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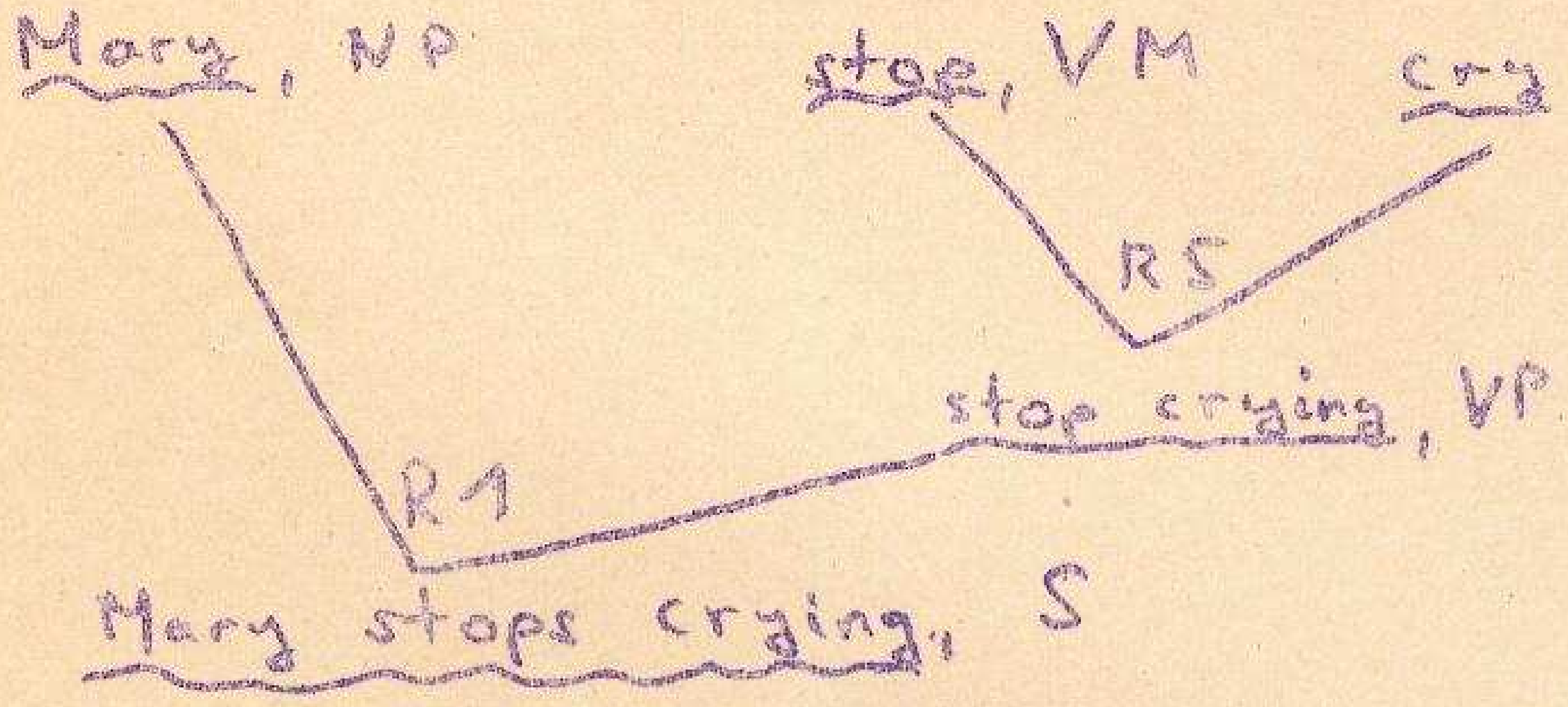
Presuppositions & Quantifiers

(1) No woman stops crying.

(2) Mary stops crying.

(3) Only Mary stops crying.

(2') 

(4) If α is a VP built up from a VM, β, and a VP, γ, by application of R5, then:

$$f_p(\alpha) = \{[\pi\ {}^\wedge f_m(\gamma)] \mid \pi \in f_p(\beta)\} \cup \{[f_m(\beta)\ {}^\wedge \pi] \mid \pi \in f_p(\gamma)\}.$$

(5) If α is an S built up from an NP, β, and a VP, γ, by application of R1, then:

$$f_p(\alpha) = \{[f_m(\beta)\, \pi] \mid \pi \in f_p(\gamma)\} \cup \{[\pi\, f_m(\gamma)] \mid \pi \in f_p(\beta)\}.$$

(6) $\overline{S} = t$; $\overline{NP} = \langle \overline{VP}, t \rangle$; $\overline{VP} = \langle e, t \rangle$

$\overline{VM} = \langle \langle s, \overline{VP} \rangle, \overline{VP} \rangle$.

