

1

## Outline

1. The Scene
2. The Main Characters
3. Gestalt Psychology – Basic Ideas
4. Gestalt Psychology – Origin
5. Principles of Gestalt Psychology
6. Other Phenomena – Insight
7. Social Psychology
8. Clinical Psychology

2

## The scene...

The early 20<sup>th</sup> century was a time of change for psychology. The first psychologists were passing from the scene – James died in 1910. Wundt retired a few years later. By 1912, Titchener's productivity had gone into serious decline, perhaps because he sensed his increasing isolation within psychology.

Meanwhile, in Russia, Pavlov was watching dogs salivate. In Austria, Freud was analyzing the dreams of unhappy, rich women. And in Germany, Wertheimer was watching telephone poles zoom by.

3

## The Scene...

In the United States, by 1912, John Watson was attacking structuralism, Wundt's voluntarism, and the technique of introspection.

He didn't like Wundt's attempt to reduce consciousness to its basic elements – because he didn't like the idea of consciousness (that is, he didn't think it had any role in a scientific theory of behavior).

4

## The Scene...

Wundt's theory was more like a musical composition – if he had been a different person, he would have composed a different piece (that is, he would have produced a different theory).

Or perhaps we could see him as an old-fashioned European *craftsman*.

5

## The Scene...

Watson wanted a theory more connected to straightforward, reliable, replicable observations – such that anyone present would make the same observations and draw the same conclusions.

Kind of like the way one person working on the assembly line would produce the same output as any other person given the same job at the new automobile factory built by Henry Ford in 1910, which featured standardized parts and a division of labor.

6

## The Scene...

So in the new century, in the second generation of psychologists, we have a tension between the European and American ways of approaching the complex problem of human behavior.

\* The Americans would develop a system that depended on a sort of industrial efficiency in making repeatable observations – science as business.

\* The Europeans would develop a system that featured unsystematic but occasionally brilliant observations – science as art.

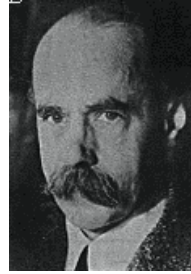
7

### The main characters...

The main characters of Gestalt Psychology were Max Wertheimer, Kurt Koffka, and Wolfgang Kohlers.

Although later psychologists were strongly influenced by Gestalt theory, especially in social psychology (e.g., Solomon Asch), there was never really any second generation of Gestalt theorists trained by the originals.

8



Max Wertheimer  
(1880 – 1943)

9

### Max Wertheimer

1880 Born in Prague

Studied law at the University of Prague – interest in philosophy of law led him to legal testimony, and then to psychology of perception.

1904 Obtained doctorate after one year of study at the University of Wurzburg. Dissertation on lie detection.

1912 Published first paper on Gestalt psychology.

10

### Max Wertheimer

1921 (with Koffka and Kohler) founded journal *Psychological Research*, which became the 'official' publication of Gestalt Psychology. (Banned by Nazis in 1938.)

1933 went to New York City to teach at the New School for Social Research, that had just been established largely as a place for refugee European intellectuals.

11



Kurt Koffka  
(1886-1941)

12

### Kurt Koffka

1886 Born in Berlin. Educated at the University of Berlin.

1904-05 Studied in Edinburgh to improve English

1909 Doctorate in Psychology. Married Mira Klein.

1910 Began work with Wertheimer and Kohler at the University of Frankfurt

1911 took job at University of Giessen; remained there until 1924.

During WW1, worked with brain damaged and aphasic patients at a psychiatric clinic in Giessen.

13

### Kurt Koffka

Early 1920s – Emigrated to the United States.  
 1922 – First paper on Gestalt theory of perception published in US (*Psychological Bulletin*).  
 1923 – Divorced Mira Klein, married Elizabeth Ahlgrimm.  
 Later in 1923 – Divorced Elizabeth Ahlgrimm and remarried Mira Klein!  
 1924-25 – Career stunted in Germany; Visiting professor at Cornell University

14

### Kurt Koffka

1926-27 – University of Wisconsin  
 1927 – Given research position (and funds) at Smith College.  
 1928 – Divorced Mira Klein and remarried Elizabeth Ahlgrimm!  
 1935 – Published *Principles of Gestalt Psychology*  
 1941 – Died.

