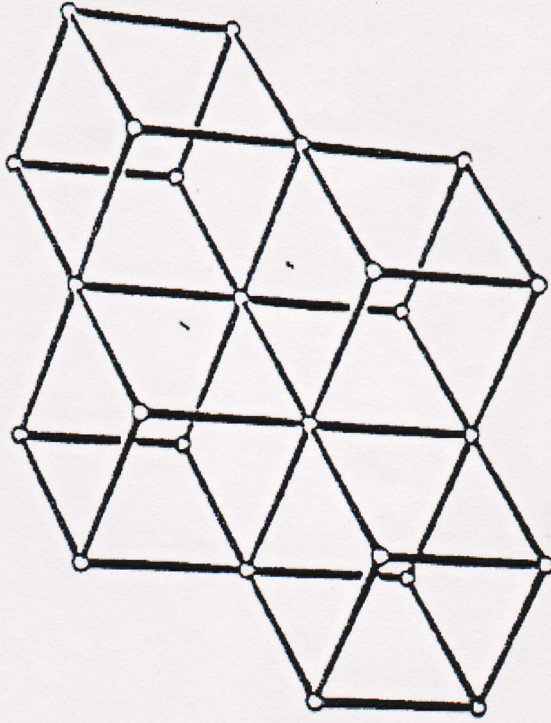


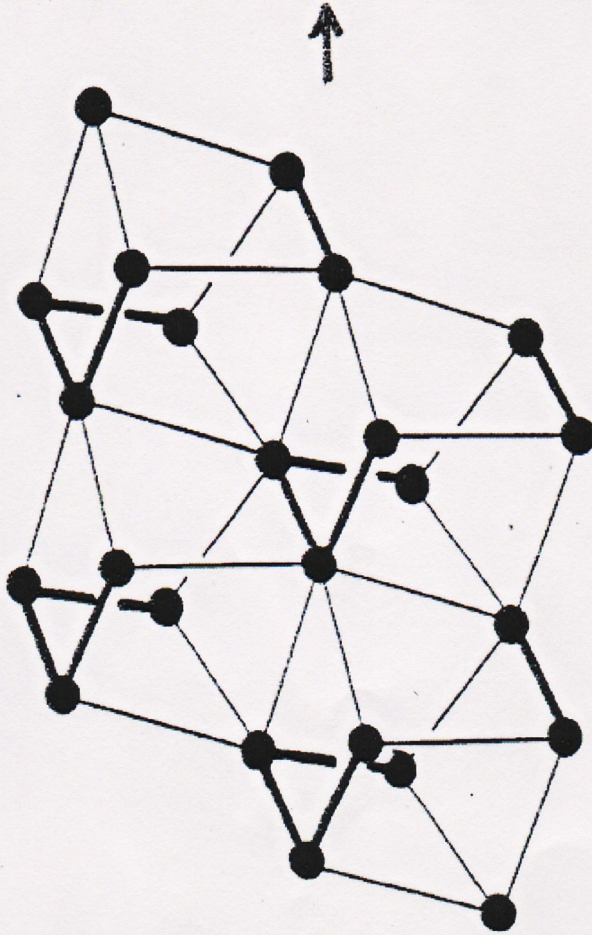
		NON-METAL										METAL	
		13/III	14/IV	15/V	16/VI	17/VII	18/VIII						
		5	6	7	8	9	10						
		B 10.81	C 12.01	N 14.01	O 16.00	F 19.00	Ne 20.18						
		13	14	15	16	17	18						
		Al 26.98	Si 28.09	P 30.97	S 32.07	Cl 35.45	Ar 39.95						
		31	32	33	Se		36						
		Ga 69.72	Ge 72.61	As 74.92	Br 79.90		Kr 83.80						
		49	50	51	Te		54						
		In 114.8	Sn 118.7	Sb 121.8	I 126.9		Xe 131.3						
		81	82	83	Po		86						
		Tl 204.4	Pb 207.2	Bi 209.0	At 210.0		Rn 222.0						
		12	11	10	11	12	13	14	15	16	17	18	
		Zn 65.39	Cu 63.55	Ni 58.69	Ag 107.9	Cd 112.4	In 114.8	Sn 118.7	Sb 121.8	Te 127.6	I 126.9	Xe 131.3	
		48	47	46	79	80	81	82	83	84	85	86	
		Cu 63.55	Ag 107.9	Pd 106.4	Au 197.0	Hg 200.6	Tl 204.4	Pb 207.2	Bi 209.0	Po 209.0	At 210.0	Rn 222.0	