(7) $f_p(\text{cry}) = \emptyset$

$f_p(\text{stop}) = \{ \lambda P_{\langle s, \overline{VP} \rangle} \lambda x.\ \text{Past}\ {}^\wedge P\{x\} \}$

$f_p(\text{Mary}) = \emptyset$

(8) $f_p(\underline{\text{stop crying}})$

$= \{ [\pi \wedge f_m(\underline{\text{cry}})] \mid \pi \in f_p(\underline{\text{stop}}) \}$

$\cup \{ [f_m(\underline{\text{stop}}) \wedge \pi] \mid \pi \in f_p(\underline{\text{cry}}) \}$

$= \{ \lambda P \lambda x \ \underline{\text{Past}}\ {}^\wedge[Px] \ {}^\wedge f_m(\underline{\text{cry}}) \}$

$= \{ \lambda x \ \underline{\text{Past}}\ {}^\wedge [f_m(\underline{\text{cry}})\, x] \}$

$f_p(\underline{\text{Mary stops crying}})$

$= \{ [f_m(\underline{\text{Mary}})\ \pi] \mid \pi \in f_p(\underline{\text{stop crying}}) \}$

$\cup \{ [\pi\ f_m(\underline{\text{stop crying}})] \mid \pi \in f_p(\underline{\text{Mary}}) \}$

$= \{ [f_m(\underline{\text{Mary}})\ \lambda x \ \underline{\text{Past}}\ {}^\wedge [f_m(\underline{\text{cry}})\, x]] \}$

(9) $f_p((2))$

$= \{ [\lambda P [Pm]\ \lambda x \ \underline{\text{Past}}\ {}^\wedge[Cx]] \}$

$= \{ [\lambda x \ \underline{\text{Past}}\ {}^\wedge[Cx]\ m] \}$

$= \{ \underline{\text{Past}}\ {}^\wedge[Cm] \}$

(10) $f_p((1))$

$= \{ [f_m(\underline{\text{no woman}})\ \pi] \mid \pi \in f_p(\underline{\text{stop crying}}) \}$

$\cup \{ [\pi\ f_m(\underline{\text{stop crying}})] \mid \pi \in f_p(\underline{\text{no woman}}) \}$

$= \{ [\lambda P\ \neg \exists x\ (Wx \wedge Px)\ \lambda x \ \underline{\text{Past}}\ {}^\wedge [f_m(\underline{\text{cry}})\, x]] \}$

$= \{ \neg \exists x\ (Wx \wedge \underline{\text{Past}}\ {}^\wedge Cx) \}$

(11) If a noun phrase is combined with some presupposition-laden expression α, the result will be two new presuppositional contributions:

- the first one says that <u>everything that the noun phrase is about</u> (= K) satisfies α's presuppositional contributions;
- the second one says that if <u>the quantificational domain of the noun phrase</u> (= H) contains more than just the elements of K, then something in H but not in K must also satisfy α's presuppositional contributions.

(12) (i) $\mathcal{N} := \lambda \mathcal{P}_{\overline{NP}}\ \lambda x_e\ \forall P_{\langle e,t\rangle}\ ([\mathcal{P} P] \rightarrow [P x])$

(ii) $\mathcal{B} := \lambda \mathcal{P}_{\overline{NP}}\ \lambda P_{\langle e,t\rangle}\ \forall Q_{\langle e,t\rangle}\ [\mathcal{P} Q] \equiv [\mathcal{P}\, \lambda x_e (Px \wedge Qx)]$

(iii) $\mathcal{H} := \lambda \mathcal{P}_{\overline{NP}}\ \lambda x_e\ \forall P_{\langle e,t\rangle}\ ([\mathcal{B} \mathcal{P}] P \rightarrow P x)$

(13)

