

Visual Representations of the Body and Constructive Realism

The case of "Der Mensch als Industriepalast" (Man as Industrial Palace)

and the Neijing tu (內經圖)

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Introduction

During the course of mankind's history, the human body has been depicted and represented in a number of distinct ways using a variety of graphic styles that represented the forms of visual communication of each era. There were also moments when visual arts movements sought to break established patterns and to unleash creativity in search of new ways to visualize the human body. Thus, it is correct to say that for thousands of years, human beings have used metaphors as ways of understanding the body. (Popova 2009)

When we look at the visual representations of the human body illustrated in the color poster "Der Mensch als Industriepalast" (Man as industrial palace) and the diagram Neijing tu (Nèijīng tú 內經圖) we immediately notice that, despite being created in the same period of world history, these are images represent different views of the human being and his physiology and these visual representations would hardly have any form of "dialogue", being almost always analyzed from an individual and therefore restricted point of view.

In the following, I will present a brief introduction of each of them and then create bridges of connection between these distinct conceptual illustrations and thus bring these two illustrations into a "conversation" aiming to broaden our knowledge of both. Both illustrations emphasize metaphorical aspects and distance themselves from conventional ways of depicting the human body based on descriptive anatomical and natural history illustrations, These types of representations were common in both China and in the West and were essentially images that

show how things look (albeit always in some idealized or stylized way). "Der Mensch als Industriepalast" (Man as industrial palace) and the diagram Neijing tu (Nèijīng tú 內經圖) are conceptual illustrations that visually explain how things work using concepts, metaphor, and allusion.

Visual language is a tool of design that refers to the use of visual elements and principles in order to communicate with people. In some ways it is analogous to the written language and has its own special vocabulary and grammar that can be called elements and principles of design. Similar to words and grammar that are found in a written article or used in the spoken language, the elements and design principles are used by designers to compose effective and understandable visual messages (Giard, cited in Ren et al. 2013:25).

The Neijing tu Diagram

The Neijing tu is a map of the Daoist internal landscape and a storehouse of Daoist cultivation practices, specifically visualization and alchemical techniques. Like earlier mappings of Daoist cultivation, the Neijing tu was more than likely used (and continues to be used) as a visual aid for meditation. (Komjathy 2008)

The received Neijing tu is a stone stele housed at Baiyun guan in Beijing. Baiyun guan is the seat of contemporary Quanzhen Daoism. It is also the chief monastery of the Longmen branch of Quanzhen.

It is generally held that this painting was a product of the Ruyi guan 如意館 (Ruyi Studio), the Qing imperial art academy and part of the Qing Imperial Household Department (neiwu bu 內務部). The original engraving was commissioned by a Longmen monk and court eunuch (taijian 太監) named Liu Chengyin (劉誠印)¹.

¹ Daoist name Suyun 素雲 (Pure Cloud)

The diagram depicts the head and torso of the Daoist body as seen from the side and in seated meditation posture. It illustrates more commonly recognizable aspects of the human body in combination with Daoist subtle anatomy and physiology. The spinal column, framed on the right and connecting the lower torso with the cranial cavity, draws one's immediate attention (Komjathy 2008).

The textual descriptions include names of zangfu organs, two poems attributed to the immortal Lü Dongbin 呂洞賓 and quotations from the "Yellow Court Scripture" (Huangting jing 黃庭經).

“Der Mensch als Industriepalast” (Man as Industrial Palace)

Fritz Kahn (1888–1968) was a German Jewish physician. Kahn's career as a popular science author blossomed in the 1920s with illustrated articles in famous magazines and news papers in Germany² and especially the five-volume *Das Leben des Menschen* (The life of man). Over the course of a long career, in collaboration with a cadre of never adequately acknowledged commercial artists, Kahn developed entirely new genres and tropes of conceptual scientific illustration (Sappol 2017:3).

His most celebrated work is “*Der Mensch als Industriepalast*” (Man as industrial palace). A collaboration with artist Fritz Schüler (who was never credited), the poster was created in 1926 (ibid.:4). Kahn employed technological artifacts from daily life in order to elucidate hidden and invisible functions within the human body. Instead of “organicizing” alien technology by recourse to the body, the image familiarized the body's alien organic inside by recourse to common gadgetry, as if a form of techno-literacy would bear the potential to re-connect with the body's machinery in new ways. (Borck 2007)

² Some of them are the popular *Kosmos*, *Berliner Illustrierte Zeitung* and *Uhu*.



fig. 1: The diagram Neijing tu (Nèijīng tú 內經圖) with printed Chinese characters (left) and (right) the poster Der Mensch als Industriepalast³

The Neijing tu and the “Multidimensional Daoist Body”

我家耑種自家田
 內有靈苗活萬年

“I am properly and attentively cultivating my own field
 Inside there are numinous sprouts that live for ten thousand years”

The body became a central issue in Chinese thought in the fourth century b. c.⁴, when the school

³ (Man as Industrial Palace). Kosmos publishers, Stuttgart, 1926. An animated and interactive installation based on the poster by the Henning M. Lederer and David Indge can be viewed in <http://www.industriepalast.com/>

of Yang Zhu and the practice of self-cultivation described in the “Nei ye” theorized it as the natural and necessary center for organizing space, and the Mencius and Zuo zhuan (左傳) presented it as the source of virtue and ritual order. Several of these ideas, however, were anticipated in the Lun yu (論語). Performing rituals in early China required considerable bodily control. Texts emphasize specified positions, kneeling, bowing, turning, and so on. (Lewis, 2006)

2006:14)

The human "self" is usually regarded in Confucian and Daoist traditions as a nexus of interactions with other people, nature, and the universe. Heaven, Earth, and everything "in between" form one "body" with humanity.

