Title:	Vorarbeiten zum Plankalkül. Schachprogramme
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1)

2.)

3.)

4.)

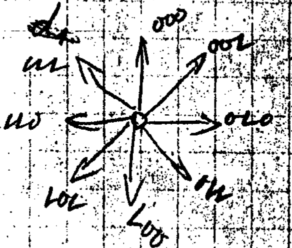
5.)

6.) 5 $1 \div 3$

~~Geom (x, y)~~ =

Richt(x, y) =

Richt(x, y) $\neq$ 3×D



Richt(x, y, z)

---

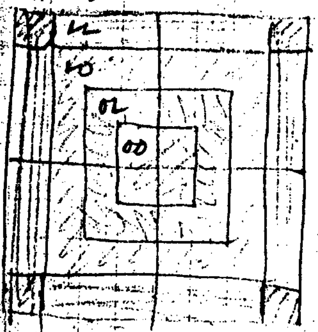
1)

2.)

3.)

4.) Richt( )

Zu f...



Eck(x), Kant(x),

Schw.(x), Weiss(x)

Farb(x) = ... PD.

Zone(x) = ... 2D.

Nord(x)

~~Eck(x) ~ N~~ Eck(x) → (Zone(x) = LL)

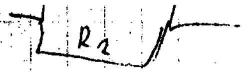
Schw(x) ~ [Farb(x) = O]

Weiss(x) ~ [Farb(x) = L] ~~Komp(x) Komp~~

$K^1(x)$ $K^{1,2}(x)$

$K^{1,2}(x) = K^2(K^1(x))$

$\sim K^{1,2}(x)$ ... 1,2 ...



$V = J \cdot R$

$$\cancel{J_1 \cdot R_1 + J_2 \cdot R_2 = V}$$

$$(J_1 + J_2) \cdot R_G = V$$

$$J_1 \cdot R_1 = V \quad / \quad J_1 = \frac{V}{R_1}$$

$$J_2 \cdot R_2 = V \quad / \quad J_2 = \frac{V}{R_2}$$

$$\left(\frac{V}{R_1} + \frac{V}{R_2}\right) \cdot R_G = V$$

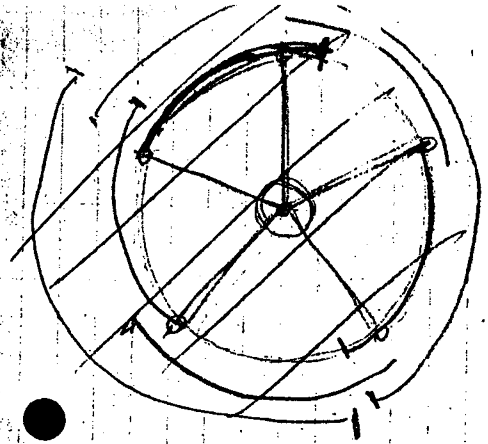
$$R_G = \frac{V}{\frac{V}{R_1} + \frac{V}{R_2}} \quad / = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2}}$$

$$\cancel{V \cdot \frac{1}{R_G} = \frac{1}{R_1 + R_2}}$$

$$\cancel{\left(\frac{1}{R_1} + \frac{1}{R_2}\right) R_G = 1}$$

$$R_G = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2}} = \frac{R_1 \cdot R_2}{R_1 + R_2}.$$

$$\lim_{R \to \infty} \left(\frac{R_1 \cdot R_2}{R_1 + R_2}\right) = R_1$$



[illegible]

K0,3(x)

[illegible]

x [illegible] 2×3D ξ, η

~~K0,1~~

K1(x) $= \xi$, K2(x) $= \eta$

[illegible]

[illegible]

~~[illegible]~~ Agr.(x) [illegible]

x = [illegible] Agr. [illegible]

[illegible] Agr. [illegible] S_x [illegible] S_{Agr} [illegible]

Agr(x) [illegible]

$Agr(x)$ [illegible] $n \times 2 \times (\cancel{4d} + 2\cdot 3d)$

$= n \times 20d.$

~~[illegible]~~ [illegible]

$K\,\underline{Agr(x)}$ [illegible] Agr.

