

1st) ~~the~~ ~~experimental~~ ~~approaches~~ ~~which~~ ~~were~~ ~~used~~ ~~to~~
decipher the ~~code~~

2nd) The ~~general~~ ~~structure~~ ~~of~~ ~~the~~ ~~code~~

~~3rd) The~~ ~~importance~~ ~~of~~ ~~the~~ ~~code~~

4th) ~~the~~ ~~future~~ ~~development~~ ~~of~~ ~~the~~ ~~code~~
Possible future developments.

1) Two experimental approaches were devised to translate the code. The ~~1st~~ ~~experimental~~ ~~approach~~ ~~was~~
to ~~use~~ ~~cell~~ ~~free~~ ~~protein~~ ~~synthesis~~ ~~in~~ ~~the~~ ~~presence~~ ~~of~~ ~~an~~ ~~RNA~~ ~~template~~.

~~The~~ ~~2nd~~ ~~experimental~~ ~~approach~~ ~~was~~ ~~to~~ ~~use~~ ~~cell~~ ~~free~~ ~~protein~~ ~~synthesis~~ ~~in~~ ~~the~~ ~~presence~~ ~~of~~ ~~an~~ ~~RNA~~ ~~template~~.

we were able to show that
1) Protein synthesis is dependent upon messenger RNA

2) that cell-free protein synthesis could be directed
by ~~synthetic~~ ~~RNA~~ ~~templates~~.

+ ~~synthetic~~ ~~RNA~~ ~~templates~~
+ ~~synthetic~~ ~~RNA~~ ~~templates~~

by synthetic mRNA

These approaches were used to define nucleotide sequences of codons. The results have shown that the code is a logical, flexible code. The Translation can be altered by modifying ^{parts of} the translation apparatus, such as tRNA, ~~existing~~ ^{existing} enzymes, ribosomes & so forth.

Accuracy is achieved by arranging the language so that frequent errors either have similar meaning, or serve special functions, of the logic & plasticity of the code. Some examples ^{of the logic & plasticity of the code} will be shown in the next few slides.