The “Daoist body,” is not simply the anatomical and physiological given of contemporary biomedicine. In the case of certain Daoist movements, one’s body is understood to have subtle, esoteric dimensions that become activated through Daoist religious praxis and the body itself becomes the means through which the Dao manifests its own self-unfolding, and the means by which the Daoist adept experiences the Dao as numinous presences. (Komjathy, cited in T Cattoi 2016:67–103).

From a Daoist perspective, the human body corresponds to, embodies, various “external” presences mountains, altars, colors, rivers, constellations, temples, spirits, forests, and so forth. The Neijing tu maps the landscape which is the human self;

The “Der Mensch als Industriepalast” and the “Spirit of Modernity”

“The spirit of modernity enjoys...only a temporary reign, and is speedily killed by its inevitable successor.” Horace B. Samuel. Temple, October 1913.

⁴ Hung and Tsiang (2005:13-49) takes a relatively different view and argues that the visual tradition in China has its beginnings in tomb ornaments.

Conceptual scientific illustration made its European debut in 1921 in the pages of Wunder in Uns (The wonder in us), “a book on the human body for everyone”, the volume presented twenty- four illustrated essays on “recent developments” in medicine and “modern physiology.” Three of the essays were by Fritz Kahn. (Sappol 2017)

In a supplemental booklet, he said that the purpose was to graphically portray "industrial processes" in the human body. The reader could only get "a complete picture of the inner workings of the human body" if "technical processes" were shown. (Sappol 2017:18)

“Der Mensch als Industriepalast” shows the interior workings of the upper part of a human body. The head and trunk of the figure were open to lay bare the organs and their operations, but instead of bones, nerves, or blood vessels, the image showed an intricate arrangement of machine parts. The head and trunk of the figure were open to lay bare the organs and their operations, but instead of bones, nerves, or blood vessels, the image showed an intricate arrangement of machine parts. (Borck 2007)

Many more techniques were devised by Kahn and his artists to describe bodily structure and function. Some of them, such as "Der Mensch," alluded to the plant and the technology it contained. Others included the train station, city street, and sport events; they mentioned automobiles, elevators, skyscrapers, phonographs, X-rays, telephones, and radios, among other “modern” things. (Sappol 2017:19)

Therefore, by illustrating the body as a factory, Kahn was able to relate the body’s complex organic interior to the industrialized space so common in society during that period of time. (H. M. Lederer -Visual communication & animation 2011)

Transcending the Demarcated bodies and Borderless bodies

While the depicted figure in Der Mensch als Industriepalast is unambiguously demarcated as human by its silhouette and, in particular, its profile of a human face looking to the right, the

installations in the body's interior appear to be as convoluted as an industrial complex that has to accommodate ever-more production lines in its limited quarters. (Borck 2007)

The Daoist vision of the body as a network of celestial passageways and starry palaces closely overlaps with the medical understanding of the body as consisting of various aspects of *qi* and the phase-energetics of the five organs and six viscera⁵. Many acupuncture points have Daoist connotations, and Chinese healing practices and physical longevity exercises are at the root of Daoist practice. Without losing any aspect of the medical dynamics, the Daoist vision provides a more cosmic and spiritual dimension of the same basic understanding, allowing adepts to move beyond mundane existence toward a greater, more spiritual realm, reaching out for the gods in the stars and thereby for the Dao at the center. (Kohn, 2006:10)⁶.

The Neijing tu is solely a mapping of the Daoist subtle or alchemical body, lacking flesh and a "body" as conventionally understood. It is the body within the body actualized through alchemical praxis (Komjathy 2008).

The Neijing tu represents a virtual body, and at the same time an expanded body. As Chen (2006) states: "It turns the whole world into its own body, and becomes one with the universe, breaking through the rules of the species, transcending the limits of the species, and communicating with each other and with beings beyond life."

The Homuncular Figures

In both illustrations we can notice homuncular figures used as metaphors. In "Der Mensch als Industriepalast" the identity object is a faceless man-machine staffed by a workforce of nearly

⁵ Many authors claim that the Neijing tu is a medical character illustration but, as Komjathy (2008) argues: "purely medical explanations prove unsatisfactory in terms of the diagram's content and while these purely medical explanations prove unsatisfactory in terms of the diagram's content, the overlapping contours of "Buddhism," "Daoism," and "Chinese medicine" may give one pause at the reified nature of those categories.

