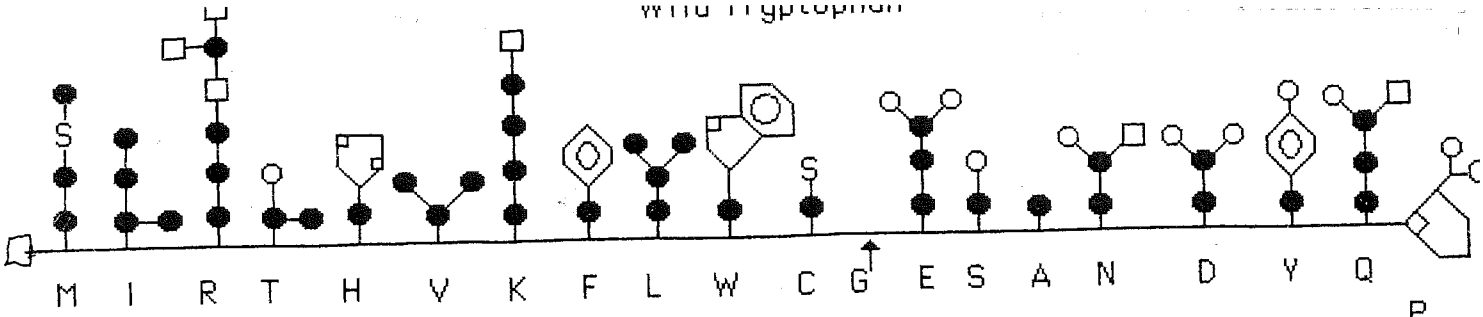
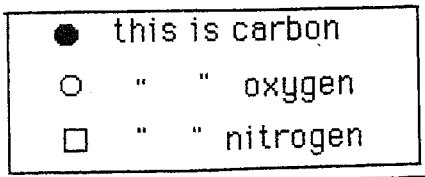


This is a small protein of all 20 amino acids. Hydrogens, peptide bonds are not shown.



	U	C	A	G	
U	F	S	Y	C	u c
			stop	stop W	a g
C	L	P	H	R	u c
			Q		a g
A	I	T	N	S	u c
	M		K	R	a g
G	V	A	D	G	u c
			E		a g

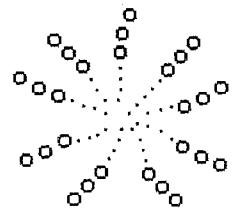
One letter genetic code diagram.

The first ten are essential ones, that we ourselves cannot make. The last ten we are able to make. That is, we can make S, serine, from T, threonine. We can make C, cysteine, from M, methionine. We can make Y, tyrosine from F, phenylalanine.

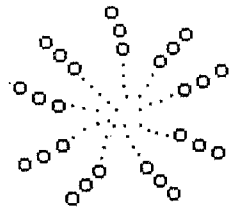
Most of the amino acids have letters assigned alphabetically. G, glycine, A, alanine, L, leucine, I, isoleucine, P, proline.

For the rest, here is a mnemonic poem:

Wild tryptophan and Naughty asparagine
met Funny phenylalanine and Clever cysteine.
They planned to play a trick on
Young tyrosine and Quiet glutamine.
Lysine is Kind, and explained that
Aspartic is D shorter one
Glutamic is Elongated,
And R is for arginine



Centrioles



Dody Orendurff

Memories seem to be stored redundantly in thousands or millions of neurons. This storage must be upon some permanent structure. Microtubules carry all proteins, and build all cytoplasmic structures. What sort of structure would last a lifetime? How could memories be encoded? How could there be recall of a childhood memory?