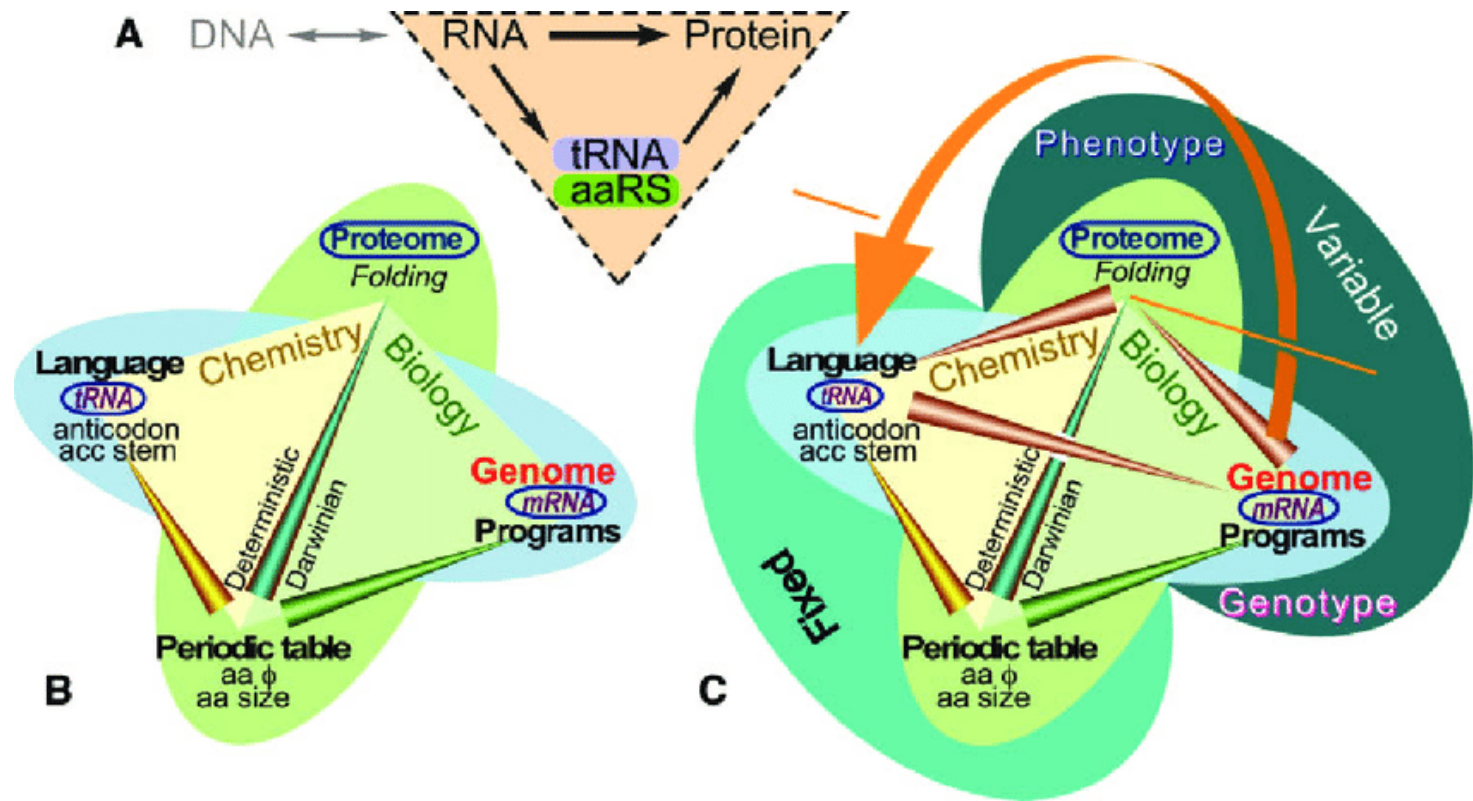


Molecular Programming

Molecular Programming

- A technology (and theory of computation) based on information-bearing molecules of historically biological origin (DNA/RNA) non necessarily involving living matter.