⁶ For the diversity of visual representations of bodies see Martin and Heinrich (2006) and (Despeux and Barrett, 2005)

faceless homunculi. "Der Mensch" accurately illustrates the "American system," a set of practices that emphasized efficiency, the study of time movement, assembly lines, and mass production (the principles of Fordism).⁷

Joseph Roth's comments on the effects of industrialization could easily have been a comment on "Der Mensch": "Everything human in this metal arena is small and feeble and lost, reduced to an insignificant supporting role in the grand enterprise. . . . A man in uniform wanders about . . . , a tiny human, . . . functioning only as a machine. His significance is no greater than that of a lever. (Sappol 2017:21)"⁸

If Kahn's visualizations are dated, it is not because of the obsolescence of the technology depicted, but because of the harmonious integration of the technological and the social that serves as the ultimately stable frame of reference for their explanatory potential. With the unmasking of universal humanist rationalism as the partial and particular viewpoint of White male Westerners, little seems left of Kahn's vision (Borck 2007).⁹

In "Der Mensch" the homuncular figures are portrayed with markedly masculine attire, in the region of the head, in the "office" control, no woman is seen, and in the Neijing tu , although there are important feminine elements, they mark essentially the lower parts of the diagram. At the top are found only Laozi and a " blue-eyed monk". Both illustrations, deliberately or not,

⁷ Fritz Kahn saw his work become a source of inspiration for opposing ideological extremes each in their own way but equally fascinated by the utopia of modernity. Both, Hans Surén, the popular exponent of fitness and nudism, who went on to support Hitler and the Nazis, and Alfred Döblin, the caustic left-wing social critic and popular novelist celebrated "Das Leben des Menschen " (Sappol 2017:23)

⁸ "He does not live nature as nature, but as a process of production. There is no such thing as either man or nature now, only a process that produces the one within the other and couples the machines together. (Gilles Deleuze and Félix Guattari 1977:9). "Owing to the extensive use of machinery and to the division of labour, the work of the proletarians has lost all individual" (Marx and Friedrich Engels 1972).

⁹ It is also beyond the scope of this text to analyze more specific and important issues such as racism and colonization, but it is relevant to reflect on which audience "Der Mensch als Industriepalast" was aimed at. Considering the geography and the historical context of Europe/World at the time the work was created we can invoke a critique of humanism por Frantz Fanon that showed that the human in its contemporary articulation is so fully racialized that no black man could qualify as human and the sense of what "man" was circumscribed in advance to mean only "white men." (Butler cited in Ewara 2020). See also (Gould, 1996)

end up reinforcing the gender stereotypes of their times. "Der Mensch" does not feature visual metaphors related to "sexual apparatus" ¹⁰.

In the *Neijing tu*, homunculi play different roles: The 'Weaving Girl' and the 'Herd Boy' stars dominate the torso. The weaver (the kidney) sits at the site of water (yin) in the Five Phase system. Her lover, the Herd Boy (the heart), sits at the site of fire (yang) in the Five Phase system; hence they enact a circuit of intermingling yin and yang energies in the middle section of the body. To their right four interlocked taiji (tai-chi) emblems hover over the crucible, emitting rays of yang energy. The holy grail of inner alchemy, the elixir of pure yang energy, is represented by the trigram qian (three solid lines). The infant born of the union of the Weaving Girl and the Herd Boy strings pieces of coin together to form the constellation of the Dipper—the star of fate – thus creating a new life for the body. (Komjathy 2008)

Similar to "Der Mensch als Industriepalast" the idealization and utopia painted in the *Neijing tu* reflects the structure of hierarchy, organization and power imagined by Daoism's elite. The human body is the image of a country. For them, the human body is like a landscape with mountains, lakes, woods, and shelters. Moreover, the body as a 'country' has an administration with a ruler and officials. The heart, or more accurately the spirit inhabiting it, generally is considered to be the ruler or king of the body while the other viscera are the officials (Schipper 1978)

The ideas underpinning the Daoist utopia were not unanimous in China and there were some responses and challenges to the mainstream views with probably the most famous being responses to the poem Peach Blossom Spring (桃花源記 *Táohuā Yuán Jì*) by Tao Yuanming in 421 CE.

Walker (2013 :6) argues that “this utopian vision, brought to life in the poem Peach Blossom Spring, not only rejected the esoteric values of the Daoist elite but also called into question imperial hegemonic structures in general. The fact that the poem's rustic utopian enclave was understood in these terms by generations of Chinese scholars and artists is revealed by the

¹⁰ On the peculiarities of this specific issue see the discussion “on Gendered industrial anatomies and their limits” in Borck (2007)

contrasting architectural forms used to represent these alternative concepts of the Daoist ideal: the palace and the village, the garden of leisure and the working farm.”

“Words Alone Are Inadequate”. The Central Role of Visual Metaphors in Representing the Interior of the Body.