	Proper Name	Definite Description	Universal Quantifier	Negated Ex. Q.	Exist. Quant.
Example	Joe	the Bavarian	every Bavarian	no Bavarian	a Bavarian
Content	$\lambda P\, Pj$	$\lambda P\, \exists x \forall y\, ([By \equiv [x \equiv y]] \wedge Px)$	$\lambda P\, \forall x\, (Bx \rightarrow Px)$	$\lambda P \neg \exists x\, (Bx \wedge Px)$	$\lambda P\, \exists x\, (Bx \wedge Px)$
Nucleus ($\mathcal{N}$)	$\lambda x [x \equiv j]$	$\lambda x\, \forall y\, [By \equiv [x \equiv y]]$	B	$\lambda x\, \neg [x \equiv x]$	$\lambda x\, \forall y\, [By \equiv [x \equiv y]]$
Bases ($\mathcal{B}$)	= content	$\lambda P\, (\exists x \forall y\, [By \equiv [x \equiv y]] \rightarrow \forall x\, (Bx \rightarrow Px))$	= content	$\lambda P\, \forall x\, (Bx \rightarrow Px)$	$\lambda P\, \forall x\, (Bx \rightarrow Px)$
Main Base ($\mathcal{H}$)	= nucleus	= nucleus	= nucleus	B	B

(14) $\overline{S} = t$

$\overline{NP} = \langle\langle e,t\rangle, t\rangle$

$\overline{VP} = \langle\langle s, \overline{NP}\rangle, t\rangle$

$\overline{VM} = \langle\langle s, \overline{VP}\rangle, \overline{VP}\rangle$

$\overline{TV} = \langle\langle s, \overline{NP}\rangle, \overline{VP}\rangle$

$\overline{N} = \langle e,t\rangle$

$\overline{Det} = \langle \overline{N}, \overline{NP}\rangle$

(15) <u>R1</u> : $\underset{S}{\alpha} = \underset{NP}{\beta} + \underset{VP}{\gamma}$

<u>M1</u> : $f_m(\alpha) = [f_m(\gamma)\, {}^\wedge f_m(\beta)]$

<u>P1</u> : $f_p(\alpha) = \{[f_m(\gamma)\, \pi] \mid \pi \in f_p(\beta)\}$

$\cup \{[\pi\ \hat{P}_{\overline{V}}\ \forall x\, (\mathcal{H} f_m(\beta) x \rightarrow Px)] \mid \pi \in f_p(\gamma)\}$

$\cup \{[\pi\ \hat{P}_{\overline{N}}\ (\exists x\, (\mathcal{H} f_m(\beta) x \wedge \neg \mathcal{H} f_m(\beta) x)$

$\rightarrow \exists x\, (\mathcal{H} f_m(\beta) x \wedge \neg \mathcal{H} f_m(\beta) x \wedge Px))] \mid$

$\pi \in f_p(\gamma)\}$

$\underline{R2}$: $\underset{NP}{\alpha} = \underset{Det}{\beta} + \underset{N}{\gamma}$

$\underline{M2}$: $f_m(\alpha) = [f_m(\beta)\, f_m(\gamma)]$

$\underline{P2}$: $f_p(\alpha) = \{[\pi\, f_m(\gamma)] \mid \pi \in f_p(\beta)\}$

$$\cup \; \{[\lambda P_{\langle e,t\rangle} \forall x_e([\mathcal{H} f_m(\alpha)]x \rightarrow \pi x)] \mid \pi \in f_p(\gamma)\}$$

$$\cup \; \{[\lambda P_{\langle e,t\rangle} \exists x_e([\mathcal{H} f_m(\alpha)]x \wedge \neg[\mathcal{K} f_m(\alpha)]x)$$

$$\rightarrow \exists x_e([\mathcal{H} f_m(\alpha)]x \wedge \neg[\mathcal{K} f_m(\alpha)]x \wedge \pi x)] \mid$$

$$\pi \in f_p(\gamma)\}$$

$\underline{R3}$: $\underset{VP}{\alpha} = \underset{TV}{\beta} + \underset{NP}{\gamma}$

