**Schema/Assimilation/Accommodation**

**Schema**

A schema is a cognitive framework or concept that helps organize and interpret information. Schemas can be useful because they allow us to take shortcuts in interpreting the vast amount of information that is available in our environment. However, these mental frameworks also cause us to exclude pertinent information to instead focus only on things that confirm our pre-existing beliefs and ideas. Schemas can contribute to stereotypes and make it difficult to retain new information that does not conform to our established ideas about the world.

**The History of Schemas**

The use of schemas as a basic concept was first used by a British psychologist named Frederic Bartlett as part of his learning theory. Barlett's theory suggested that our understanding of the world is formed by a network of abstract mental structures.

Theorist Jean Piaget introduced the term schema and its use was popularized through his work. According to his stage theory of cognitive development, children go through a series of stages of intellectual growth. In Piaget's theory\* (see below), a schema is both the category of knowledge as well as the process of acquiring that knowledge. As experiences happen and new information is presented, new schemas are developed and old schemas are changed or modified.

**Schema Examples**

For example, a young child may first develop a schema for a horse. She knows that a horse is large, has hair, four legs and a tail. When the little girl encounters a cow for the first time, she might initially call it a horse. After all, it fits in with her schema for the characteristics of a horse; it is a large animal that has hair, four legs and a tail. Once she is told that this is a different animal called a cow, she will modify her existing schema for a horse and create a new schema for a cow.

Now, let's imagine that this very young girl encounters a miniature horse for the first time and mistakenly identifies it as a dog. Her parents explain to her that the animal is actually a very small type of horse, so the little girl must this time modify her existing schema for horses. She now realizes that while some horses are very large animals, others can be very small. Through her new experiences, her existing schemas are modified and new information is learned.

**Problems with Schemas**

While the use of schemas to learn in most situations occurs automatically or with little effort, sometimes an existing schema can actually hinder the learning of new information. Prejudice is one example of schema that prevents people from seeing the world as it really is and inhibits them from taking in new information. By holding certain beliefs about a particular group of people, this existing schema may cause people to interpret situations incorrectly. When an event happens that challenges these existing beliefs, people may come up with alternative explanations that uphold and support their existing schema instead of adapting or changing their beliefs.

References:

Bartlett, F.C. (1932). Remembering: A Study in Experimental and Social Psychology. Cambridge, England: Cambridge University Press.

Piaget, J. (1928). The Child's Conception of the World. London: Routledge and Kegan Paul.

**Assimilation:**

Assimilation is a term referring to another part of the adaptation process initially proposed by Jean Piaget. Through assimilation, we take in new information or experiences and incorporate them into our existing ideas. The process is somewhat subjective, because we tend to modify experience or information somewhat to fit in with our preexisting beliefs.

### How Does It Work?

Piaget believed that there are two basic ways that we can adapt to new experiences and information. Assimilation is the easiest method because it does not require a great deal of adjustment. Through this process, we add new information to our existing knowledge base, sometimes reinterpreting these new experiences so that they will fit in with previously existing information.

For example, let's imagine that your neighbors have a daughter who you have always known to be sweet, polite and kind. One day, you glance out your window and see the girl throwing a snowball at your car. It seems out of character and rather rude, not something you would expect from this girl. How do you interpret this new information? If you use the process of assimilation, you might dismiss the girl's behavior, believing that maybe it's something she witnessed a classmate doing and that she does not mean it to be impolite. You're not revising your opinion of the girl, you are simply adding new information to your existing knowledge. She's still a kind child, but now you know that she also has a mischievous side to her personality.

If you were to utilize the second method of adaptation described by Piaget, the young girl's behavior might cause you to reevaluate your opinion of her. This process is what Piaget referred to as accommodation, in which old ideas are changed or even replaced based on new information.

### More Examples of Assimilation

* A college student learning how to use a new computer program
* A sees a new type of dog that he's never seen before and he immediately points to the animal and says, "Dog!"
* A chef learning a new cooking technique
* A computer programmer learning a new programming language

In each of these examples, the individual is adding information to their existing schema. Remember, if new experiences cause the person to alter or completely change their existing beliefs, then it is known as accommodation.

**Accommodation:**

Initially proposed by Jean Piaget, the term accommodation refers to part of the adaptation process. The process of accommodation involves altering one's existing schemas, or ideas, as a result of new information or new experiences. New schemas may also be developed during this process.

For example, a young child may have an existing schema for dogs. Dogs have four legs, so the child may automatically believe that all animals with four legs are dogs. When the child learns that cats also have four legs, she will undergo a process of accommodation in which her existing schema for dogs will change and she will also develop a new schema for cats.

Accommodation does not just take place in children; adults also experience this as well. When experiences introduce new information or information that conflicts with existing schemas, you must accommodate this new learning in order to ensure that what's inside your head conforms to what's outside in the real world.

For example, imagine a young boy raised in a home that presents a stereotyped schema about another social group. When the young man moves away to college, he suddenly finds himself surrounded by people from this group. Through experience and real interactions with members of this group, he realizes that his existing knowledge is completely wrong. This leads to a dramatic change, or accommodation, in his beliefs about members of this social group.

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