We perceive the world by —reading the visual language that exists in our world. The visual language allows us to distinguish different things that have various visual features. Individual visual elements like line, shape, form, color and texture are combined together to create a visual message that allows us to perceive, recognize, and identify everyday things (Giard cited in Ren et al. 2013:25).

The body’s interior is not just the same as the interior of a house demarcated by walls. The inner self refers to an interiority that is not spatial. We can have no feelings, no experience at all without a spatial body. Psychological and spatial interiority converge in the so-called phenomenon of bodily subjectivity. It is only on the basis of this phenomenon that we can understand what constitutes a living body. (Slatman, 2009:108)

The Neijing tu is a work that illustrates several metaphors of the body. The most obvious is the natural landscape. The Neijing image of a mountain with crags on the skull and spinal column elaborates upon the "body-as-mountain" metaphor, first recorded in 1227 CE (Despeux and Kohn 2003:185).¹¹

The specific Daoist cultivation methods illustrated in the Neijing tu, namely, praxis-oriented applications of classical Chinese medical views of the body; visualization methods which draw their inspiration from the Huangting jing (黃庭經 Scripture on the Yellow Court) and which find clear historical precedents in early Shangqing (上清 Highest Clarity) Daoism; and the alchemical technique known as the Waterwheel (河車 Heche) or Micro-cosmic Orbit (小周天 Xiao zhoutian). (Komjathy 2008)

¹¹ For a detailed description and analysis of this diagram see Komjathy (2008) e Schipper (1993:100–112) and (Wang, 1991)

The aesthetics and style of illustrations of the inside of the human body in major medical publications in China followed the blueprint for illustrating anatomy maps first established by the Five Dynasties Taoist Yan Luozi before 944 in illustrations called *Neijing tu* 《內境圖》, with the most famous being the Side View of the Inner Environment (煙蘿子內鏡側面圖, The "Inner Environment Map". Its content is roughly consistent with modern anatomy and also include anatomical details but add elements of neidan symbolism. The "Orthodox Taoist Collection" contains the "Ten Books of Comprehension" compiled by Shitai and his disciples in the Southern Song Dynasty. Among them, Volume 18 of "Miscellaneous Shortcuts" contains a variety of works by Yanluozi e six pictures including the famous "Side View of Inner Environment (煙蘿子內鏡側面圖).

A synthesis of Yanluo zi's charts was later drawn on a lateral representation of the body in the *Huangdi bashiyi nanjing zuantu jujie* 黃帝八十一難經纂圖句解 (Charts and Explications on the Scripture of the Eighty-One Difficult Points [in the Inner Scripture] of the Yellow Emperor; preface dated 1269; CT 1024, preface, 4a- b) and in the 1478 edition of the Song-dynasty *Shilin guangji* 事林廣記 (Extensive Records of the Forest of Affairs) (Needham, cited in Komjathy 2008). Some alchemical elements of the body are foreshadowed in two charts that represent the body as a mountain, contained in Xiao Yingsou's *Duren shangpin miaoqing neiyi* 度人上品妙經內義 (Inner Meaning of the Wondrous Scripture of the Upper Chapters on Salvation) and in *Chen Zhixu* of Yuan. ... Master Shangyang" (*Shangyang Zi Jindan Dayao Tu* 《上陽子金丹大要圖》). These alchemical elements reappear in the *Neijing tu*. (Komjathy 2008).

These diagrams were preserved in the thirteenth-century Daoist encyclopedia *Xiuzhen shishu* 修真十書 [Ten Books for Cultivating Perfection c. 1250]. Their titles contain the term *neijing* 內境 [internal view, inner landscape, inscape],¹² and they were presumably intended for people who practiced the inward visualization of the internal organs not being essentially medical

¹² 《正統道藏》，《修真十書》，《雜著捷徑》卷十八收錄煙蘿子著作多種，有圖六幅，依次題為「煙蘿子首部圖」、「煙蘿子朝真圖」、「內境左側之圖」、「內境右側之圖」、「內境正面之圖」、「內境背面之圖」。

texts¹³ but instead, the images are accompanied by a text by Yanluozi on inward contemplation, neiguan 內觀, it was widely circulated in the early Song Dynasty and illustrate the Nanjing, Classical of Difficulties and had a great influence on the anatomy of later generations.

Important works of East Asian Medicine, such as the DongUi Bogam (동의보감 東醫寶鑑) and the Zang fu zheng zhi tu shuo ren jing jing 《臟腑證治圖說人境經》, all reproduce this illustration.¹⁴

Cha and Jung (2016) argue that “compared with frontal depictions of the body in East Asia lateral images are found much more frequently. The preference of lateral images of the inner body is based on the complex reflection of the human's physiology in East Asian medicine. Its purpose is not only the observation of the lateral side of the body to depict structures, which might not be seen in frontal or backside angle. The East Asian lateral image facilitates the presentation of all the organs of importance within one image. Of course, “all organs” are not actually all organs but organs that East Asians were interested in, namely the five viscera, six bowels, and some other relevant body parts like the spine or the diaphragm. Lateral images were popular because they showed all the necessary organs, but particularly, because they also aimed to show the energy flow inside the trunk, which ascends through the spine and descends through the body trunk, then processed in each organ.”