$\underline{M3}$: $f_m(\alpha) = [f_m(\beta)\, {}^\wedge f_m(\gamma)]$

$\underline{P3}$: $f_p(\alpha) = \{[f_m(\beta)\, {}^\wedge \pi] \mid \pi \in f_p(\gamma)\}$

$$\cup \; \{[\pi\, \hat{P}\, \forall x(\mathcal{H} f_m(\gamma)x \rightarrow Px)] \mid \pi \in f_p(\beta)\}$$

$$\cup \; \{[\pi\, \hat{P}(\exists x(\mathcal{H} f_m(\gamma)x \wedge \neg \mathcal{K} f_m(\gamma)x)$$

$$\rightarrow \exists x(\mathcal{H} f_m(\gamma)x \wedge \neg \mathcal{K} f_m(\gamma)x \wedge Px))] \mid$$

$$\pi \in f_p(\beta)\}$$

$\underline{R5}$: $\underset{VP}{\alpha} = \underset{VM}{\beta} + \underset{VP}{\gamma}$

$\underline{M5}$: $f_m(\alpha) = [f_m(\beta)\, {}^\wedge f_m(\gamma)]$

$\underline{P5}$: $f_p(\alpha) = \{[\pi\, {}^\wedge f_m(\gamma)] \mid \pi \in f_p(\beta)\}$

$$\cup \{[f_m(\beta)\, {}^\wedge \pi] \mid \pi \in f_p(\gamma)\}$$

(16) $f_p(\underline{\text{aufhören}}) = \{\lambda X_{\langle s,\overline{VP}\rangle} \lambda \mathcal{P}_{\langle s,\overline{NP}\rangle}\, \mathcal{P}\{\lambda x_e\, \underline{\text{Past}}\, {}^\wedge X\{\hat{P}\, Px\}\}\}$

$f_p(\underline{\text{ausschalten}}) = \{\lambda \mathcal{S}_{\langle s,\overline{NP}\rangle} \lambda Q_{\langle s,\overline{VP}\rangle}\, \mathcal{P}\{\lambda x_e\, \underline{\text{Past}}\, {}^\wedge f_m(\underline{\text{aus sein}})_* x\}\}$

$f_p(\underline{\text{fallen lassen}}) = \{\lambda \mathcal{P} \lambda Q\;\; Q\{\lambda x\, \mathcal{P}\{\lambda y\, \underline{\text{Past}}\, {}^\wedge f_m(\text{halten})_* x y\}\}\}$

$f_p(\underline{\text{der}}) = \{\lambda P_{\overline{N}} \lambda Q_{\overline{N}}\, \exists x_e \forall y_e(Py \equiv [x \equiv y])\}$

(17) f_p (<u>Keine Frau hört auf zu weinen</u>)

$$= \{[f_m(\underline{\text{hört auf zu weinen}})\ \pi] \mid \pi \in f_p(\underline{\text{keine Frau}})\}$$

$$\cup \{[\pi\ \hat{P}\ \forall x\ (\mathcal{H}\ f_m(\underline{\text{keine Frau}})x \to Px)] \mid \pi \in f_p(\underline{\text{hört auf zu weinen}})\}$$

$$\cup \{[\pi\ \hat{P}\ (\exists x\ (\mathcal{H}\ f_m(\underline{\text{keine Frau}})x \wedge \neg \mathcal{H}\ f_m(\underline{\text{keine Frau}})x) \to \exists x\ (\mathcal{H}\ f_m(\underline{\text{keine Frau}})x \wedge \neg \mathcal{H}\ f_m(\underline{\text{keine Frau}})x \wedge Px))] \mid \pi \in f_p(\underline{\text{hört auf zu weinen}})\}$$

$$= \{[[\lambda \mathcal{X} \lambda \mathcal{P}\ \mathcal{P}\{\lambda x\ \underline{\text{Past}}\ {}^\wedge\mathcal{X}\{\hat{P}\,Px\}\}\ {}^\wedge W]\ \hat{P}\ \forall x\ (\neg[x \equiv x] \to Px)]\}$$

$$\cup \{[[\lambda \mathcal{X} \lambda \mathcal{P}\ \mathcal{P}\{\lambda x\ \underline{\text{Past}}\ {}^\wedge\mathcal{X}\{\hat{P}\,Px\}\}\ {}^\wedge W]\ \hat{P}\ (\exists x\ (Fx \wedge [x \equiv x]) \to \exists x\ (Fx \wedge [x \equiv x] \wedge Px))]\}$$

$$= \{\forall x\ [x \equiv x],\ (\exists x\ Fx \to \exists x\ (Fx \wedge \underline{\text{Past}}\ {}^\wedge W_* x))\}$$

