

*hybrid mice* operator  $\text{mice}(x) := (x \cup \{x\})\text{operator}$   
 $?$   
 $x\rho_x : x \rightarrow x x \text{rank closure } \hat{x} := (\{x, \rho_x\}) x \text{cone}$   $C_x := \{\hat{y} \in H_\kappa \mid x \in_1 (\hat{y})\} x$   
 $\kappa D^1 b \in H_{\bar{\kappa}}$  **operator on  $H_{\bar{\kappa}}$  over  $b$  with support  $D$ :**  $H_{\bar{\kappa}} H_{\bar{\kappa}}$   
 $D \cap C_b \subset \bar{C}_b$  **cone over  $b$  base of  $C_b$**   
 $V = L\hat{x} = x x \emptyset C_a = J_\kappa = J_{\bar{\kappa}}$   
 $xV = L(\hat{x})_x \hat{x} \emptyset J_\kappa(\hat{x}) = H_{\bar{\kappa}}^{L(\hat{x})}$   
 $:= (-)^\sharp x^\sharp(\emptyset) \emptyset(\emptyset) = 0^\sharp \omega(\emptyset) = \bigcup_{n < \omega} (\emptyset)^\sharp$   
 $^2$ -**mouse on  $\hat{x} \hat{x} l()$  length initial segments  $^\alpha(\hat{x}) \alpha < l()$**   
 $\text{amenable acceptable sound } \P \prec \omega\text{-condensing } \pi: \rightarrow \P \P \P^3$   
 $\kappa H_\kappa b \in H_\kappa$  **lower part model on  $b(b) := \{ \mid \text{is a sound-mouse projecting to} \} * \circ$**   
 $\kappa H_\kappa b \in H_{\kappa \hat{b}}(b)(b) =^{H_\nu} (\hat{b} \cup o()) \hat{b}^{<\omega} \hat{b} \hat{b}$   
 $, (b)(b)(b)$   
 $H_\kappa b_\alpha(b) := ()^\alpha(b)$   
*does*  
 $\kappa H_\kappa b \in H_\kappa$  **condenses well**  $g \subset (\omega, \kappa) V_{\bar{\gamma}} \in H_{\kappa^+} \overline{\in V[g] b}$   
 $= b \cdot \aleph_0$   
 $\overline{\in}^+$   
 $+ = \overline{+ \bar{0}}$   
 $+ = \overline{1}$   
 $\pi: + \rightarrow () V[g] \pi(\bar{\phantom{x}}) = \pi(b \cup \{b\}) = \Sigma_0 \Sigma_2$   
 $\P \in b(\P) \in H_\kappa i: (\P) \rightarrow \bar{+} \pi: + \rightarrow () V[g] Vi(\P) = \pi(\bar{\phantom{x}}) = \cup \{b\} = \pi(b \cup \{b\}) =$   
 $i \Sigma_0 \Sigma_2 \pi \Sigma_1$   
 $+ = (\bar{\phantom{x}}) \in V$   
*condenses well? condenses finely*  
**determines itself on generic extensions**  $\varphi(v_0, v_1) \models + \text{there are arbitrarily large cardinals,}$   
 $\kappa g \subset (\omega, \kappa)^{[g][g]} = (\tau_\kappa)^g \tau_\kappa \tau \models \varphi[\kappa, \tau]$   
 $\kappa H_\kappa b \in H_\kappa$  **radiant**<sup>4</sup>  
 $(k, U, x)$   
 **$\alpha$  coarse mouse witness condition at  $\alpha$  with  $W_\alpha^*(\cdot) U \subset R_\alpha(R) k < \omega x \in R(k, U, x)(N, \Sigma) \Sigma \in_\alpha (R)$**   
 $\theta > 0 g \subset (\omega, < \theta) V R^g := \bigcup_{\alpha < \theta} R^{V[g\alpha]} \alpha(R^g)(R^g) \models + W_\beta^*(\cdot) \text{holds for all } \beta \leq \alpha.$   
 $\in V H_{\aleph_1^{V[g]}}(R^g) \models W_{\alpha+1}^*(\cdot) \text{iff } V \models {}_n H_{\aleph_1^{V[g]}} n < \omega$   
 $\theta < \aleph_1^{V[g]}$   
 $K(x) \bar{K}(x)(X)$   
 $\theta \theta = \infty H_\theta(\theta, \theta) x \in H_\theta M_1(x)(\theta, \theta) x \in H_\theta(x)(x)(\theta, \theta) \in H_\theta(x) \eta \gg ()^{H_\eta}(\{x, (x), \})$   