In the case of the Neijing tu, the general scheme is obviously very reminiscent of these early diagrams as it represents a sagittal section of the human body seen from the left, but it is much more fanciful and poetical than any of them. The internal organs are not represented as figures, but as inscriptions linked to symbols.

Suuntamaa (2015) states that the most significant metaphors attached to the body are cosmological, political, theological, alchemical and natural: According to the cosmological metaphor, the human body is a microcosm, or miniature universe, which contains and

¹³ It is not an easy task to define a text as “purely medical” when it comes to works from Ancient China. Most books feature a variety of other subjects. Even texts considered to be classics of Chinese medicine such as the *Huangdi Neijing*, 黃帝內經 contain discourses on politics, astronomy, agriculture, and others.

¹⁴ See Cha and Jung (2016)

reproduces all the main features of the macrocosm, or the larger universe. According to political metaphor, the human body is a system of government corresponding to the bureaucratic system of the state and the heavens. According to the theological metaphor, the human body is the abode of the gods, they dwell in the main organs of man and in other most important places and, finally, according to an alchemical metaphor, the human body is a laboratory for the preparation of an alchemical elixir. In natural metaphor, the human body is described as a natural landscape, usually a mountain, with hoods, waterways, and other features corresponding to specific internal objects or energy flows. Kohn (1991) Kohn identifies three major Daoist views of the body, corresponding to three distinct methods and “intellectual” traditions within Daoism: (1) the body as an administrative system, rooted in the worldview of the Daode jing (Scripture on the Dao and Inner Power), and realized in quietist and medically oriented meditation; (2) the body as the residence of spirits or gods, associated with Shangqing (Highest Clarity) visualization practices; and (3) the body as immortal universe, a vision developed under the influence of Buddhist insight meditation. In other hand, Komjathy (2016 :67–103) identify seven primary Daoist views of the body, some of which often overlap: (1) Naturalistic; (2) Cosmological; (3) Bureaucratic; (4) Theological; (5) Ascetic (including demonological); (6) Alchemical; and (7) Mystical.

Looking in the details of the diagram we find explicit references to all the other categories of metaphors like the cosmological metaphor (The infant born of the union of the Weaving Girl and the Herd Boy strings pieces of coin together to form the constellation of the Dipper) ; the theological metaphor (Laozi and a " blue-eyed monk" on top of the mountain in the head region), the alchemical metaphor (References to the "Elixir fields" (San dantian 三丹田), Three Passes (Sanguan 三關), etc..

The symbolism became an important reason for the special flavor of Chinese arts and few of these motifs and symbols were used purely for decoration. Therefore, learning the history and hidden information behind these motifs and symbols can be an effective way to understand traditional Chinese design and arts. (Ren et al. 2013:22)

ZiranZhuyi (自然主义) in Chinese is the term to define Naturalism which emphasis the respect to nature and being engaged with natural world. Under the influence of ZiranZhuyi, traditional Chinese artists, craftsmen and designers used an approach that encouraged people to unite with nature, while finding enlightening spiritual liberation. These artists did not try to present the tangible aspects of nature; instead, they explored the intangible aspects of emotional and self-expression felt within nature (Li cited in Ren et al. 2013). In this way, the artifacts they created corresponded with the physical world in an obscure but deeper way. (Ren et al. 2013:23)

In the case of “Der Mensch”, is precisely the fusion of the human body with a machine ensemble that turns this mode of visualization into an epistemologically significant constellation. (Borck 2007)

Kahn and his collaborators favored the machine, the factory, the industrial product, and rejected inherited aesthetic conventions, such as anatomical naturalism. Emancipated from the obligation to adhere to aesthetic conventions, images could have a pragmatic antiaesthetic , modernizers easily appropriated anything useable that came their way. (Sappol 2017:7)

“Der Mensch” presents itself as an industrial/physiological utopia. Its visual metaphors refer to parts and systems of the body being in perfect harmony, but a very different concept of harmony from what Daoism advocates. The harmony in the metaphors of “Der Mensch” follows the famous Bauhaus saying “Form follows function” and the ideas of the Amerikanismus. The poster appears to be an almost prototypical example of the Neue Sachlichkeit, the period’s idealized representation of its era as rational and clean, technological and sanitized modernity. (Borck 2007)

The mixture of text, drawings, and photographs was in the graphic style that had only recently been developed in American newspapers and magazines. Kahn developed many different strategies and genres of visual explanation. They amped up the modernness of the pictorial content and style every step of the way, and revolutionized — to a large degree invented — the entire genre of conceptual illustration. (uminnpress 2017) “Der Mensch” is first of all an historical artifact testifying to the cultural context in which it emerged. In this respect it formed

part of the broader contemporary debates about rationalization and technological progress in conjunction with the ongoing industrial modernization of Weimar Germany. (Borck 2007)

Although "Der Mensch als Industriepalast" and the Neijing tu are totally different illustrations, we can find some similarities when "dialogs" between these masterpieces are stimulated:

