

# On Experimental Psychology and Philosophy

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In most textbooks of “Introduction to Psychology”, it has been written that contemporary experimental psychology began in 1879 when Wundt opened his experimental laboratory at Leipzig. He was originally a physiologist. According to him, psychologists studies not the substance of mind, but the immediate experience, or one’s consciousness obtained through introspection. He made only an abortive attempt to find mental elements to begin psychology as science. But what he was most interested in was not the mental element but “apperception”, or a philosophical concept devised by Kant, which contained an active process not directly observable by any experiment. Thus, he described Psychology still as a philosopher and was not yet an experimentalist.

Experimental Psychology was gradually formed during the period between 1879 and 2000. As soon as Wundt opened his laboratory, a lot of researchers came to Wundt from all over the world, including Prof. Matsumoto from Japan. They came back to their home university a few years later, and opened their own laboratories. Although they would still not have any clear idea of mental element, perhaps they accepted these experimental methods to be psychologists of the newest style. They wanted to create some new fields of sciences, where their specialty could be well accepted. Philosophers also wanted to make their fields more specific, and actually got a few new styles of philosophy such as phenomenology and analytic philosophy. In this era, most researchers wanted to become any specialists. Generally, specialists began to appear only from this 19 century.

The most influential works in psychology might be achieved by Fechner’s psychophysics rather than by Wundt’s psychology. Prof. Motora, the first professor at Tokyo University, began his lecture only 9 years later than the opening of Wundt’s laboratory. He lectured first not on Wundt but on Fechner. He was originally a physicist, and was clearly experimental and scientific.

I have learned Psychology as a student since 1964. Let me show you my first experience on Mueller-Lyer Illusion Experiment.

**Mueller-Lyer Illusion (1)**

Figure 1



Our task was set out extremely simple. Just change the length of the upper shafts

(see Fig.1) so that these two shafts might match in lengths with each other. The task is certainly experimental and quantitative.

As these figures are very famous, most of you might already know that the shaft with outwards arrows appears longer than the shaft with inwards arrows. Most students shortened the length of the upper shaft. But a few of them extended it. I asked one of them whether he really perceived that the upper shaft was shorter than the lower shaft. He answered to me that he had known these figures to cause illusions. He decided not to be deceived, and he decided to extend a little.

**Mueller-Lyer Illusion (2)**      Fig. 2      > — <      < — >

In the conditions where there are some gaps between shaft and arrows, the illusion appears frequently reversed; i.e., the left shaft in Fig. 2 appears shorter than the right shaft. This reversed illusion phenomenon has been known rather recently, for these 30 years.

I found that no one had yet discussed on this problem. Then I measured the amounts of illusion in these two figures, and tried to find a consistent explanation on these results. A journal accepted my paper as a new finding.

Now you may clearly understand that even a young researcher can find a new phenomenon in the field of Experimental psychology. It is enough to find anything new, even in a very tiny field such as these two Mueller-Lyer illusions.

But frankly speaking, you may not be glad to think that any part of your mind can be treated experimentally. Please just try to find a tiny part of your mind where you may allow it to treat experimentally. An example may be found in sensory scales. The loudness of a tone can be expressed, e.g., as 100 db. We use this unit in our daily life, as if it might be a physical scale. The subjective impression of loudness of a tone could never be compared between two individuals. But today, 100 db is used as if it might be a physical loudness. In the process of constructing such a scale, we could not help but change the idea of loudness a little, so that we may apply the science more easily to our sensation concept.

After the World War II, a big era of experimental social psychology began. There, individual judgments have lost their value as data, and only a mean judgment of one group is frequently treated as the first significant data. Every data becomes significant only after statistic procedures. Here again, the science changed a little in this field of experimental social psychology.

From this perspective, I will give some comments on experimental philosophy.

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