 $\pi: \rightarrow H_\eta \bar{a} := \pi^{-1}(a) a \in \pi(\bar{x}) = (\bar{x})(\bar{x}) \bar{b} \in V \bar{\phantom{x}} = (\bar{b}, \bar{\phantom{x}}) \bar{b} \rho_1(\bar{b}) = \rho_1((\bar{x})) = \bar{x} < \delta(\bar{\phantom{x}}),$   
 $\delta(\bar{\phantom{x}}) \bar{b} \rho_1(\bar{b}) \delta(\bar{\phantom{x}})(\bar{\phantom{x}})$   
 $\equiv (\bar{\phantom{x}})(\bar{\phantom{x}}) \bar{M}_{\bar{b}} M_{\bar{b}}(2) \bar{\phantom{x}} \models \forall \eta \forall \zeta > \eta : \eta M_{\bar{b}}^{\zeta} \not\models \varphi[\bar{x}, p]$   
 $\Pi_2^1 \Pi_2^1 \delta(\bar{\phantom{x}})(\bar{\phantom{x}}) = (\bar{\phantom{x}} \delta(\bar{\phantom{x}}) \text{not}((\bar{\phantom{x}}) \bar{b}(\omega_1 + 1) \delta(\bar{\phantom{x}})(\bar{\phantom{x}}) V \bar{\phantom{x}}), \bar{\phantom{x}})(\P, )$   
 $\P \P(\bar{\phantom{x}})(\bar{\phantom{x}}) \P(\bar{\phantom{x}}) = \P(\bar{\phantom{x}}) \delta(\bar{\phantom{x}})(\bar{\phantom{x}}) = (\bar{\phantom{x}} \delta(\bar{\phantom{x}}) \delta(\bar{\phantom{x}})(\bar{\phantom{x}}) = \P \P$   
 $(\bar{\phantom{x}}) \delta(\bar{\phantom{x}}) \equiv (\bar{\phantom{x}}) \P F(\bar{\phantom{x}})(F) \leq o(\bar{\phantom{x}}) \P(F) \P$   
 $\delta(\bar{\phantom{x}}) \delta(\bar{\phantom{x}}) J(\bar{\phantom{x}}(F))(F) \bar{\phantom{x}}(F) = \P o(\P) = (F) \P = (\bar{\phantom{x}})(\bar{\phantom{x}}) \P$   
 $\bar{b}(\bar{b}, \bar{\phantom{x}})(\bar{\phantom{x}})(\omega, \theta) \bar{b} \in H b(b, \bar{\phantom{x}})(\bar{\phantom{x}}) M M$   
 $M M M \lambda \equiv (\bar{\phantom{x}} \mid \bar{\phantom{x}} < \lambda) \lim_{i < \lambda}^i \infty$   
 $\eta \gg (\bar{\phantom{x}}) := {}^{H_\eta}(\{x, M, \bar{\phantom{x}}\}) \pi: \rightarrow H_\eta \bar{a} := \pi^{-1}(a) a \in \pi \models \lim_{i < \bar{\lambda}}^{\bar{i} \infty} \text{is illfounded}_\dagger \models \lim_{i < \bar{\lambda}}^{\bar{i} \infty} \text{is wellfounded}.$   
 $(\lim_{i < \bar{\lambda}}^{\bar{i} \infty}) = (\lim_{i < \bar{\lambda}}^{\bar{i} \infty})^V V$   
 $M_1(x) x \in H_\theta(x) \text{except}(1) \models \forall \eta (\bar{\phantom{x}} \not\models \delta(\bar{\phantom{x}})$   
 $\P \delta(\bar{\phantom{x}}) \P = (\bar{\phantom{x}}) M_1(x)$   
 $\theta \theta = \infty H_\theta x \in H_\theta$   
 $K(x) \theta(\theta, \theta)$   
 $M_1(x) (\theta, \theta)$   
 $K^{c,}(x) \mid \theta_\varepsilon(\varepsilon) = M_1(x) ?? M_1(x) M_1(x)$   
 $K^{c,}(x) \mid \theta K^{c,}(x) \mid \theta(\theta, \theta)$   
 $\kappa < \theta \Omega := {}_\kappa(\kappa)^+ \Omega < \theta \theta \kappa < \theta \Omega K^{c,}(x) \mid \theta \S := (K^{c,}(x) \mid \Omega) \S := K^{c,}(x) \mid \Omega ? \S \Omega$   
 $\Omega L[\S] \Omega K^{c,}(x) \mid \theta^{c,}(x) \mid \Omega + K^{c,}(x) \mid \theta \subseteq \S.$   
 $?? K(x) \mid \kappa K^{c,}(x) \mid \Omega ? \Omega L[\S]$   
 $\kappa < \theta K(x) \mid \theta K(x) \mid \theta(\theta, \theta)$