- Both are not concerned with illustrating the human body with realism and distance themselves from the "medical" standard of illustrations of the human body based on human anatomy. (Cha and Jung 2016) points out that Renaissance anatomy was already present in China/Asia at the time of Neijing tu and, with few exceptions¹⁵, was rejected by both the artistic and medical elite.¹⁶
- They are works conceived by entrepreneurs (Fritz Kahn and Liu Chengyin 劉誠印) and were made by various artists within art studios: The Kahn Studio and the Ruyi Studio (Ruyi guan 如意館).
- Both are relatively similar in size to the human body. The original "Der Mensch" was a poster just as the Neijing tu was originally a poster in the form of a scroll to be hung and used for visualization during meditation practice (it was later engraved in rock).
- In both, there is in common the idea of an "ideal uninterrupted flow" that must be realized in stages. An orderly transformation in stages.
- Both use homuncular figures as metaphors for work, production, transformation.
- The head region is reserved for authority figures (scientific or religious).
- They illustrate utopian visions elaborated by intellectual and cultural elites and are not concerned with realism when illustrating the human body. They are essentially

¹⁵ The best example possibly is the painting "Ghost Amusement" 《鬼趣圖》 by Luo Ping 罗聘 (1733 – 1799). The anatomically correct skeletons shown are likely to go back to the anatomist Andreas Vesalius, whose work *De Humani Corporis Fabrica* was published in a Chinese edition in 1630.

¹⁶ See (Elman 2016: 81-105) and (Elman 2005:183-190)

concerned with using correlations between the human body and visual metaphors to explain their utopian visions.¹⁷

The representation of the human body in *Der Mensch als Industriepalast* breaks with previous aesthetic standards and depicts a human being as being a closed industrial complex, forcing the observer into a "looking inward" which is very different from the "looking inward" proposed by the Daoists when they conceived the *Neijing tu*.¹⁸

Both Daoist Alchemy and modernity present themselves as "purification ideals" but in the case of modernity as Sappol (2017:6) states : "No matter what it chooses to oppose, it purges past from present and present from future."

In the case of Daoism this "purification" has a very different context, it is achieved individually and internalized through the cultivation of virtues and daily practices. Daoism does not propose a break with, but a continuation of, the lineages of previous masters (Wang 2017:57-78).

In *Neijing tu*, it is clear that Daoism also cultivates the body as the body expanding its relationship with the natural world, step by step the relationship between the body and the natural world until eventually the individual body and the natural body into one. The relationship between man and nature becomes a relationship of ultimate value, not just a utilitarian relationship of using nature to sustain life.

The western view of the body as a stable object knowable through evidential study was opposed to medical concepts of the variability of the body through time and space in the styles of medicine that had developed in China between the Song and the Ming. This variability provided a justification for the cultivated intuition and complex doctrines that elite Chinese and Japanese doctors had claimed were necessary to devise therapeutic strategies best suited to the unique circumstances of individual patient¹⁹ (Trambaiolo, 2016:91).

¹⁷ With the difference that *Der Mensch* is purely visual but the *Neijing Tu* uses textual resources, poems and inscriptions distributed over various parts of the diagram.

¹⁸ A poem reproduced in the *Neijing Tu* reads: 逍遙陸地作蓬仙 "As a P'eng-lai immortal, I roam freely across land and water."

¹⁹ *Antiquario* (Sir) P91

The visual crossover between industrialization and science in Fritz Kahn's artwork demonstrates surprisingly accurately how human nature became culturally encoded by placing the knowledge in an industrial modernity of machine analogues (Henning M. Lederer -Visual communication & animation 2011).

The body in "Der Mensch" is an artificially controlled set of machines, optimized to be functional and efficient. This utopia leaves absolutely no room for errors and failures. There are no distractions²⁰, the employees are dedicated and obedient faceless homuncular figures²¹. It is noticeable that in the illustration there is no resting room for employees. While physiological human functions are ceaseless, circadian rhythms may be seen in sleep cycles, body temperature, hormone and enzyme levels, and even individual cells. The brain, through its endocrine controls, orchestrates the bulk of them. In the human work dimension, even flight attendants and astronauts swap shifts and rest inside enclosed structures like airplanes and International Space Station during long flights/missions²². It is also worth noting that there is no room dedicated to repairing and servicing the machinery in Kahn's illustration, contradicting very basic principles of modern biology that were not known at the time such as DNA damage repair mechanism.

The metaphors through which the body and its constituents are understood often differ. So, when one sees the body as a "machine," one may come to believe that "parts" can be removed and (sometimes) replaced without any lasting disruption (Lo and Barrett 2018:63).

But this is not the case of "Der Mensch". This poster represents an evolution/transformation of Julien Offray de La Mettrie's ideas exposed in "L'homme Machine"²³.

The "Modern Body" that Kahn portrayed is not as a single machine composed of various parts²⁴ but instead, as the title of his work shows, a complex and organized industrial palace in which

²⁰ Revolutionizing practices of silk manufacture in France by automating them provoked the first widespread anti-industrial riots in that country. (Stephens 2013)

²¹ Possibly no workers strikes are allowed inside the industrial palace utopia.