Po



Metal

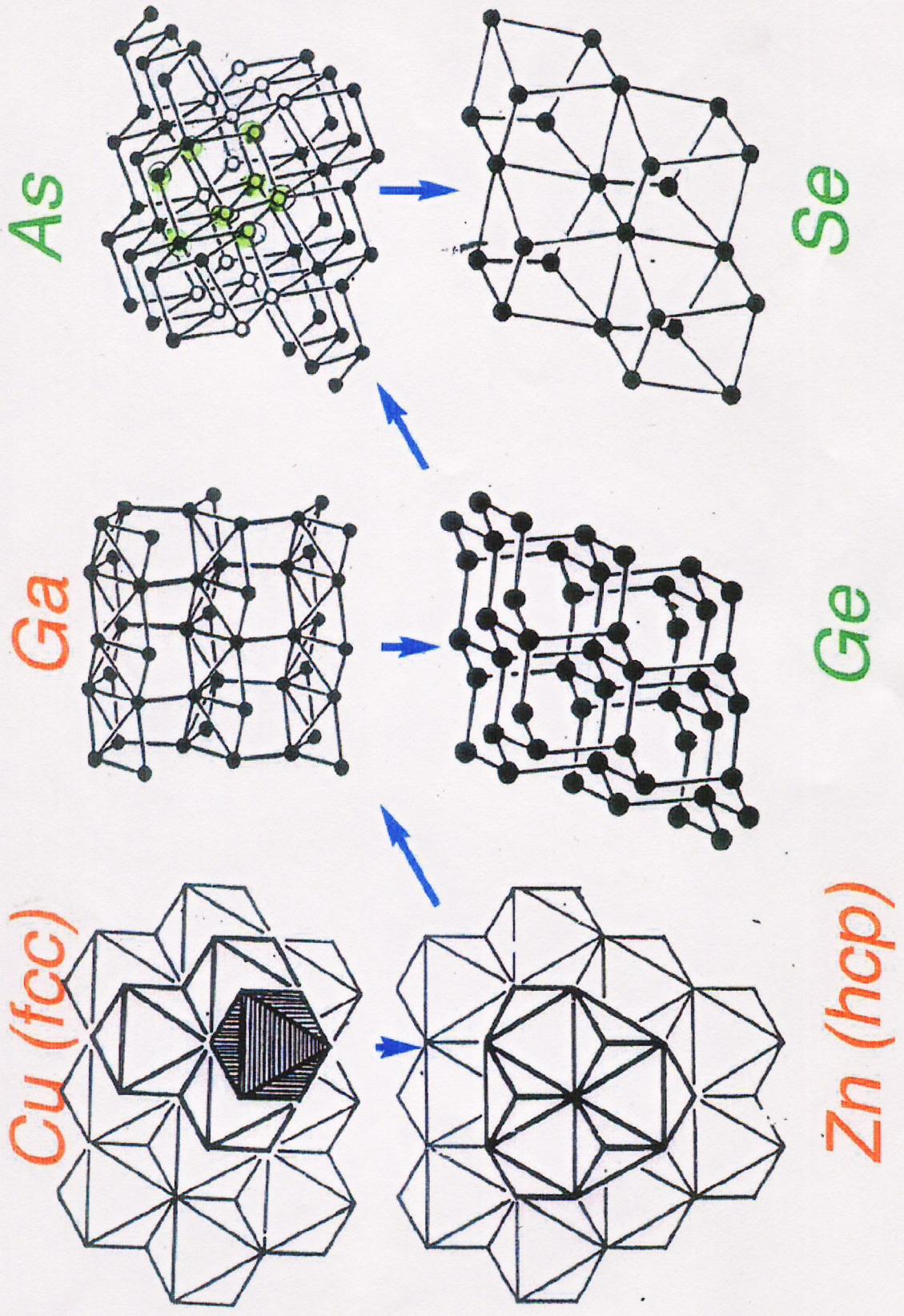
Se + Te



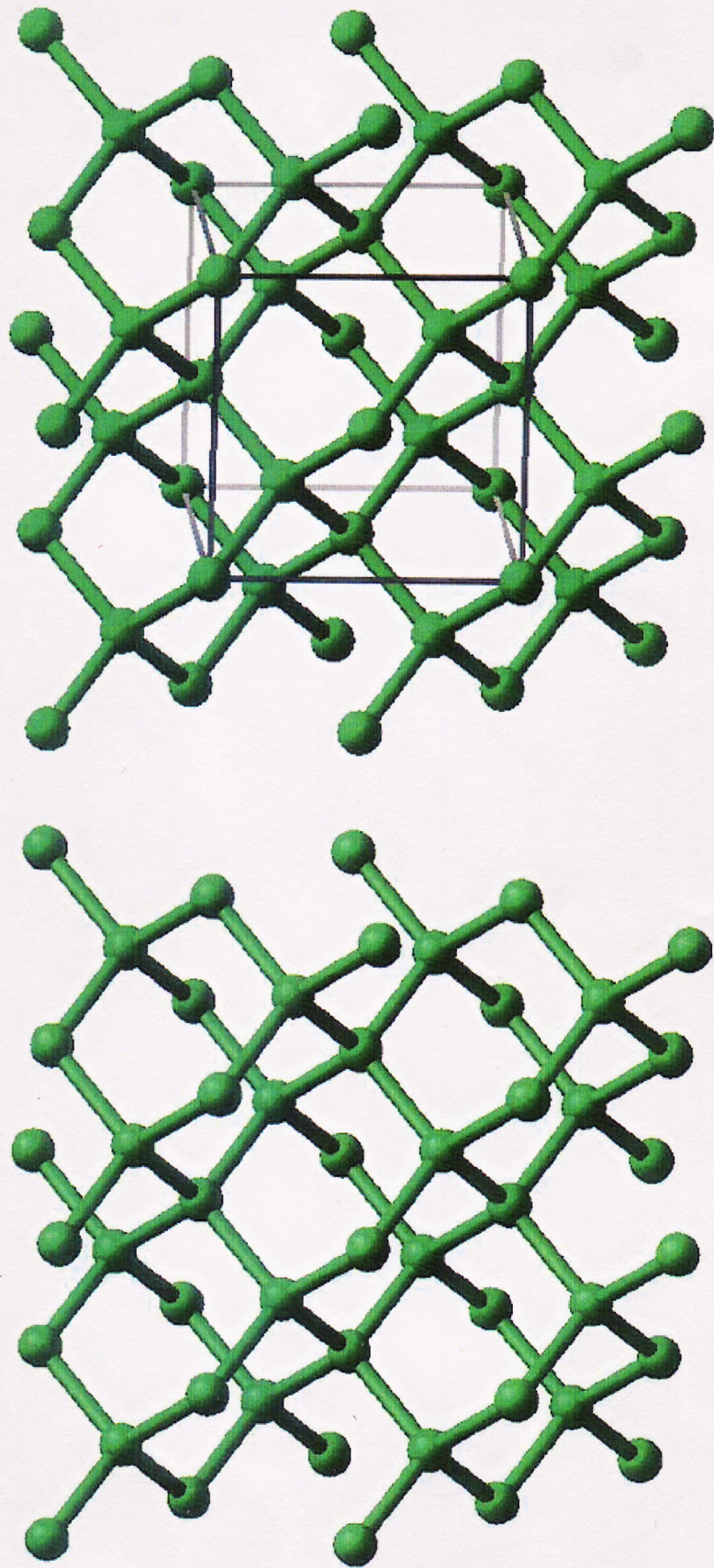
Non-Metal

		NON-METALS						18/VIII						
		13/III	14/IV	15/V	16/VI	17/VII								
2	He							2	He	4.003				
10		5	6	7	8	9	10	Ne	20.18					
		B	C	N	O	F								
		10.81	12.01	14.01	16.00	19.00								
13		13	14	15	16	17	18	Ar	39.95					
		Al	Si	P	S	Cl								
		26.98	28.09	30.97	32.07	35.45								
11		Transition Metals (d-block)						35	Br	79.90				
12								36	Kr	83.80				
11								47	Ag	107.9	53	I	126.9	
12								48	Cd	112.4	54	Xe	131.3	
10		49	In	114.8	50									
11		51	Sb	121.8	51									
12		52	Te	127.6	52									
11		81	Tl	204.4	82									
12		80	Hg	200.6	83									
11		79	Au	197.0	84									
12		81	Pb	207.2	85									
11		83	Bi	209.0	86									
12		84	Po	210.0	87									
11		210.0	At	210.0	88									
12		210.0	Rn	222.0	89									
11		222.0			90									