(18) f_p (<u>jeder Country-Fan schaltet jedes Gerät aus</u>)

$$= \{[f_m(\underline{\text{schaltet jedes Gerät aus}})\ {}^\wedge\pi] \mid \pi \in f_p(\underline{\text{jeder Country-Fan}})\}$$

$$\cup \{[\pi\ \hat{P} \forall x\ (\mathcal{H}\ f_m(\underline{\text{jeder Country-Fan}})x \to Px)] \mid \pi \in f_p(\underline{\text{schaltet jed. G. aus}})\}$$

$$\cup \{[\pi\ \hat{P}\ (\exists x (\mathcal{H}\ f_m(\underline{\text{jed. C.-F.}})x \wedge \neg \mathcal{H}\ f_m(\underline{\text{jed. C.-F.}})x) \to \exists x (\mathcal{H}\ f_m(\underline{\text{jed. C.-F.}})x \wedge \neg \mathcal{H}\ f_m(\underline{\text{jed. C.-F.}})x \wedge Px))]\}$$

$$= \{[\lambda Q\ \forall x\ (Gx \to \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{an sein}})_* x)\ \hat{P}\ \forall x\ (Cx \to Px)],$$

$$[\lambda Q\ \forall x\ [x \equiv x]\ \hat{P} \forall x\ (Cx \to Px)],$$

$$[\lambda Q\ \forall x\ (Gx \to \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{an sein}})_* x)\ \hat{P}(\exists x\ (Cx \wedge \neg Cx) \to \exists x\ (Cx \wedge \neg Cx \wedge Px))],$$

$$[\lambda Q\ \forall x\ [x \equiv x]\ \hat{P}\ (\exists x\ (Cx \wedge \neg Cx) \to \exists x\ (Cx \wedge \neg Cx \wedge Px))]\}$$

$$= \{\forall x\ (Gx \to \underline{\text{Past}}\ {}^\wedge f_p(\underline{\text{an sein}})_* x),\ \forall x\ [x \equiv x]\}$$

(19) <u>Nur Maria hört auf zu weinen.</u>

(20) <u>Nur Maria weint.</u>

(21) <u>Nur das Mädchen weint.</u>

(22) <u>Nur jedes Mädchen weint.</u>

(23) <u>Nur ein Mädchen weint.</u>

(24) <u>Nur kein Mädchen weint.</u>

(25) <u>R4</u>: $\underset{NP}{\alpha} = \underset{NP/Det,N}{\beta} + \underset{Det}{\gamma} + \underset{N}{\eta}$

(26) <u>M4</u>: $f_m(\alpha) = [[f_m(\beta)\, f_m(\gamma)]\, f_m(\eta)]$

(27) $f_m(\underline{nur}) = \lambda \mathcal{J}_{\overline{Det}}\, \lambda P_{\overline{N}}\, \lambda Q_{\overline{N}}\, (\mathcal{J}PQ \wedge \forall x\, (Qx \rightarrow Px))$

(28) $\emptyset_{Det}\ X_N$

(29) $f_m(\underline{Maria}) = \hat{x}\, [x \equiv m]$

(30) <u>Kein</u> P <u>ist</u> Q = <u>Jedes</u> P <u>ist</u> ℓ - Q

(31) $f_m(\ell) = \lambda P_{\overline{VP}}\, \lambda X_{\langle s, \overline{NP}\rangle} \neg PX$

(32) $f_p(\underline{nur}) = \{\lambda \mathcal{J}\, \lambda P\, \lambda Q\ [[\mathcal{J}P]\, Q]\}$

