VI.

§ 1.

$u, v, w \varepsilon \mathrm{K} \,.\, \supset :$

1. $u \backsim v \,.=:\, f \varepsilon (vfu)\, \mathrm{sim} \,.\, -=_f \Lambda \,.$ Def.
2. $u \backsim u \,.$
3. $u \backsim v \,.=.\, v \backsim u \,.$
4. $u \backsim v \,.\, v \backsim w \,.\supset.\, u \backsim w \,.$
5. $\mathrm{num}\, u \,\varepsilon\, \mathrm{N} \,.\supset:\, u \backsim v \,.=.\, \mathrm{num}\, u = \mathrm{num}\, v \,.$
6. $\mathrm{num}\, u = \infty \,.\supset\therefore\, v \supset u \,.\, v -= u \,.\, v \backsim u :-=_v \Lambda \,.$
7. $\mathrm{n} \backsim \mathrm{N} \,.\, \mathrm{R} \backsim \mathrm{N} \,.\, \mathrm{r} \backsim \mathrm{N} \,.$
8. $\mathrm{Nalg} = \mathrm{q} \cap \overline{x \varepsilon} (p \,\varepsilon\, \mathrm{N} \,.\, a_0, a_1, \ldots, a_p \,\varepsilon\, \mathrm{n} \,.\, a_0 -= 0 . a_0 x^p + a_1 x^{p-1} + \ldots$
   $+ a_p = 0 \,.\, -=_{p, a_0, a_1, \ldots a_p} \Lambda) \,.$ Def.
9. $\mathrm{Nalg} \backsim \mathrm{N} \,.$
10. $u \backsim \mathrm{N} \,.\, v \supset u \,.\, \mathrm{num}\, v = \infty \,.\supset.\, u \backsim v \,.$
11. $u \backsim v \backsim \mathrm{N} \,.\supset.\, (u \cup v) \backsim \mathrm{N} \,.$
12. $u \,\varepsilon\, \mathrm{Kq} \,.\, u \backsim \mathrm{N} \,.\, a, b \,\varepsilon\, \mathrm{q} \,.\, a < b \,.\supset.\, (a \overline{\;} b) \cap (-u) -= \Lambda \,.$

$n \,\varepsilon\, \mathrm{N} \,.\, u, v, \ldots \varepsilon\, \mathrm{Kq}_n \,.\supset :$

13. $Du \supset u \,.\supset.\, u \backsim \mathrm{N} \,.\cup.\, u \backsim \theta \,.$
14. $Du = u \,.\supset.\, u \backsim \theta \,.$
15. $u \cap Du = \Lambda \,.\supset.\, u \backsim \mathrm{N} \,.$
16. $Du \backsim \mathrm{N} \,.\supset.\, u \backsim \mathrm{N} \,.$

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§ 1.

1. Cantor, III, tr. fr., p. 311.
2. Dedekind, LIII, n. 32.
4. » LIII, n. 33.
6. Cantor, III, tr. fr., p. 311.
7. » III, tr. fr., p. 319.
8. » II, tr. fr., p. 305.
9. » II, tr. fr., p. 306.
10. » III, tr. fr., p. 313.
11. Cantor, III, tr. fr. p. 313.
12. » II, tr. fr., p. 308.
13. » XXIII, p. 488; » XXV, p. 388.
14. » XXIII, p. 485; » XXV, p. 381; Bendixson, XXX.
15. Cantor, XII, tr. fr., p. 373.
16. » XII, tr. fr., p. 373.