Objectives

The promises of Molecular Programming:

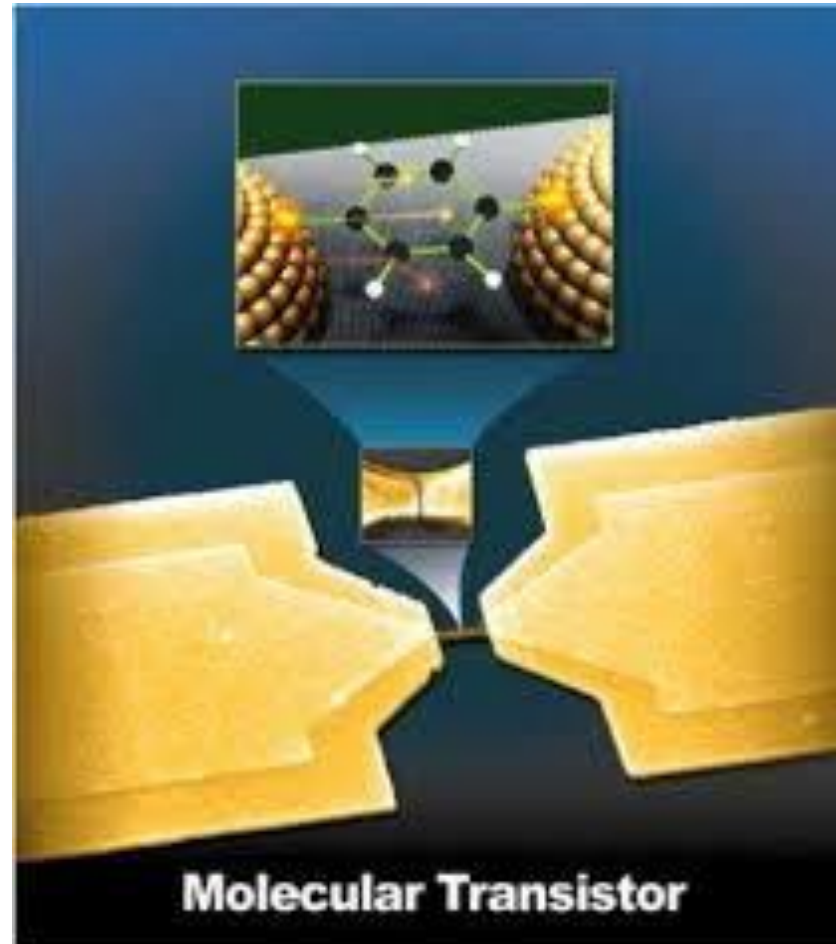
- In Science & Medicine
- In Engineering
- In Computing

The current practice of Molecular Programming

- DNA technology
- Molecular languages and tools
- Molecular algorithms

Molecular Programming: The Hardware Aspect

- Smaller and smaller things can be built.