(33) <u>P4</u>: $f_p(\alpha)$

$= \{[[\pi\, f_m(\gamma)]\, f_m(\eta)] \mid \pi \in f_p(\beta)\}$

$\cup \{[\pi\, f_m(\eta)] \mid \pi \in f_p(\gamma)\}$

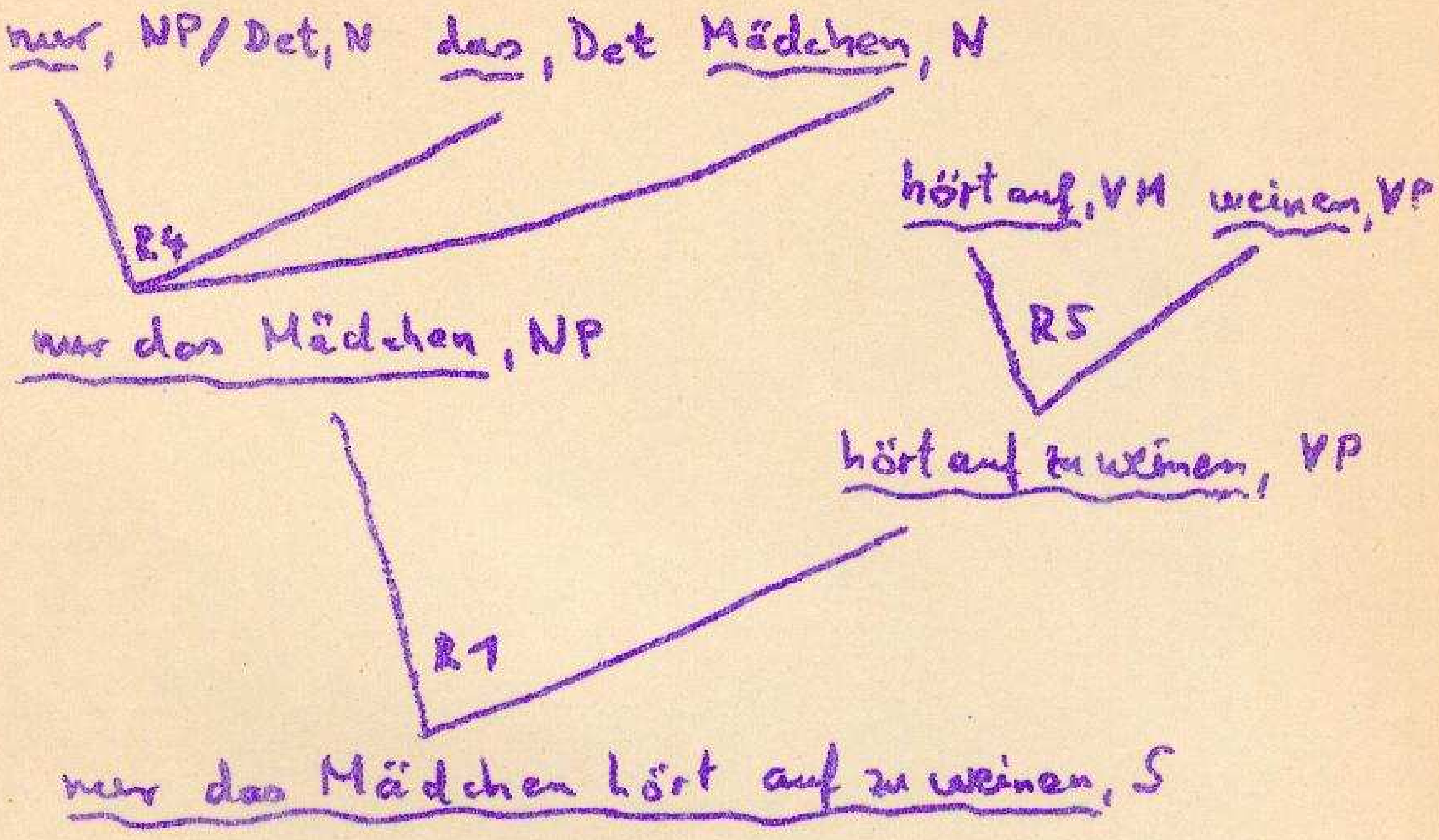
$\cup \{\lambda P_{\overline{N}}\, \forall x\, (f_m(\eta)x \rightarrow \pi x) \mid \pi \in f_p(\eta)\}$

$\cup \{\lambda P_{\overline{N}}\, \exists x\, (f_m(\eta)x \wedge \pi x) \mid \pi \in f_p(\eta)\}$