15



Wolfgang Kohler  
(1887-1967)

16

### Wolfgang Kohler

1887 born in Tallinn, Estonia (raised in northern Germany)  
 1909 Doctorate from University of Berlin  
 1913 Went to Anthropoid Research Station, Canary Islands, to study chimpanzees. Stranded there during WWI, stayed for 7 years.  
 1917 Published "Mentality of Apes" (in German).  
 1920 Returned to Berlin, succeeded Carl Stumpf as Professor of Psychology at the University of Berlin.

17

### Wolfgang Kohler

1929 Published *Gestalt Psychology*, his first book in English  
 1935 Fled Nazi Germany; to the United States, took job at Swarthmore College in Pennsylvania. Stayed there till 1955.  
 1956 Distinguished Scientific Contribution Award from the APA  
 1959 Elected president of the APA

18

### Gestalt Psychology – Basic ideas

The basic idea of Gestalt Psychology is that sensory features (e.g., lines, edges, corners, colors, etc.) are combined by the brain to form a new pattern or configuration – to produce something that does not exist in the set of features taken one by one.

The main target of this idea was the atomistic psychology of Wundt and von Helmholtz.

19

## Gestalt Psychology – Basic ideas

A 19<sup>th</sup> century precursor:

- \* Von Ehrenfels' idea of *gestalt-qualitat*: when you hear a melody, you hear the notes plus something else
- \* Something that survives when you transpose the melody to a new key, using new notes.
- \* But Gestalt theorists went beyond this – claimed we hear the melody first, which makes the individual notes available

20



If you make a list of all the individual sensations you experience when you see this as a vase, and also make a list of the sensations when you see it as two faces, the two lists would be identical! But the percepts are different – so the lists must be missing what makes them different

21

## Gestalt Psychology – Basic ideas

In reporting a list of stimulus features, you cannot express or predict what the “whole” would be that these features produce when combined.

- \* The stimulus array is not the only thing that matters – the human nervous system matters, too. It brings something to the act of perception.
- \* The whole is more than the sum of the parts.

22



Here, for example, your nervous system supplies the information necessary to figure out what the word under the inkblot is...

23

## Gestalt Psychology - Origin

1910 – Max Wertheimer, on a train in Germany, noticed the apparent motion of telephone poles and buildings when he looked out the window. Intrigued, he got off the train at Frankfurt and went to the Psychological Institute at the University of Frankfurt.

- \* Friedrich Schumann offered the use of his laboratory and equipment. Also introduced Wertheimer to two post-docs at Frankfurt – Koffka & Wohler.

24

## Gestalt Psychology - Origin

Wertheimer's first experiment:

- \* Projected lights successively through two narrow slits in a screen. When interval between lights was 50 to 60 milliseconds, lights appeared to move from one position to another
- \* At longer intervals the lights appeared as independent, successive light (which they were)
- \* At shorter intervals the lights appeared to be on all the time

## The Phi Phenomenon

Wertheimer called this effect the Phi Phenomenon.  
Two critical features:

1. The phi phenomenon was not occurring in the world, in the actual physical stimulus. It was in the heads of the observer – it was an *interpretation*.

\* That, of course, raised other questions: what else is just interpretation? And how does the interpreting system work?

## The Phi Phenomenon

2. As a psychological experience, the phi phenomenon *is not reducible to its elements*.

\* So, when we set out to answer our questions, we won't be able to use the analytic techniques of decomposing an experience into its elements.

\* The phenomenon has to be studied 'holistically.' Henry Ford would not be pleased.

## Principles of Gestalt Psychology

Underlying premises:

A. The brain is a *dynamic system* in which all elements active at a given time interact (e.g., during any process such as perception of a given stimulus)

B. *Perceptual organization* occurs spontaneously and immediately whenever we look at the world.

## Principles of Gestalt Psychology

We perceive stimuli as wholes rather than as clusters of features.

The principles on the next slides are 'rules' by which we organize our perceptual world.

This work is largely descriptive. There isn't much theory here – no explanation of why we perceive this way, just interesting observations.

