

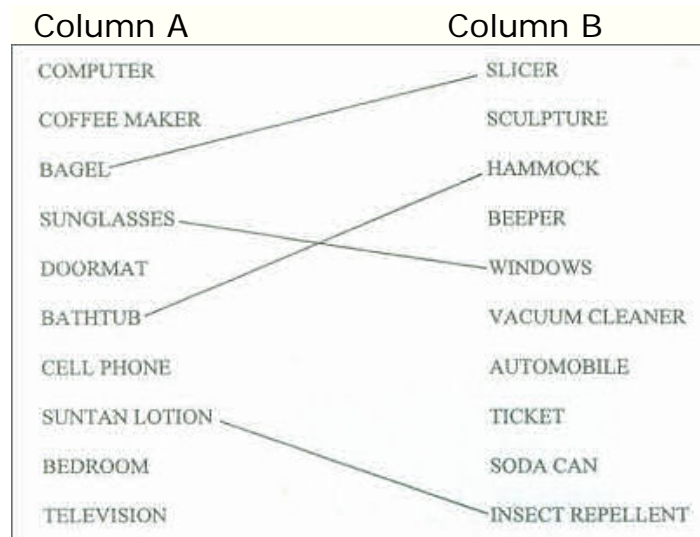
Combinatory Play

Albert Einstein referred to his thinking process as "combinatory play." Like the highly intelligent child with a pail of Legos, Einstein constantly combined and recombined ideas, images, and other various thoughts into millions of different combinations. This combinatory play was the essential feature in his creative thinking process. Consider Einstein's equation, $E=mc^2$. Einstein did not invent the concepts of energy, mass, or speed of light. Rather, he combined these concepts in a novel way which restructured the way he looked at the universe.

Think for a moment about hydrogen and oxygen. Blend them together and you create water, a product with properties quite different from either of the component gases that make it up. Who could have predicted the emergence of water from two simple gases? Alone, they have known and obvious properties. Put them together, and seemingly magical transformations occur. But, it is not magic; synthesis is the very essence of creativity.

Combinatory play is an extraordinarily easy way to generate ideas. Suppose you want to invent something new. Select 20 objects at random. You can select any objects, objects at home, objects at work, or objects you might find walking down the street. Or you can imagine you are in a technologically-oriented science museum, walking on a beach, browsing in a store, or just walking down a street, and then you can make a list of 20 objects that you would likely see.

Make two lists of 10 objects each on the left and right sides of the paper. Pick one from the left and combine it with one on the right. Play with the combinations until you find a promising new combination, then refine and elaborate it into a new invention. Following is an example from a recent workshop. Two participants went to the front of the room. One listed the first ten objects that came to her mind for Column A, while the other did the same for Column B.



The group then randomly combined objects from Column A with objects from Column B to see how many new products they could invent. The illustrated combinations yielded the following ideas:

- Combining bagel with slicer yields a bagel slicer with plastic sides designed to hold the bagel and prevent rotation when slicing.
- Bathtub and hammock combines into a baby tub with a simple hammock in the tub with a headrest to hold the baby's head securely, leaving the parent's hands free to do the washing.
- Suntan lotion and insect repellent combines to form a new product — one lotion that protects against both the sun and insects.
- Coffee maker and sculpture combines to form a coffee maker with a top that resembles a sculpture of the top of the volcano Mount Vesuvius. When the coffee is done, the top glows red.
- Doormat and vacuum cleaner combines to form a doormat with a built in suction. When you step on the doormat, the doormat sucks the dirt and debris from the bottom of your shoes.
- Cell phone and soda can inspired the idea of utilizing cell phones as devices that, with sensors, would enable users to dispense soda and other products from vending machines with the expense charged back to the vendor via the carrier.

You can also try the inverse heuristic to generate ideas, which states that if an object performs one function, a new product might be realized by combining it with an object that performs the opposite function. The claw hammer is a good example. So is a pencil with an eraser.

Can you create new objects from the list of random objects by combining the object with something that performs the opposite function? How about a small cap for tightly sealing a soda can that could be attached to the lever of the pop-top device?

Adapted from: http://creativethinking.net/DT10_CombinatorialPlay.htm