$K\,\underline{Agr(x)} = a.$ a [illegible]

$K\,\underline{1(a)} = K\,\underline{0{,}1\,Agr(x)} =$

$$\underline{\underline{(\xi = 000) \vee (\xi = 00\nu) =_{Df} (\xi = (000 \vee 00\nu))}}$$

2

: $2 \times 3D$

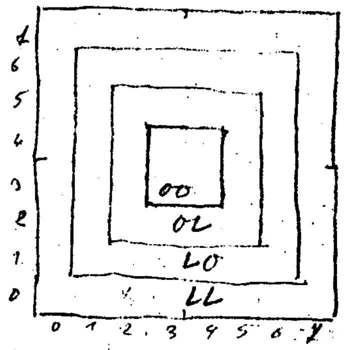
: $2 \times 3D$

: $2 \times 3D$

$3 \cdot 2 \cdot 3\,D = 18D$

X.

K1(X) =



ξ, η.

ξ — η : $\xi_2\ \xi_1\ \xi_0$, η_2, η_1, η_0

00: $(\xi = 0LL \vee L00) \wedge (\eta = 0LL \vee L00)$

~~0L: $(\xi = 0L0 \vee L0L) \vee (\eta = 000 \vee 00L \vee LL0 \vee LLL)$ $\vee (\eta = 0L0 \vee L0L) \vee (\xi = 000 \vee 00L \vee LL0 \vee LLL)$.~~

~~L0: $(\xi = 00L \vee LL0) \vee (\eta = 000 \vee LLL)$ $\vee (\eta = 00L \vee LL0) \vee (\xi = 000 \vee LLL)$~~

LL: $(\xi = 000 \vee LLL) \vee (\eta = 000 \vee LLL)$.

$(Zon(x) = 00) \sim (\xi = 011 \vee 100) \wedge (\eta = 011 \vee 100).$

$(Zon(x) = 01) \sim [(\xi = 010 \vee 101) \wedge \overline{(\eta = 000 \vee 001 \vee 010 \vee 011)}]$
$\vee [(\eta = 010 \vee 101) \wedge \overline{(\xi = 000 \vee 001 \vee 010 \vee 011)}]$

$(Zon(x) = 10) \sim [(\xi = 001 \vee 110) \wedge \overline{(\eta = 000 \vee 111)}]$
$\vee [(\eta = 001 \vee 110) \wedge \overline{(\xi = 000 \vee 111)}]$

$(Zon(x) = 11) \sim (\xi = 000 \vee 111) \vee (\eta = 000 \vee 111).$

a n [illegible]:

~~1. 4 Zon(x)~~ [illegible] Zon(x).

1) [illegible]: Quadr.(x).

01	11
00	10

$(Quadr.(x) = 00) \sim (\xi_2 = 0 \wedge \eta_2 = 0)$
$(Quadr.(x) = 01) \sim (\xi_2 = 0 \wedge \eta_2 = 1)$
$(Quadr.(x) = 10) \sim (\xi_2 = 1 \wedge \eta_2 = 0)$
$(Quadr.(x) = 11) \sim (\xi_2 = 1 \wedge \eta_2 = 1)$

$K1(Quadr(x)) =_{Df} \# q_1$
$K2(Quadr(x)) =_{Df} \# q_2.$

$q_1 \sim \xi_2, \quad q_2 \sim \eta_2.$

$Quadr(x) \sim (\xi_2, \eta_2)$

$Pos(x;y)$:   x … (?)

y: $(Quadr(x) = 00) \to (y = 011, 011)$
$(Quadr(x) = 01) \to (y = \cancel{011, 100})$
$(Quadr(x) = 10) \to (y = 100, 011)$
$(Quadr(x) = 11) \to (y = 100, 100)$

$Quadr(x) = \xi_2, \eta_2$.

~~$k(\xi_2) = (u = 0) \to k(u) = 011$~~
~~$(u = 1) \to k(u) = 100$.~~

$y(Quadr(x)) = (\xi_2 \bar\xi_2 \bar\xi_2, \eta_2 \bar\eta_2 \bar\eta_2)$
(2 … 5x … [illegible] ….

