| <u> </u>  | B:=   Even   010  |
|---|---|
|   | $\Delta(0) = E$ $\Delta(1) = 0$ $\Delta(2) = Ewn$                                 |
|   |   |
|   | $\Delta(+)(E)(E) = E$ $E \times 0 = 0$ $O \times E = 0$ $O \times 0 = E$          |
|   |   |
|   | $\Delta(2)(E) = E \qquad \Delta(2)(0) = 1 \qquad 5/2 \qquad or \qquad (+1^{n})/2$ |
|   | hr shek   |
|   | FP means P+ set of progs that run forever   |
|   |   |
| 12.   | * P * X * JX'W  |
|   | FM FN FA  |
|   | FMN FMN   |
|   |   |
|   | When is a type system correct?  |
|   | Laccurate predictions (comection w/ Apresys + semantics)                          |
| g gymn o gwei y gymn gymn gymn y o o gwei y y y gymn o gwei y gymn o gwei y gymn o gwei y b y gwei ac dy'n y g<br>Gymn o gwei y gymn o gwei y |   |
|   | P + M : T eval $(M) = ans$ $(ifm)$  |
|   | M ⇒* N (maybe N is V)   |
| appagan popujetit e e in dia grazzo e in completito de la militario (1974 i 1974 e il control 2014) Pillia (19  | Ymerrys. Ø + m : T > eval(m) = b A O + b : T                                      |
| antani, izizminin qui eje in egize anno atti ponti, emit eme e e e in ligit (n) i em e para a e in india di mo  | 7 M=>"V and OHV: T  |
|   | 20-3 was "simply-type I-calculus"   |
|   | has "strong normalization" = All programs have valves                             |
| egan gera ki felimikulan qanga ma aran gini da qaran ki ili ili ili ili ili ili ili ili ili   | all decidable. (50)   |
| amakahakaka <u>ka mendejinahaba pililin</u> aka lahizi adal lahi-16, 444-45, 779-45, 444-55, 78   |   |
|   |   |
|   |   |
| Camban (y miner et v men et ennes e europe en en entre et la en français en français (en français en français de de de de   |   |
|   |   |
|   |   |
| quilligg a angleing at yeary stady opposy at the post of a grift of the queen post prime to be de-  |   |
|   |   |

| CI-C 1744 Mg 1.6 CALLIAN  | este passaci  |
|---|---|
| M = (fix M)   | de de la constant de |
| E := , , , Fix E  |   |
|   |   |
| E[fix (1xim)] -> E[M[x  | < fix (JX,m)]   |
|   |   |
| $ \Pi \perp M : (T_1 \rightarrow T_2) \rightarrow (T_1 \rightarrow T_2) $   |   |
| [ T + fix M; (T1 → T2)  |   |
| oll: OLMIT >> M >> V and  | Ø HV: T   |
| nev or it was foreve  |   |
|   |   |
| progress: "Programs w/ tyres are not shock"   | preservations   |
| T+M:T > JN, M > N   | "Type of preserved though eval"   |
|   | THMIT A MAN   |
| a[x=Nm] + X 1 unu   | T+N 1T  |
| Q + (1x:num, x): (num > num) -> (num>num)   |   |
| Ø + fix (1X; Num, X): (n=>n)=>(n>n)   |   |
|   |   |
| $f_{!X}(\gamma x; N \cdot X) \implies X[X \leftarrow t^{!X}(\gamma x; X) \rightarrow X[X \leftarrow t^{!X}(\gamma x; X)]$ | n.×)]   |
|   |   |
| (fix (1 faci (num => num)   |   |
| In: nom.  |   |
| ;   |   |
| then 1  |   |
| o.w. n x fac (n-1)))5   | = 5x4x3x2x1   |
|   |   |
|   |   |
|   |   |
|   |   |
|   | \$  |

| 21-3/               | Normal Iswim (w/o atisi) had recursion                   |
|---------------------|--|
| <b>3</b>            | but S.T. ISWIM didn't                                    |
|                     |  |
|                     | fix M -> Y M   |
|                     | dky: T   |
|                     | Y has no-type in S.T. ISWIM                              |
|                     |  |
|                     | we know! Y fac doesn't get stick!                        |
|                     |  |
|                     | "If M passes he typesystem, then it will not get stuck." |
|                     | " It M gets stuck, it will not pass type system"         |
|                     | possible programs  |
|                     | correct programs  Maybe T = None                         |
|                     | (7)   Some T   |
|                     | cophinaly (CHII, boost)                                  |
|                     | (Y fac) 5 (fix fac) 5                                    |
| •                   | ST STWFT   |
|                     |  |
| Conditionals        | M =   the   false   if M M M                             |
|                     | V = I trave   False                                      |
| T = , ) TUT         | E = "   LE M M "PHP Wat?"                                |
| \ TnT               |  |
|                     | E[if he m N] > E[M]                                      |
| 7+M:T; P; PF        | E[if false M N] > E[N]   mion   inter                    |
| "Occumine tiping"   | MHF:R S S  |
| 1 - (: 1801; Pr) Pr | T := 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                 |
| 1nPT + TIR; Pro     | THE False: Bool THE 1800                                 |
| 'n PF + F: SiProi   | FFT + the: Bool P+ifCTF: R  RUS  Rus                     |
| 7+;fcTF: Rus;       |  |
|                     | (if X S false) -> S                                      |
| PFFNPFF             | (IFF 5 F) => False                                       |
|                     |  |