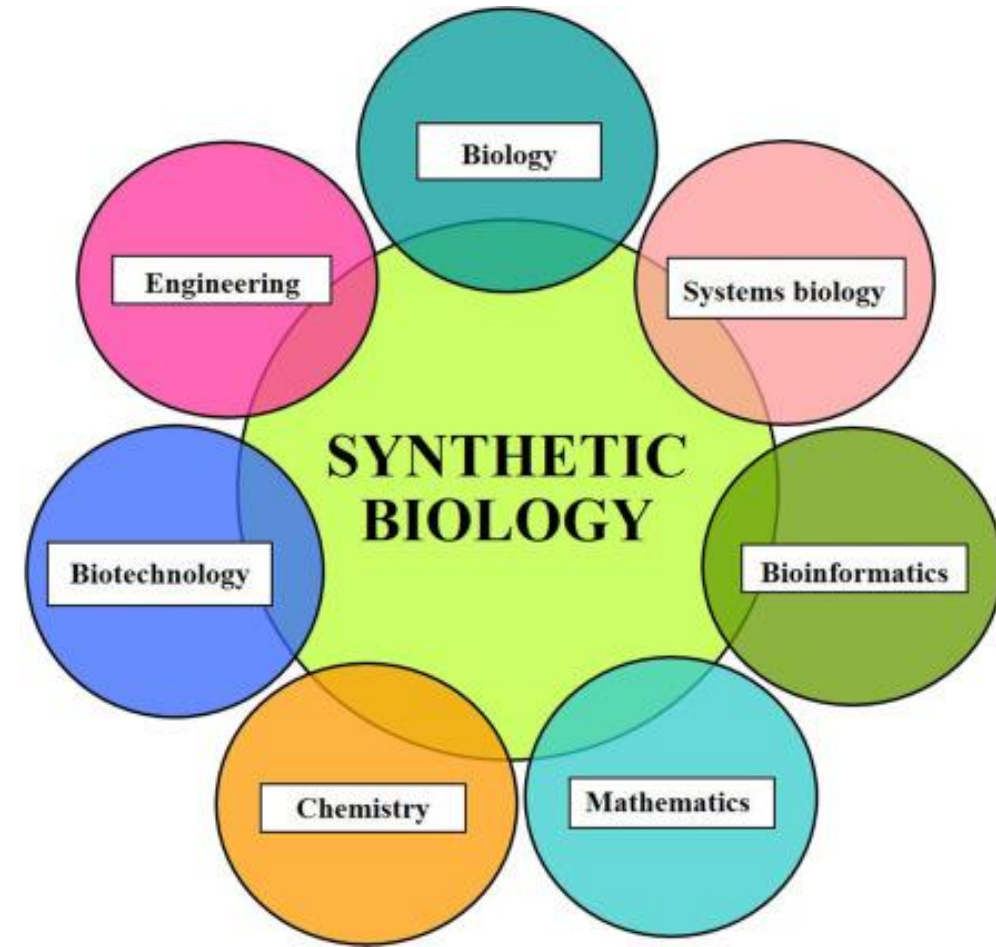
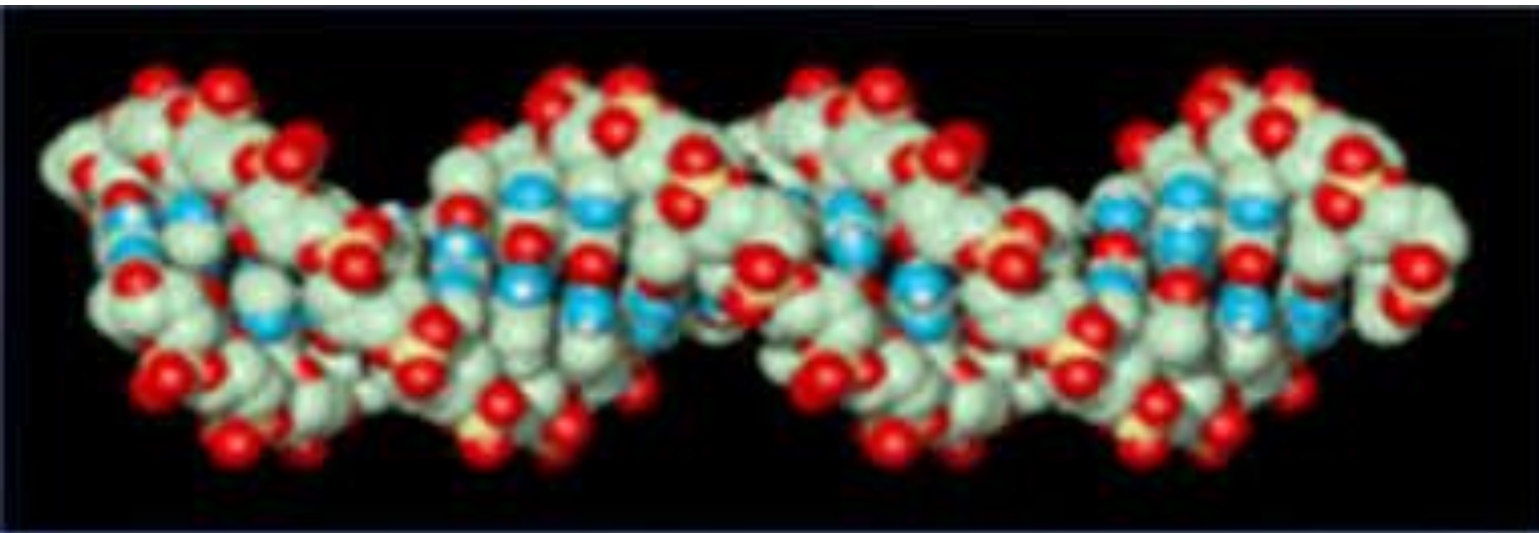
Molecular Programming: The Software Aspect

- Smaller and smaller things can be programmed.