$Pos(x;y) = \varphi(\Delta\xi(x;y), \Delta\eta(x;y))$.

$\Delta\xi(x;y) = \xi(x) - \xi(y)$
$\Delta\eta(x;y) = \eta(x) - \eta(y)$.

$\xi(x) = a$ | a ρ 3D | ~~a − b~~: $a_2 a_1 a_0$
$\xi(y) = b$. | b ρ 3D | $a_2 a_1 a_0$

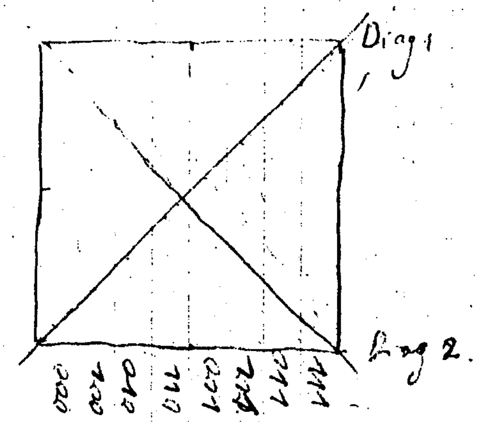
$a - b$: ρ 1+3D. [… ρ … [illegible]]

~~Zon(x) =~~

$|\Delta\xi(x,y)| > |\Delta\eta(x,y)| \rightarrow \text{Zon}(x) = |\Delta\xi(x,y)|$

$|\Delta\eta(x,y)| > |\Delta\xi(x,y)| \rightarrow \text{Zon}(x) = |\Delta\eta(x,y)|$

k (1):



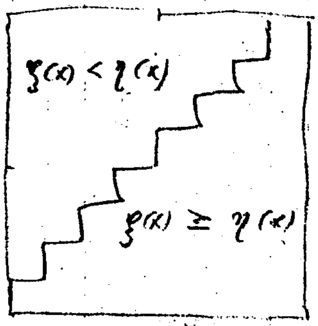
Modell 1: $\xi = \eta$.

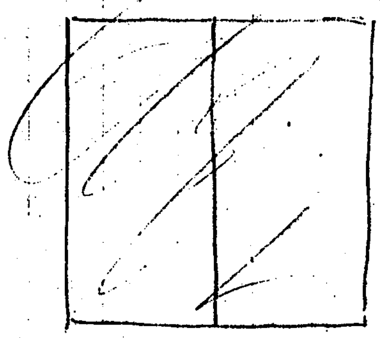
" " 2: $\xi = \text{Suppl.}(\eta)$.

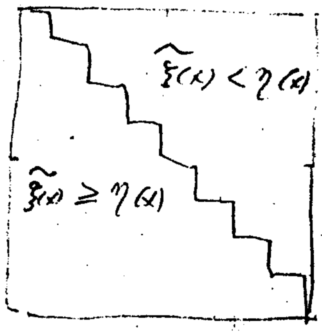
~~Suppl(η)~~ →

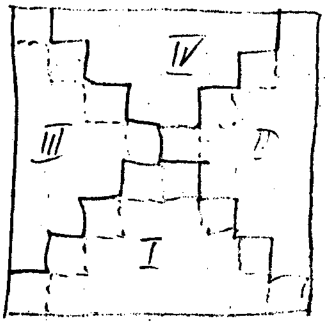
$(s = \text{Suppl}(\eta)) \rightarrow (\eta_i, s_i)(s_i \sim \tilde{\eta}_i)$

$\text{Suppl}(\eta) =_{Df} \tilde{\eta}$.







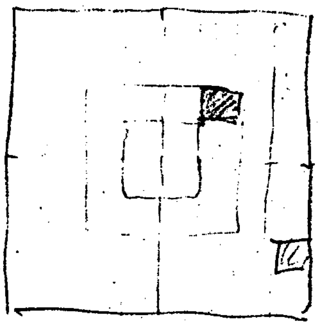


I. $(\xi(x) \geq \eta(x)) \wedge (\tilde{\xi}(x) \geq \eta(x))$

II. . . . .

III. . . . .

IV. . . . .



1.)

