegno') [23]. For this reason, the artist had the poetical power to understand the 'primo disegno' with his mind and thus the essence of all things.

4   Relation to Interaction Design

From the point of view of interaction design, Aristotle created an interesting philosophy of poetics. For him, poetry was not the imitation of things, but of action. Poetry should describe *"how certain sorts of persons would act in certain sorts of situations"* [3, p. 8]. Hence, it was necessary to characterize the persons and to analyze what *"sort of thing they seek or avoid"* [3, p. 8]. Furthermore, he wrote *"that the poet's function is to describe, not the thing that has happened, but a kind of thing that might happen"* [3, p. 12]. For this reason, the aim of poetry was to define, what *"such a kind of man will probably or necessarily say or do"* [3, p. 12]. Therefore, poetry was *"something more philosophic and of graver import than history"* [3, p.12]. It had dealt not with the past, but referred to the creation of a possible future. Also relevant for interaction design is that Manetti defined the creation of things as the meaning of life. According to him, the purpose of mankind was to reinvent, beautify and complete the world [21]. Hence, the poetry of design is to invent a better world and thus to help persons to interact better in the future.

5   Conclusion

In summary, the aim of the paper was to find out which disciplines were responsible for the invention of the original design. Therefore, we first analyzed significant works from the Classical Antiquity and Renaissance. Based on our analysis, we defined

poetry, music, philosophy, rhetoric, painting, sculpture and architecture as the main disciplines. Then, we described the correspondence of the different disciplines to poetry and answered the question to why they were necessary for the original design. Finally, we described how the poetry of design is related to interaction design.

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