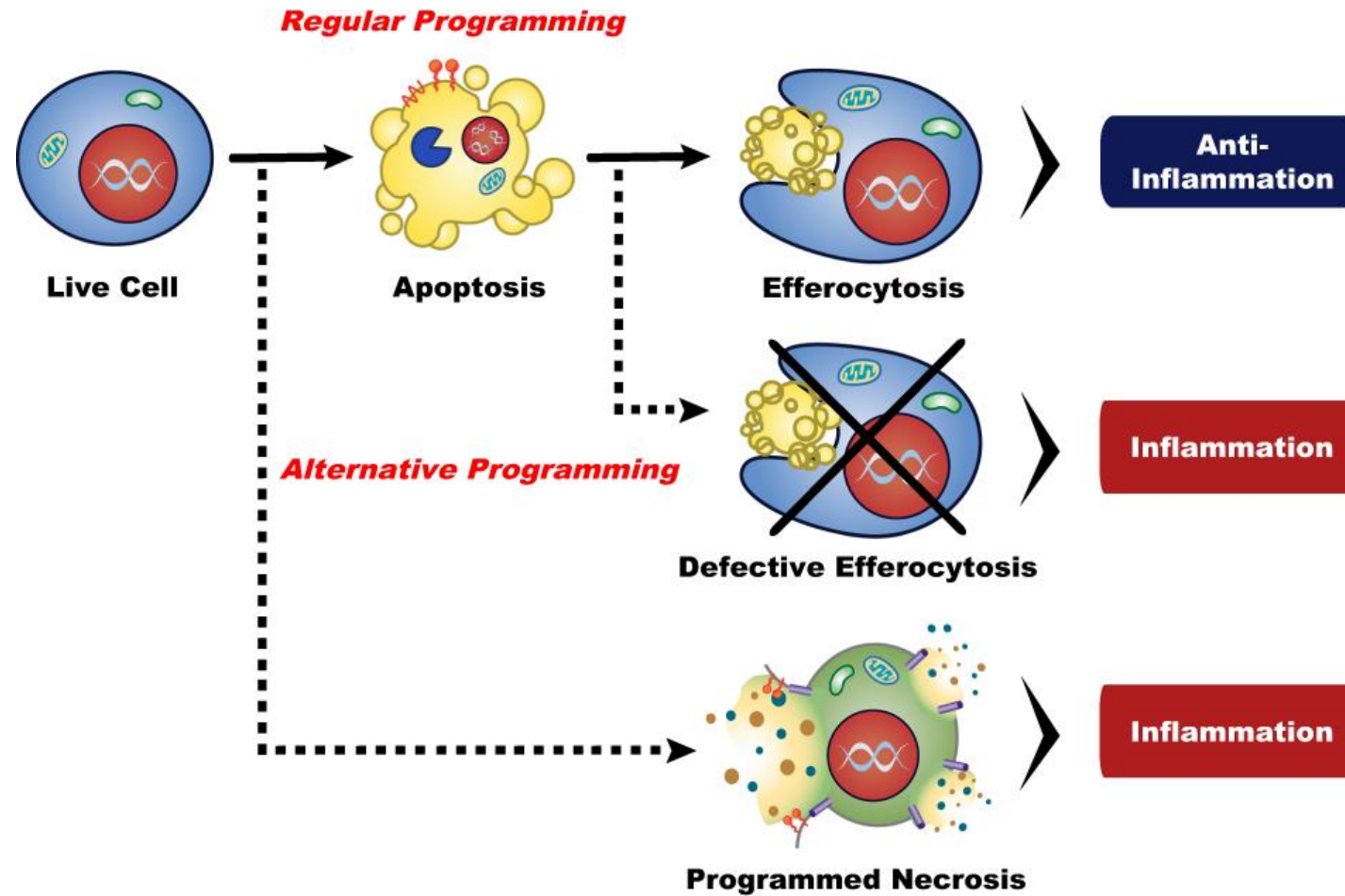
Molecular Programming: The Biological Aspect

- Biological systems are already 'molecularly programmed'.