2.)

3.)

4.)

80

8×

[illegible]

~~$Pos(x, y) = Orth$~~

$Orth(x, y) \sim (\xi(x) = \xi(y)) \vee (\eta(x) = \eta(y))$

K [illegible] A [illegible] $3 \times 2 \times 3$ D.

$K1(A) = $ [illegible] $= x_1$

$K2(A) = $ [illegible] $= x_2$

$K3(A) = $ [illegible] $= x_3$.

1.) $Zon(x_1) = $ Ol

2.) $Zon(x_2) = $ [illegible]

3.) $Orth(x_1, x_2)$

4.) ~~$(\xi(x_2) = \xi(x_3)) \vee (\eta(x_2) = \eta(x_3))$~~

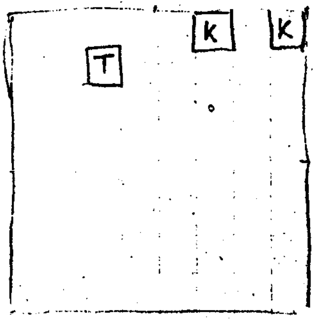
$Orth(x_2, x_3) \wedge \overline{Orth}(x_1, x_3)$

5.) $\overline{Ben}(x_2, x_3)$.

2) U :

$(\text{Zon}(x_1) = \alpha) \wedge (\text{Zon}(x_2) = LL) \wedge \text{Orth}(x_1, x_2)$
$\wedge \text{Orth}(x_2\ x_3) \wedge \overline{\text{Orth}}(x_1\ x_3) \wedge \overline{\text{Ben}}(x_2\ x_3)$

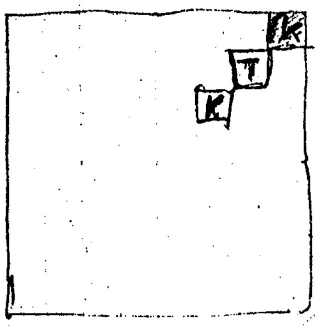
(4 a) :
össz 1.



~~$\text{Eck}(x_2) \wedge \text{Orth}(x_1, x_2) \wedge (\text{Dist}(x_1, x_2) = LO)$~~

$\text{Eck}(x_2) \wedge [(|\Delta\xi(x_1, x_2)| = O \wedge |\Delta\eta(x_1, x_2)| = LO \wedge$
$|\Delta\xi(x_1, x_3)| = L) \vee (\Delta\eta(x_1, x_2) = O \wedge |\Delta\xi(x_1, x_2)| = LO$
$\wedge |\Delta\eta(x_1, x_3)| = L)] \wedge \overline{\text{Orth}}(x_2, x_3)$

ρ (4 össz :



$Eck(x_2) \wedge Dre(x_1, x_2, x_3) \wedge$
$Ben(x_1, x_3) \wedge Ben(x_2, x_3)$

[illegible]

$\cancel{\overline{E}(z)\,(Ben(x_2, z) \wedge}$

$(z)\Big[Ben(x_2, z) \wedge \big(Ben(x_1, z) \vee Orth(x_3, z)\big)$
$\wedge \big(Ben(x_2, x_3) \rightarrow Ben(x_1, x_3)\big)\Big]$

[illegible]

[illegible] ξ, η.

$Ger(x, y, z)$. [illegible]

$\cancel{(x, y, z) \sim [Orth(x, y, z) \vee Diag(x, y, z)]}$

$(x, y, z) \sim [\xi(x) = \xi(y) = \xi(z) \wedge (\eta(x) < \eta(y) < \eta(z) \vee$
$\eta(x) > \eta(y) > \eta(z))] \vee [\ldots$