## Principles of Gestalt Psychology

### Proximity:

We see this form as consisting of rows rather than as columns, because of proximity



## Principles of Gestalt Psychology

### Similarity:

We see this form as columns rather than as rows because of similarity

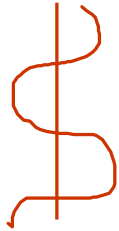


31

## Principles of Gestalt Psychology

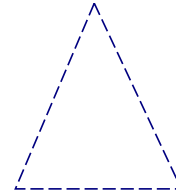
### Continuity

What we see is determined by the flow of lines

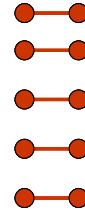


32

## Principles of Gestalt Psychology

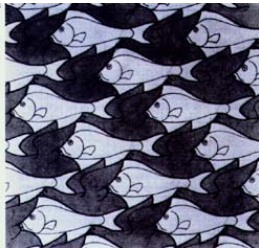


Closure



Connectedness

33



When an image contains two or more distinct regions, we will divide the image into *figure* and *ground*.

34



35

## Other phenomena - Insight

One of the problems with a non-atomistic approach is that it becomes difficult to explain 'how we get from A to B'.

For example, when you are solving a problem, how do you get from the state where *you do not know the solution* to the state where *you do know the solution*? Each state is a 'whole'. How can one be converted into the other?

For Gestalt psychology, the answer was, insight.

36

## Insight

Kohlers first studied insight in chimpanzees on the Canary Islands.

- \* Chimps showed 'insight' into solving the problem of how to get food that was out of reach.
- \* E.g., chimp tries to get bananas hanging out of reach
- \* After unsuccessful attempts, chimp apparently frustrated, then pauses, turns, looks at bananas, then at toys in enclosure, then at bananas, then at food.
- \* Then chimp starts using toys to get food.

37

## Insight

Gestalt account:

- \* Insight involves 're-structuring' or re-organizing of perception.
- \* Not much more than re-labeling the word insight here.
- \* But the 1917 study was an important counterpoint to Pavlov's studies on incremental learning by association.

38



39

## Problem solving

Gestalt ideas about perception were applied to problem-solving in another way – making the point that in conditioning, an animal does not learn a simple stimulus – response association.

Rather, it learns an association between the-stimulus-in-its-context and a response.

- \* Kohlers' study of pigeons and the gray card

40

## A Gestalt Theory of Science

Koffka argued that the job of science was to produce the 'big picture' – to integrate all the facts obtained about inanimate nature, life, and mind into one comprehensive theory.

This would necessitate dealing with:

- a. Quantitative facts produced by physical science
- b. Order facts about living things
- c. Facts about *meaning* and *experience*

41

## Gestalt theory applied to social psychology

Asch – behavior is not a response to the world as it is, but to the world as it is perceived.

- \* Early study of 'prestige suggestion' – attributed quotations to various people; student agreement depended upon attributed source.
- \* Asch – the attribution of source affected the perceived meaning of the quotation

42

## Gestalt theory applied to social psychology

Asch – meaning of a personality trait depended upon context.

- \* E.g., the meaning of 'intelligent' in a description of a person who is *intelligent and cold* is not the same as the meaning of 'intelligent' in a description of a person who is *intelligent and warm*.
- \* There is a network of inferences from one characteristic to another.

## Gestalt theory applied to social psychology

Asch – the famous conformity study

- \* subjects judged line lengths after hearing experimenter's confederates make incorrect judgments
- \* judgments were influenced by others, usually making similar judgments
- \* though they would not 'lie' if one other person made a more extreme judgment

## Clinical applications – Gestalt Therapy

Basic principles:

1. The primacy of the phenomenal – the person's experience is what matters.
  - \* The face-to-face encounter between therapist and client focuses on the 'gestalt' – the whole person, their figures and grounds: voice, face, gesture, posture, breathing, everything

## Clinical applications – Gestalt Therapy

2. The individual and the situation – the interaction of the two determines experience and behavior, not just drives, external stimuli, or static personality traits.
3. Connections among psychological contents are based on substantive relationships more than on repetition and reinforcement
  - \* This structure can be used in therapy, to explore awareness, find out what is focused on and what is omitted.



Fritz Perls  
(1893-1970)

Founder of Gestalt Therapy – based on idea that psychological illness is a lack of wholeness. People 'split off' from discomforting thoughts and sensations. They need a framework to re-integrate their experience of life.

## What ever happened to Gestalt Psychology?

We'll take up this question in April, when we get to the origins of Cognitive Psychology

Suffice it to say here that World War II had an enormous impact on scientific psychology, for several reasons – one of them being that the Gestalt psychologists left Germany and moved to the U.S.

<http://faculty.colostate-pueblo.edu/paul.kulkosky/401.htm>