²² See (Simple Flying 2021), see also (Marinho and Vieira 2019) also (Otsuka et al. 2018)

²³ An "Ontological Volte Face". See Lee (2021b)

²⁴ It is important to note that the imagination and illustration of the human body using references mechanical engineering can already be traced back to the Renaissance in the works of Da Vinci and his direct reference to Francesco di Giorgio Martini, who besides

each sector has its own specific set of machines, workers, and its own flow of organization within that stage. It is important to note that all of this occurs at the dawn of the Theory of Evolution, but Kahn's specific context seems to be much more related to urbanization, and new ways of thinking, the influence of the engineering-oriented functionalism of Bauhaus, and the aforementioned "Amerikanismus" that flourished in the Weimar Era. In this context, the old ideas and ways of living from the " B-Europe " should be demolished to make way for modernity, the emergence of the "A-Europe"²⁵ and a very interesting example of this contrast can be found in the same collection Wunder in Uns (1923) in another illustration colorized and redrawn by Paul Flanerky: "Digestion- A Trip through the Food Factories". In this figure, the "Hard labor" in the digestive tract is played by manual laborers. They are the central figures of the illustration and represent, as mentioned above, everything that modernity wishes to destroy.

being a painter and sculptor was also a military engineer (see Moon, (2016:3-96)) and the imagination of utopias represented as a "Theater of Machines" in Agostino Ramelli's 1588 *Le Diverse et Artificiose Machine* (Diverse and artificial machines)

²⁵ See the *Manifesto del Futurismo* (1909 in Italy) and even more directly in "Acceptera" (1931 in Sweden) are all in this same line: To destroy the old and embrace the modern. For an investigation on modernism in East-Asia see Shi (2001)

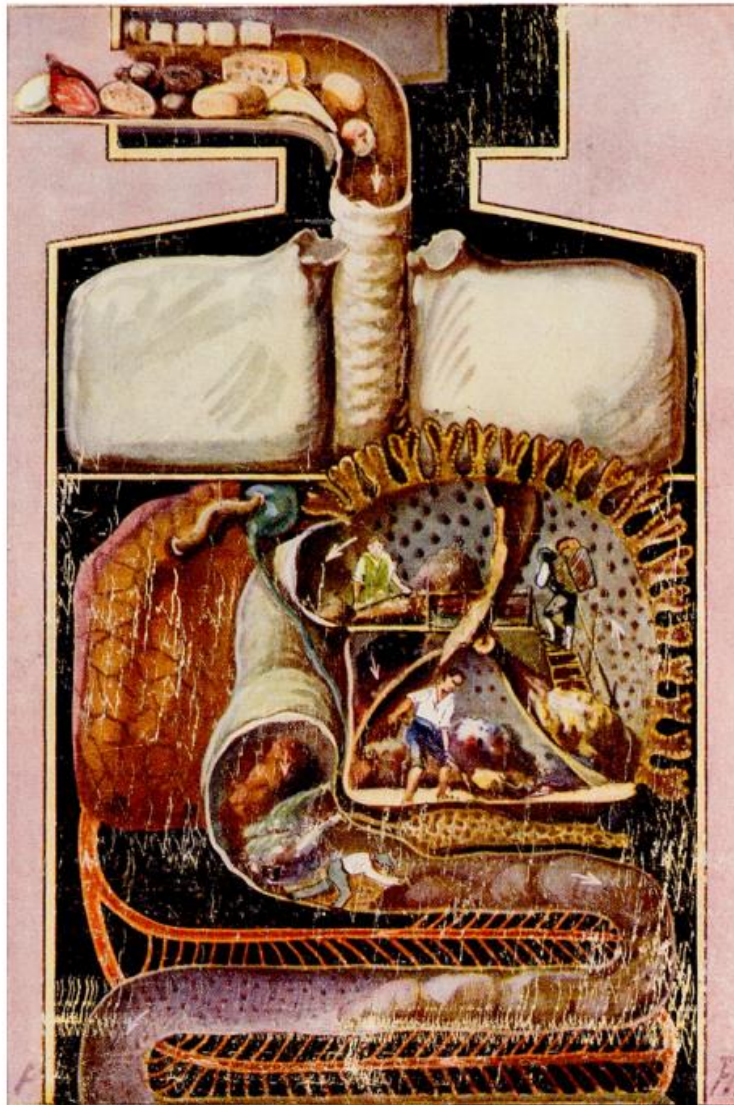


fig. 2: Hard labor in the digestive tract. “Digestion” (“A Trip through the Food Factories,” colorized and redrawn by Paul Flanerky), Wunder in Uns (1923), pl. 3.