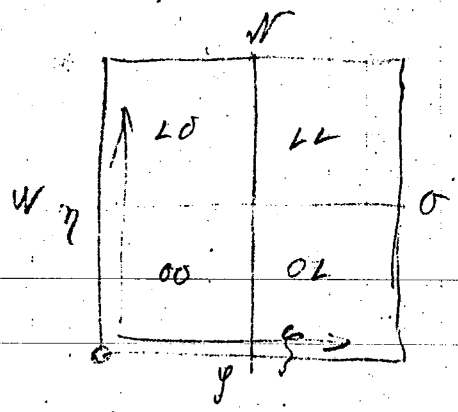
$\ldots z) \sim Ger(x, y, z) \wedge \neq(x, y, z) \wedge$
$\ldots(\xi(x), \xi(y), \xi(z)) \wedge Ger(\eta(x), \eta(y), \eta(z))$

$\ldots y, z) \sim Orth(x) \vee Diag(x)$.

64

Koord(x) = ξ, η) 2×3D.

1.)



ξ(x)
η(x)

N, S, O, W.

Nordh (x) x N

Südh (x) x

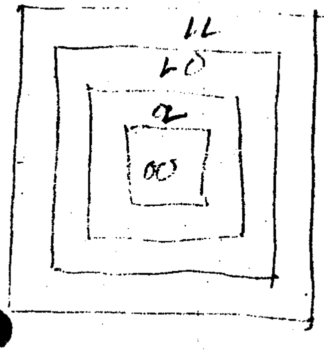
Osth (x)

Westh (x) x

Quadr (x) = 00 | x N ... W ...

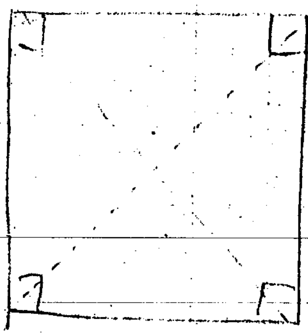
01
10
11

$\ell\ell$



$Zon(x) = 00, 0L, L0, LL$

ℓ



$Hdi\overset{+}{a}g(x) \sim \xi(x) = \eta(x)$

$Hdi\bar{a}g(x) \sim \tilde{\xi}(x) = \eta(x)$

$Hdiag(x) \sim Hdi\overset{+}{a}g \vee Hdi\bar{a}g(x)$

$Eck(x) \sim Zon(x) = LL \wedge Hdiag(x).$

Farb(x) = + · x · C∞

" = − x · J-J.

2) [illegible]

Glfarb.(x,y) [illegible]

Nord(x,y) [illegible]
Süd (x,y)
Ost (x,y)
West (x,y)

Gnord (x,y) [illegible]
Gsüd (x,y)
Gost (x,y)
Gwest (x,y)

NO (x,y) [illegible]
SO (x,y)
SW (x,y)
NW (x,y)
GNO (x,y)
GSO (x,y)
GSW (x,y)
GNW (x,y)

$\mathrm{Zon}(x) > \mathrm{Zon}(y)$ [illegible]
$\mathrm{Nach}_{max}(x)$ [illegible]

$\mathrm{Zon}_{max}(x)$ [illegible] $(y)\big(\mathrm{Zon}(x) > \mathrm{Zon}(y) \rightarrow \mathrm{Zon}_{max}(y) = \mathrm{Zon}(y)\big)$
$\Delta g(x,y) = g(x)$

Orth $(x, y, z \ldots)$ x, y, z [illegible]

Diag $(x, y, z \ldots)$ x, y, z [illegible]

$\mathrm{Orth}_\xi(x, y) \sim \xi(x) = \xi(y)$

$\mathrm{Orth}_\eta(x, y) \sim \eta(x) = \eta(y)$

$\mathrm{Diag}^+(x, y) \sim \Delta_\xi(x, y) = \Delta_\eta(x, y)$

$\mathrm{Diag}^-(x, y) \sim \Delta_\xi(x, y) = -\Delta_\eta(x, y)$

$\mathrm{Ger}(x, y) \sim \mathrm{Orth}(x, y) \vee \mathrm{Diag}(x, y).$

$\mathrm{Zw}(x, y, z)$ y [illegible] x [illegible] z.