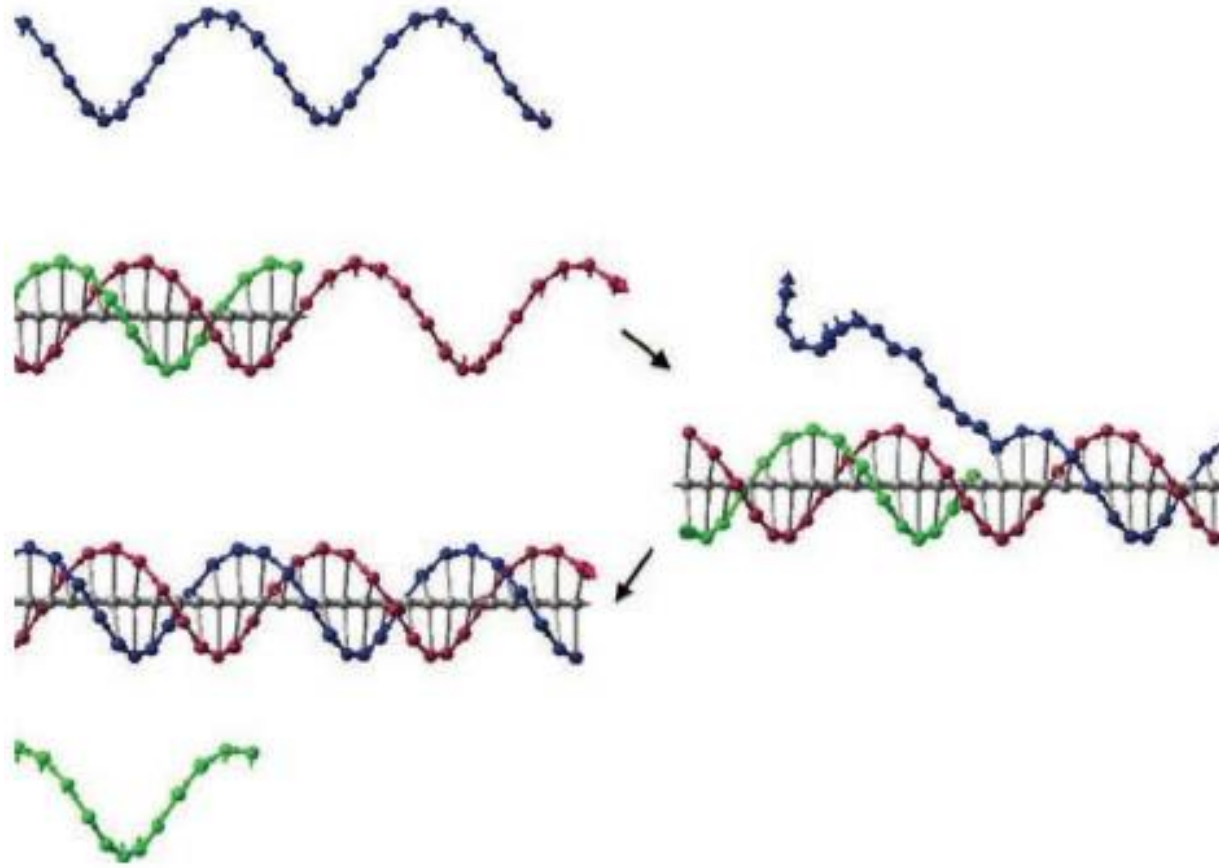
Molecular Programming: The Execution Aspect

- How do you "run" a molecular program?



DNA Strand Displacement

- An "unnatural" use of DNA for emulating any system of chemical reactions.



Physical Execution

- A wetlab pipeline for Molecular Programming.