National Library of Medicine. (Sappol 2017:32)

This modernist and functionalist view that persists in the design of Kahn's illustrations influenced the 20th century medical sciences and practices. Lupton (2012:4) argues that the classic functionalist position represented by the American sociologist Talcott Parsons, the leading scholar in the application of functionalist theory to medicine, was to view illness as a

potential state of social ‘deviance’; that is, a failure to conform to societal expectations and norms in some way. Therefore, the role of the medical profession is to act as a necessary institution of social control, or a moral guardian of society, using its power to distinguish between normality and ‘deviance’ as the Church once did. In this way, the idealized body in "Der Mensch" responds to disease and epidemic situations with a mechanistic mindset bias that, despite good results is less flexible and more limited as a model of prevention as the Swiss Cheese Model of Accident Causation by James Reason, and an adapted version which has been developed by virologist Ian Mackay and colleagues from the University of Queensland defense against pandemic viruses (Patient Safety Learning - the hub 2020).

In another hand, the Daoists see the body as a “country” or “universe,” and recognize the interrelationship and inter-dependence among its “inhabitants.” It is also possible that philosophical reflection on and body-based practices employing alternative body-self models may reveal and/or actualize other aspects of a human being. If the body is fundamental to medicine, it is just as central, if not more so, to Daoist practices. This is because the body is not only the microcosm in which the adept must create order, but also the habitation of the gods who must be mastered and meditated upon, and the site of the transformations that lead to immortality and spiritual fulfillment. (Despeux 2018:62)

Daoism interrupts the barrier between the body and the outside world by returning to the original shape. It integrates the body and nature and makes heaven and man be whole through the body’s communication with the outside world. Neijing tu can best reflect that Daoism makes the individual, the society, and nature have the same construction relation with the body as the center.

We may discover from the picture that Daoism’s body concept implicates a deep ecological significance. (Chen 2006) The ideas expressed in the Neijing tu results in the development of medical approaches and practices based on the concept explained by Lee (2021a) as being “Person Wholism within a nest of Ecosystems” where “an ecosystem in this context may be said to stand for the concept of chang/场 in Chinese Thinking (which can be translated as “field”) that is only comprehensible when grasped as a Whole: in its entirety, within a certain context. It would be unintelligible and futile to separate out which part of the person’s behavior

is due to Reason and which to Passion, as the two are intimately entwined. In daily life, we discriminate all the time between different behaviors displayed at different times and places by different individuals, implicitly invoking the concept of Context/chang.”

The state of being healthy in Chinese medicine is dynamic harmonious functioning of all the parts of a being (composed of body and mind) with the nature, just like the playing of a piece of a mild, smooth symphony in the world, which accords with the etymologies of some sinograms mentioned in the paper very well. (Lan, 2017:99)

Final Remarks

“The human body is the best picture of the human soul”. Ludwig Wittgenstein - *Philosophical Investigations* (1953)

If we consider these works as distinct ways of illustrating the ideas and practices that inspired their creation, then we realize that the cultural commitment decides which aspects of the environment are taken for specific constructions; it decides which aspects are neglected...

Science as a technical undertaking does not describe the world, but replaces some aspects of the world; it influences the world, it changes the world. Similarities in the actions of all humans. But the way back to a common basis of different cultures is closed.

For a more productive (and non-destructive) and broad interpretation there is the special procedure called “strangification” which consists of taking out a system of propositions from its original context and place it in another context. Most terms of the theory and some relation become totally absurd in the new context... Why?... every microworld and every scientific discipline is based on a specific, highly specialized language and cultural presuppositions.

As a very direct example we can see that the heads of "Der Mensch als Industriepalast" and Neijing tu , when exchanged with each other, become absurd in the new contexts !

“Verfremdung” and the Heads of “Der Mensch als Industriepalast” and the Neijing tu (內經圖)

The region of head in both "Der Mensch als Industriepalast" and in the Neijing tu are of special interest. In "Der Mensch", managers in offices (the brain) monitor and direct the production, depicted as an orderly progression of scenes in the body while in the Neijing tu the head corresponds to the palace of nirvāna (泥丸宮) or the upper elixir field (shang tan-t'ien 上丹田).

In both cases this region portrays a pinnacle, an undisputed authority either of Reason or Deity. In "Der Mensch" the head region represents a metaphor of the "top of the career", because to reach the position of expert and production manager and be able to work in this Central Executive Office, years of education and improvement are required. Similarly, in the Neijing tu, the top of the head is the region reserved for the most dedicated followers/practitioners. The "entrance ticket" to this region is only given to those who devote themselves arduously and strenuously to the practices of internal alchemy. In both cases the head region is beyond the reach of the vast majority.

Therefore, strangification has the main result that it shows the specific conditions and in this way it dissolves the conditions and presuppositions of their products. If you understand implicit rules of a specific language then you understand the presupposition of these products which are established in this language. (Wallner 2011: 26–28)

Every culture is based on assumption so taken for granted that they are barely conscious, and it is only when we study highly different culture and language that we become aware of them.” (Watts 1975)

If culture can then be understood as a constructed reality, people’s understanding of their embodied experience will be apt to differ in different times and places. Examining metaphors across cultures can further our understanding of how we differ from other humans based on cultural constructs that shape our world-views. (Pritzker, 2003)

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