$\mathrm{Spr}(x, y)$ x [illegible] y [illegible]

$\mathrm{Ben}(x, y)$ x [illegible] y [illegible]

$\mathrm{Wbst}(x, y) \sim \mathrm{Ben}(x, y) \wedge \mathrm{Gnord}(y, x)$

$\mathrm{Sbst}(x, y) \sim \mathrm{Ben}(x, y) \wedge \mathrm{Gsüd}(y, x)$

$\mathrm{Wbsl.}(x, y) \sim \mathrm{Ben}(x, y) \wedge \mathrm{Diag}(x, y) \wedge \mathrm{Gnord}(y, x)$

$\mathrm{Sbsl.}(x, y) \sim \mathrm{Ben}(x, y) \wedge \mathrm{Diag}(x, y) \wedge \mathrm{Gsüd}(y, x).$

$\vdash (a \to c \land b \to c) \to (a \lor b \to c)$

$a \land b \to a \lor b$

$(a \to c \land b \to c) \to (a \land b \to c)$

$a \land b \to a \lor b$

$\alpha \to \beta \sim \bar{\alpha} \lor \beta$.

$\overline{a \land b} \lor a \lor b$

$\bar{a} \lor \bar{b} \lor a \lor b \sim a \lor \bar{a} \lor b \lor \bar{b} \sim t \lor t$
$\sim t$

$a \to c \land b \to c$

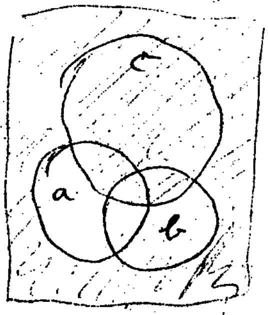
$\bar{a} \lor c \land \bar{b} \lor c \sim c \lor (\bar{a} \land \bar{b})$

$\cancel{(a \land c) \lor (\bar{a} \land c) \lor (\bar{a} \land \bar{c}) \land (b \land c) \lor (\bar{b} \land c) \lor (\bar{b} \land \bar{c})}$

$c \lor (\bar{a} \land \bar{b}) \sim (a \lor b) \to c$

$\vdash (a \to c) \land (b \to c) \sim a \lor b \to c$

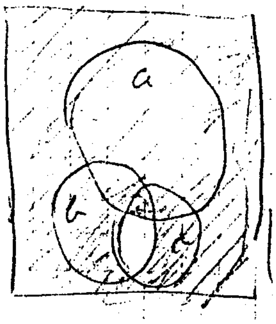
$\cancel{a \to c}$



a	b	c	F_1	F_2
−	−	−	+	+
−	−	+	+	+
−	+	−	−	−
−	+	+	+	+
+	−	−	−	−
+	−	+	+	+
+	+	−	−	−
+	+	+	+	+

$\ldots \vee c) \vee (\bar{b} \vee c) \sim \bar{a} \vee \bar{b} \vee c$

$\sim (a \wedge b) \to c$



a	b	c	F_1	F_2
−	−	−	+	+
−	−	+	+	+
−	+	−	+	+
−	+	+	+	+
+	−	−	+	+
+	−	+	+	+
+	+	−	−	−
+	+	+	+	+

$$[(a \vee b) \to c] \to [(a \wedge b) \to c]$$

$$(\overline{a \vee b} \vee c) \to (\overline{a \wedge b} \vee c)$$

$$\overline{\overline{a \vee b} \vee c} \vee \overline{a \wedge b} \vee c$$

$$(a \vee b \wedge \bar{c}) \vee (\bar{a} \vee \bar{b} \vee c)$$

$$(a \wedge \bar{c}) \vee (b \wedge \bar{c}) \vee \bar{a} \vee \bar{b} \vee c$$

$$\cancel{\bar{c} \vee c \quad \wedge (c \vee \bar{c})}$$

$$\cancel{(a \wedge \bar{c}) \vee (b \wedge \bar{c}) \vee (a}$$

M

[illegible]

$a + b = c$

$a \vee b \rightarrow c$

$(x)(\mathrm{Ban}(x,y) \wedge \mathrm{Zag}(x,y)) \rightarrow a$

[illegible]

$A \rightarrow \mathrm{Zon}(x) = LL$

[illegible]