

**PINPOINT**

*Chunking can vastly increase the practical limits of working memory.*

Daniel Bor

**Chunks**

Chunking is just another way of saying...categorising, grouping, collecting or classifying.

Chunking involves bringing together items that have similar properties. And giving that collection a group title.

This is called *chunking up*. There is the opposite, of course, called *chunking down*. In this instance, you break down a category into its smaller parts.



Perhaps what most distinguishes us humans from the rest of the animal kingdom is our ravenous desire to find structure in the information we pick up in the world.

Daniel Bor

**Language**

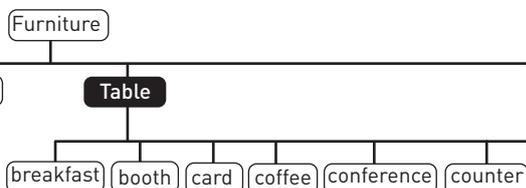
Chunking involves hierarchies. There are words used for titles of these groups, and words for the items of that group.

Below is an example of this hierarchical structure from an iPhone dictionary and its visual diagrammatic depiction.



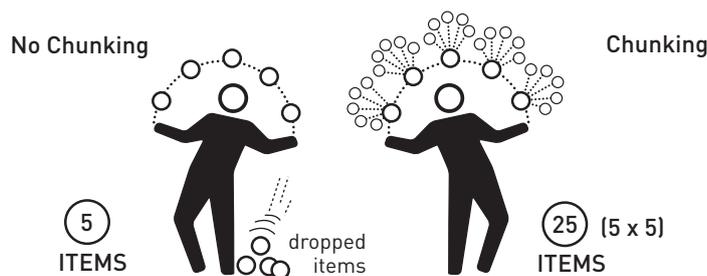
To get to the core you've got to weed out superfluous and tangential elements.

Chip and Dan Heath

**Playing with cognitive overload**

We all suffer from cognitive overload. There is a maximum number of separate items we can pay attention to and store in our minds. And if we approach information as simply a list of individual facts, that maximum number is easily reached.

But if we chunk those individual items together by identifying their shared attributes, we can transcend these limitations. Taking 5 to be our maximum load, chunking together 5 items together, allows us to move from 5 to 25 items stored. Plus, because of the categories created, it will also be more meaningful.

**The Magic Number 7**

George Miller's famous Magic Number 7 is stuff of psychological legend. His famous 1956 paper set the standard for what we know about working memory. He discovered that we can take in around 7 bits of information. Over the decades, this number has been used by professionals to shape their communications.

What is far less known is that he made up the significance of this number for a talk he had to give. He linked together two unconnected pieces of research that coincidentally shared the same number of limits participants had in their test performances. From this impromptu theme, the magic number was born.

The "plus or minus 2" was a humorous addition, mocking his own pseudo-science. After all, how can a magic number have such a margin of error?

More recently, research by Cowan has revealed that the working limits of short-term memory are nearer 4 than 7.

**REFERENCES**

**Bor, D. (2012)**  
The Ravenous Brain, Basic Books, New York

**Cowan, N. (2001)**  
The Magical Number 4 in Short-Term Memory  
Behavioural and Brain Sciences, 24, 87-185

**Heath, C. & D. (2007)**  
Made to Stick, Random House, London

**Miller, G. A. (1956)**  
The Magical Number Seven, Plus or Minus Two  
Psychological Review, 63, 81-97