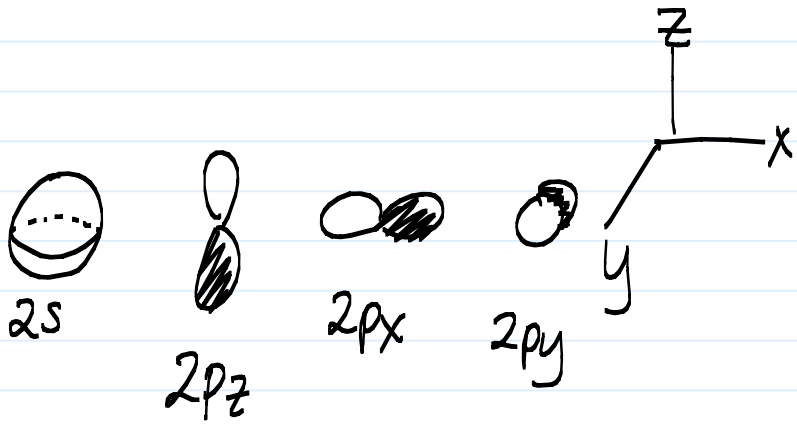
# Review

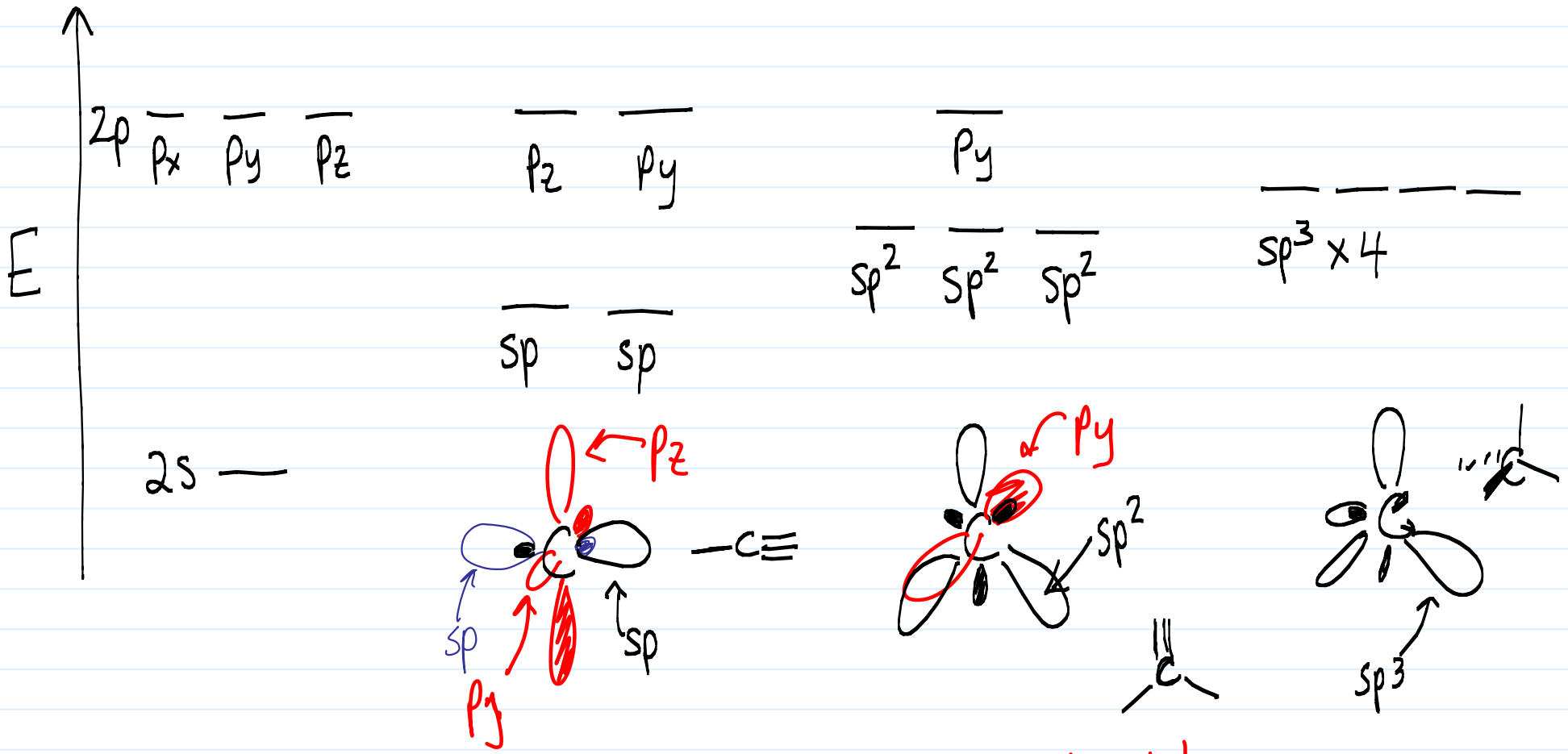
Note Title 2/11/2014

(1) Atomic & Molecular Orbitals

Consider carbon: Valence Atomic Orbitals =



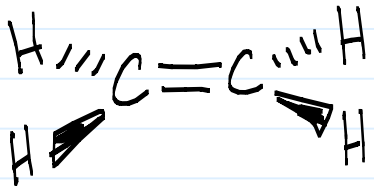

These orbitals hybridize to match observed geometries of carbon...




p orbitals are perpendicular to bonds!

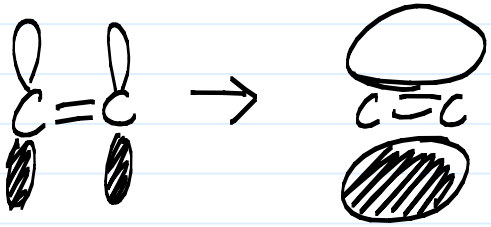
Molecular Orbitals → from Atomic Orbitals / Hybridized Atomic Orbitals

