

Lothar Spillmann

Gestalt Psychology Alive in Taiwan

From September to December 2009, the author of this report taught Wolfgang Metzger's *Gesetze des Sehens* (Laws of Seeing) at China Medical University in Taichung, Taiwan. The invitation for my stay came from Li-Chuan Hsu, Assistant Professor in the School of Medicine and the Graduate Institute of Neural and Cognitive Sciences, seconded by her colleagues, Sarina Chien and Jingling Li, and formally announced by the President of the University, Professor Jong-Tsun Huang. There were four graduate and two undergraduate students in my class plus two research assistants. Teaching was entirely in English, with occasional translations into Chinese. I started with three introductory classes of 2 hours each. The topics were: introduction to perception research, disciplines related to visual psychophysics and perception, and overview of the history of visual theory.



Class members pose for a group picture after my talk on the Perceptive Field Organization in Human and Monkey Vision, with CMU President Jong-Tsun Huang standing in the center and my host Dr. Li-Chuan Hsu peeking over our shoulders. Chia-Yao Lin (front row, 3rd from right) and Wei-Ming Huang (2nd from left) graciously helped me in many ways.

GESTALT THEORY

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After the introductory classes, students took over. Each of them prepared one chapter out of Metzger's book and presented it by showing the original illustrations as well as modifications of them (see the examples by Chia Wei Lui and Yu Shu Liang at the end). They also presented intriguing animations, renditions of their own, and conducted small experiments. For example, Hsin-Yueh Hsu took a picture of Pinna's watercolor effect on the Taichung Performing Art Center and also created a pointillist picture of me (analogous to Fig. 109 in *Gesetze des Sehens*, 2nd ed.). Chia-Yao Lin tested pictures of women dressed in horizontal vs. vertical stripes and found that the former look slimmer, not wider, contrary to common belief. Ming-Kuan Lin presented a dynamic demonstration of misapplied size constancy and also got interested in the twinkle effect, the rotating snake illusion, and the motion quartet. Mei-Zhen Zhu corresponded with Gerald Westheimer on hyperacuity, asking why we see a spider web from far away although its strands are thinner than individual cone photoreceptors. Wei-Ming Huang probed the visual, vestibular, and tactile aftereffects of walking for several minutes on a swing. All students corresponded by e-mail with international authors. A movie kindly supplied by Prof. Bernd Lingelbach (Fachhochschule für Augenoptik, Aalen) on his collection of life-size illusions in Leinroden met with great enthusiasm and interest.

There were 3 faculty members present in class at all times, joining in for lively and entertaining discussions. Following the presentations, protocols were written up for future use. They are being now prepared for access on the Internet. The course concluded with an attempt to relate Gestalt phenomenology to the underlying neurophysiological mechanisms using my 2009 review paper. In addition, we briefly discussed Breitmeyer's (2010) enlightening book on *Blind Spots*. A report on my experiences can be found on my website (GOOGLE: Lothar Spillmann, Travelogue Taiwan).

China Medical University strives to be the foremost Asian University for traditional Chinese and Western medicine. They have the only garden for medicinal herbs, a great museum for Chinese medicine, and one of the best medical libraries. Not knowing what to expect, I found my role as a visiting professor there both uniquely inspiring and rewarding. Students expressed much respect for Wolfgang Metzger, considering him a great master. They were enthusiastic and eager to learn. In addition to classes, I also gave 1-hour talks for a larger, general audience on (i) perceptual fading and filling in and (ii) the perceptive field organization in human and monkey observers. Both talks were also given at National Taiwan University in Taipei and at the University of Kyoto (Japan).

Thanks to the exquisite hospitality of my host and her research assistant I could bring my daughter Sophia and son Simon to Taiwan and tour with them the upper half of the Island. This was an unforgettable experience. We agreed that

Taiwanese are born with a smile on their faces. They are a people of great dignity, warmth and spontaneity.

I am greatly indebted to the President Huang for his kindness and generosity. His support of neuroscience and cognitive science was essential for my stay. Back in Freiburg, I would like to extend and deepen the relationship between German and Taiwanese psychologists and vision researchers. A first step will be to help with the organization of a symposium at the Asian-Pacific Conference on Vision (APCV) in Taipei (July 23-26). Pending on financial support, I also hope to be able to spend another 3 months in Taichung later this year. A number of well-known researchers from North American universities (among them Chris Tyler, Shinsuke Shimojo, Charles Spence) have already visited there and others are expected to stop over following APCV. Alternatively, members of the Graduate Institute of Neural and Cognitive Sciences in Taichung will participate in European and US-conferences and present their research in the Western hemisphere.

A number of interesting questions evolved from the Metzger course, and it is hoped that, in time, publications on these topics will evolve. For me, it was a revelation to see that Gestalt psychology, sorely neglected in the country of its origin, continues to be vigorous and a field of interest in the Far East. Wolfgang Metzger would have been delighted.



Fig. 1: Original of Fig. 2 from Wolfgang Metzger's *Laws of Seeing* (1936/2006)

The message of this script "Here rests Till Eulenspiegel, 63 years" is well-known in Germany, but is virtually impossible to read even by a native speaker. This is because the letters are part of the background, whereas the black interspaces have assumed the status of figure due to the Gestalt factor of *closure*. The contour "belongs" to them, not the letters.

Modification by Chia Wei Liu (2009)



As soon as thin black horizontal lines are introduced to “close” the white letters on top and bottom, figure-ground organization reverses, and now the letters are easily readable. Here, the border is “owned” by the letters, while the black surfaces are ground.



Chia Wei Liu



Yu Shu Liang

Variation by Yu Shu Liang (2009) of Fig. 29 from Metzger’s *Laws of Seeing* (1936/2006)



The figure (*left*) shows the power of the Gestalt factors of *good continuation* and *closure*. Here experience should prevail, as we have seen these letters countless times before. However, only the second half of the “word” can be deciphered, the first half is virtually unreadable as the letters connect smoothly with their mirror images on top. *Right*: If a dividing line is introduced in the middle to separate top and bottom, the correct word pops out immediately.

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