(34)	<u>nur</u> + $\emptyset_{Det}$ + Name	<u>nur</u> + <u>der</u> + N	<u>nur</u> + <u>jedes</u> + N	<u>nur</u> + <u>ein</u> + N
Example	<u>nur Maria</u>	<u>nur das Mädchen</u>	<u>nur jedes Mädchen</u>	<u>nur ein Mädchen</u>
Content	$\lambda P\, (Pm \wedge \forall x\, (Px \rightarrow x \equiv m))$	$\lambda P\, (\exists x\, \forall y\, ((My \leftrightarrow x \equiv y) \wedge Px) \wedge \forall x\, (Px \rightarrow Mx))$	$\lambda P\, \forall x\, (Px \leftrightarrow Mx)$	$\lambda P\, (\exists x\, (Mx \wedge Px) \wedge \forall x\, (Px \rightarrow Mx))$
Nucleus ($\mathcal{N}$)	$\lambda x\, [x \equiv m]$	$\lambda x\, \forall y\, My \leftrightarrow x \equiv y$	M	$\lambda x\, \forall y\, My \leftrightarrow x \equiv y$
Bases ($\mathcal{B}$)	$\lambda P\, \forall x\, Px$	$\lambda P\, (\exists x\, \forall y\, [My \equiv [x \equiv y]] \rightarrow \forall x\, Px)$	$\lambda P\, \forall x\, Px$	$\lambda P\, (\exists x\, Mx \rightarrow \forall x\, Px)$
Main Base ($\mathcal{X}$)	$\lambda x\, [x \equiv x]$	$\lambda z\, \exists x\, \forall y\, [My \equiv [x \equiv y]]$	$\lambda x\, [x \equiv x]$	$\lambda z\, \exists x\, Mx$

(35) Nur das Mädchen hört auf zu weinen.

(35')



(36) $f_p(\underline{\text{nur das Mädchen}})$

$= \{\lambda Q\ \ \exists x\ \forall y\,([My \equiv [x \equiv y]] \wedge Qx),$
$\lambda Q\ \ \exists x\ \forall y\,[My \equiv [x \equiv y]]\ \}$

(37) $f_p(\underline{\text{hört auf zu weinen}})$

$= \{\lambda \mathcal{P}_{\langle s,\overline{NP}\rangle}\ \mathcal{P}\,\{\lambda x_e\ \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{weinen}})\,\hat{P}\,Px\}\ \}$

(38) $\{f_m(\underline{\text{hört auf zu weinen}})\ \hat{Q}\,\exists x\,\forall y\,([My \equiv [x \equiv y]] \wedge Qx),$
$f_m(\underline{\text{hört auf zu weinen}})\ \hat{Q}\,\exists x\,\forall y\,[My \equiv [x \equiv y]]\ \}$

$= \{\exists x\ \forall y\,([My \equiv [x \equiv y]] \wedge f_m(\underline{\text{hört auf zu weinen}})_*\ x),$
$\exists x\ \forall y\ \ [My \equiv [x \equiv y]]\ \ \}$

(39) $\{\lambda \mathcal{P}_{\langle s,\overline{NP}\rangle}\ \mathcal{P}\{\lambda x_e\ \underline{\text{Past}}\ {}^\wedge f_m(\text{weinen})\,\hat{P}\,Px\}$
$\hat{P}_{\overline{N}}\ \forall x\ ({}^\vee f_m(\underline{\text{nur das Mädchen}})\,x \to Px)\}$

$= \{\forall x\ (\forall y\ [My \equiv [x \equiv y]]$
$\to\ \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{weinen}})\,x)\ \}$

(40) $\{\lambda \mathcal{P}_{\langle s,NP\rangle}\ \mathcal{P}\{\lambda x_e\ \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{weinen}})\}\ \hat{P} Px\}$

$\hat{P}_{\bar{N}}\ (\exists x\ (\mathcal{X} f_m(\underline{\text{nur das Mädchen}})x \wedge \neg \mathcal{X} f_m(\underline{\text{nur das Mädchen}})x)$

$\to \exists x\ (\mathcal{X} f_m(\underline{\text{nur das Mädchen}})x \wedge \neg \mathcal{X} f_m(\underline{\text{nur das Mädchen}})x \wedge Px))\}$

$= \{(\exists x(\exists y\ \forall z[Mz \equiv [y \equiv z]] \wedge \neg \forall y\ [My \equiv [x \equiv y]])$

$\to \exists x(\exists y\ \forall z\ [Mz \equiv [y \equiv z]] \wedge \neg \forall y\ [My \equiv [x \equiv y]]$

$\wedge\ \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{weinen}})_{*}\ x))\}$

$= \{(\exists y\ \forall z[Mz \equiv [y \equiv z]] \wedge \exists x\ \neg Mx)$

$\to \exists x\ (\neg Mx \wedge \underline{\text{Past}}\ {}^\wedge f_m(\underline{\text{weinen}})_{*}\ x))\}$

(41) <u>Das Mädchen hört auf zu weinen.</u>