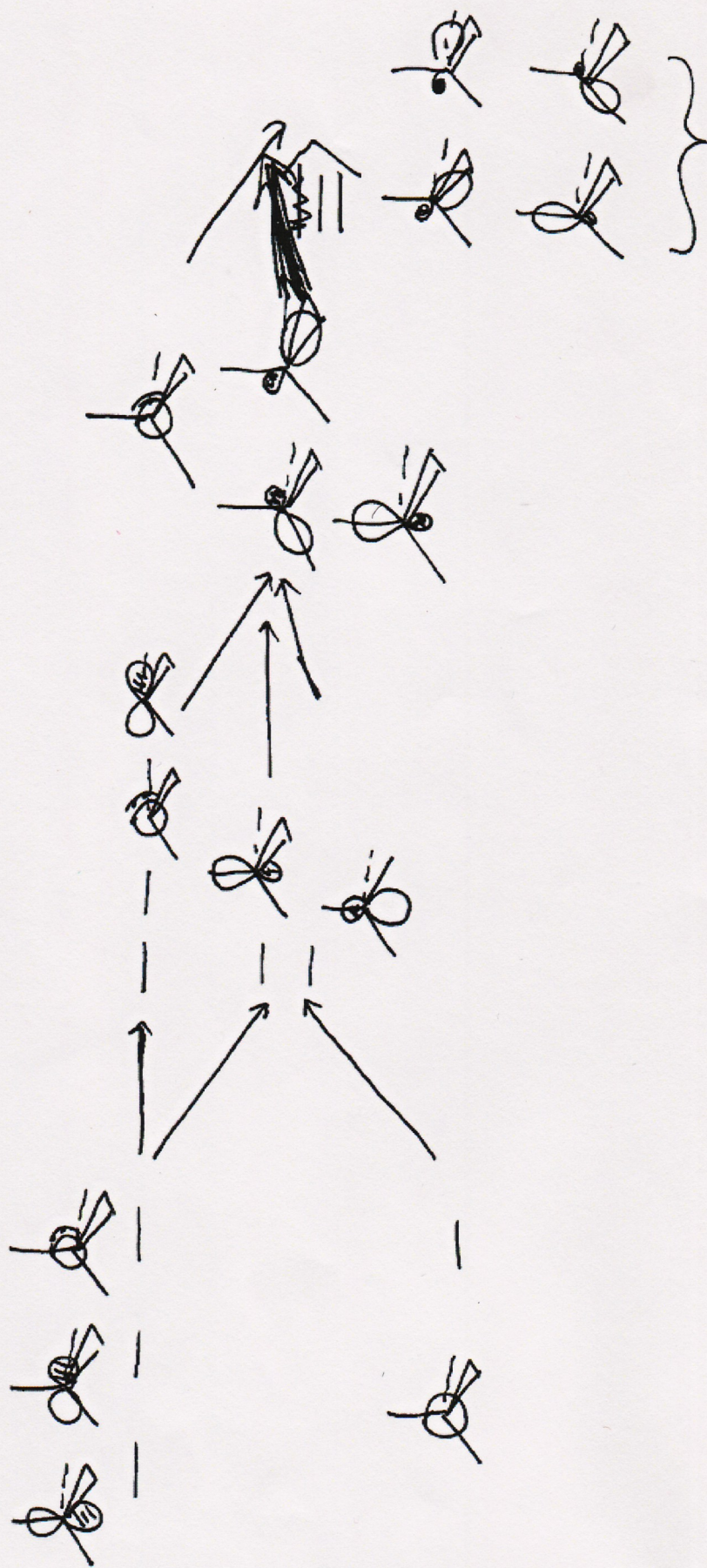
METALS



Carbon: cubic diamond



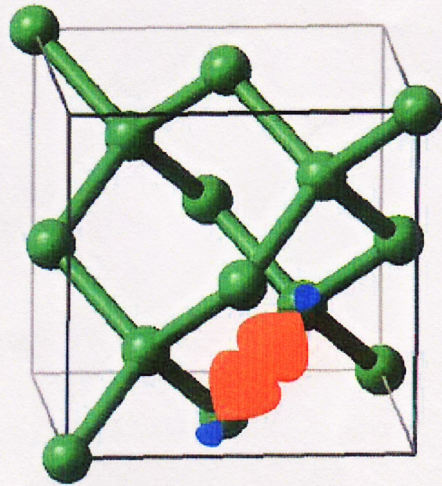
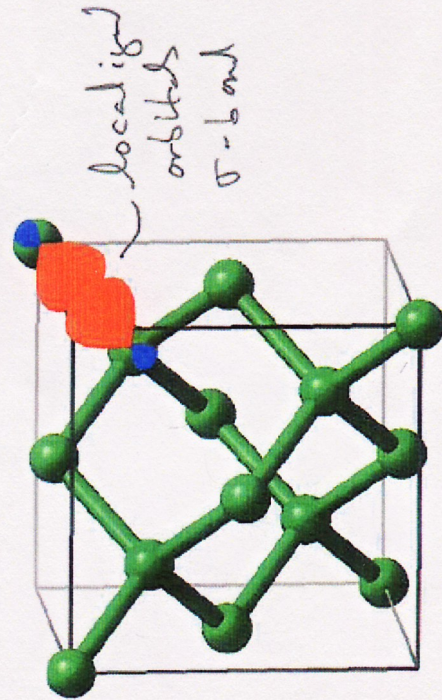
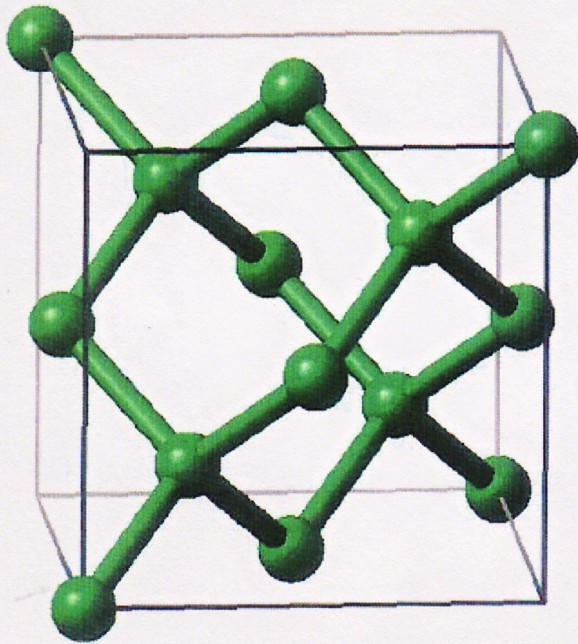
If we wish to generate localized orbitals (which are not eigenstates of anything!) we need to do the opposite of making a MO diagram, and mix orbitals so that they become of equal energy.



sp^3 hybrid orbitals

(localized orbitals)

diamond



diamond is not a Lewis acid or a Lewis base.

diamond: localized σ^* antibonding orbitals