ex: Ethylene



C-H bonds ⇒ C $sp^2$ + H 1s

π-bond ⇒ p-orbitals on C

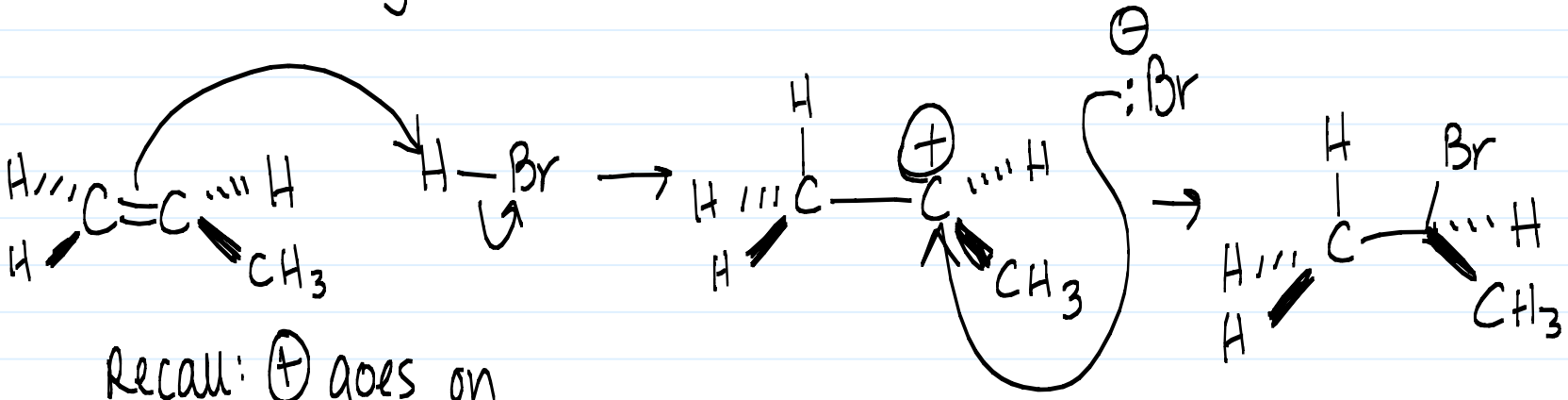


π-bond is perpendicular to C=C & C-H bonds!

(2) Arrow-Pushing Mechanisms

- represent e⁻ flow from HOMO → LUMO (emerges from our understanding of molecular orbitals)

ex:



Recall: ⊕ goes on more substituted C. (H⁺ goes on other C)

* ALWAYS START ARROWS FROM e⁻s (double bond or lone pair)

* NEVER START ARROWS FROM $H^+$ !!