17. $u \varepsilon \mathrm{Kq}_n : h \varepsilon \mathrm{Q} . \supset_h . u \cap \overline{\mathrm{mod}}\, \theta h \varepsilon \overline{\mathrm{num}}\, \mathrm{N} \cup \backsim \mathrm{N} .\therefore. \supset . u \varepsilon \overline{\mathrm{num}}\, \mathrm{N} \cup \backsim \mathrm{N}.$
18. $\theta - \mathrm{R} \backsim \theta .$
19. $m, n \varepsilon \mathrm{N} . \supset . \mathrm{q}_m \backsim \mathrm{q}_n \backsim \theta .$
20. » $. m -= n . \supset . (\mathrm{q}_m \mathrm{f} \mathrm{q}_n)\, \mathrm{sim\ cont} = \Lambda .$
21. $m \varepsilon 1 + \mathrm{N} . \supset .\therefore. f \varepsilon (\mathrm{q}_m \mathrm{f} \mathrm{q})\, \mathrm{cont} . f \mathrm{q} = \mathrm{q}_n : -=_f \Lambda .$
22. $u \varepsilon \mathrm{Connex} . = : : a, b \varepsilon u . h \varepsilon \mathrm{Q} . \supset_{a, b, h} .\therefore. p \varepsilon \mathrm{N} . x \varepsilon u \mathrm{f} \mathrm{Z}_p . x_1 = a . x_p = $
$= b : r \varepsilon \mathrm{Z}_{p-1} . \supset_r . \mathrm{mod}\, (x_{r+1} - x_r) < h : -=_{p, x} \Lambda .$ Def.
23. $u \varepsilon \mathrm{Connex} . \supset . u \supset Du .$
24. $u \varepsilon \mathrm{Contin} . = : Du \supset u . u \varepsilon \mathrm{Connex} .$ Def.
25. $u, v, w, z, \ldots \varepsilon \mathrm{Connex} : u \cap v -= \Lambda . u \cap w -= \Lambda . u \cap z -= \Lambda \ldots : \supset .$
$(u \cup v \cup w \cup z \cup \ldots) \varepsilon \mathrm{Connex} .$
26. $u, v, w, \ldots, k \varepsilon \mathrm{Contin} : u \cap v -= \Lambda . u \cap w -= \Lambda \ldots u \cap k -= \Lambda .\therefore. \supset :$
$(u \cup v \cup w \cup \ldots \cup k) \varepsilon \mathrm{Contin} .$
27. $u \varepsilon \mathrm{Contin} . v \supset u . v \backsim \mathrm{N} . \supset . u - v \varepsilon \mathrm{Connex} .$
28. $u \varepsilon \mathrm{Kq} . Du \backsim \mathrm{N} . h \varepsilon \mathrm{Q} . \supset : p \varepsilon \mathrm{N} . a_1, a_2, \ldots a_p, b_1, b_2, \ldots b_p \varepsilon \mathrm{q} . u \supset a_1 \vdash b_1 \cup$
$a_2 \vdash b_2 \cup \ldots \cup a_p \vdash b_p . \mathrm{mod}\, (b_1 - a_1) + \mathrm{mod}\, (b_2 - a_2) + \ldots + \mathrm{mod}\, (b_p - a_p)$
$< h . -=_{p, a_1, \ldots, a_p, b_1, \ldots, b_p} \Lambda .$
29. $Du = u . (\mathrm{K}u)\, \mathrm{Contin} = \Lambda . \supset : u = Dw . u \cap w = \Lambda . -=_w \Lambda .$
30. $u, v \varepsilon \mathrm{Kq} . u = Du : a, b \varepsilon \mathrm{q} . a \vdash b \supset Du . =_{a\, b} \Lambda : v \backsim \mathrm{N} .\therefore. \supset :$
$c \varepsilon \mathrm{q} . (u - c) \cap v = \Lambda . -=_c \Lambda .$

§ 2.

1. $u, v \varepsilon \mathrm{K} . \supset : \mathrm{Nc}' u = \mathrm{Nc}' v . = . u \backsim v .$ Def.
2. $\mathrm{Nc} = \overline{x \varepsilon} \{ u \varepsilon \mathrm{K} . x = \mathrm{Nc}' u : -=_u \Lambda \} .$ Def.

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17. Cantor, XXIII, p. 457.
18. » III, tr. fr., p. 316.
19. » III, tr. fr., p. 315.
20. Thomae, V; Luroth, VI; Cantor, VII; Netto, IX; Milesi, LXV.
21. Peano, LIX; Hilbert, LXI.
22. Cantor, XVIII, p. 31.
23. De Paolis, LVIII, p. 29.
24. Cantor, XVIII, p. 31.
25. De Paolis, LVIII, p. 28.
26. De Paolis, LVIII, p. 29
27. Cantor, XI, tr. fr., p. 366.
28. » XII, tr. fr., p. 376.
29. Bendixson, XX, p. 427.
30. Scheeffer, XXIX. p. 291.

§ 2.

1. Cantor, XLIX, p. 56.
2. » » p. 56.

3. $u, v \varepsilon \mathrm{K} . u \frown v = \Lambda . \supset . \mathrm{Nc}'u + \mathrm{Nc}'v = \mathrm{Nc}'(u \smile v)$. Def.

4. $a \varepsilon \mathrm{Nc} . u \varepsilon \mathrm{K}(\mathrm{K} \frown \overline{\mathrm{Nc}'a}) . \mathrm{Nc}'u = b : x, y \varepsilon u . x -= y . \supset_{x, y} . x \frown y = \Lambda .\cdot. \supset . ab = \mathrm{Nc}'(\smile 'u)$. Def.

5. $a, b, c \varepsilon \mathrm{Nc} . \supset . a + b = b + a . a + (b + c) = (a + b) + c . ab = ba . a(bc) = (ab)c . a(b + c) = ab + ac$.

6. $a, b, c \varepsilon \mathrm{Nc} . \supset . a + b + c = a + (b + c) = (a + b) + c . abc = a(bc) = (ab)c$. Def.

7. $u \varepsilon \mathrm{Kord} . = .\cdot. u \varepsilon \mathrm{K} : x, y \varepsilon u . \supset . x = y \smile x \mathrm{S}_u y \smile y \mathrm{S}_u x : x, y \varepsilon u . x \mathrm{S}_u y . y \mathrm{S}_u x . =_{x, y} \Lambda : x, y, z \varepsilon u . x \mathrm{S}_u y . y \mathrm{S}_u z . \supset_{x, y, z} . x \mathrm{S}_u z$. Def.

8. $u, v \varepsilon \mathrm{Kord} . \supset :: f \varepsilon (v \mathrm{\,ford\,} u) . = .\cdot. f \varepsilon (v \mathrm{\,f\,} u) \mathrm{sim} : x, y \varepsilon u . x \mathrm{S}_u y . \supset . fx \mathrm{S}_v fy$. Def.

9. $u \varepsilon \mathrm{K\,bord} . = :: u \varepsilon \mathrm{Kord} . \overline{x \varepsilon}(x \varepsilon u : y \varepsilon u . y \mathrm{S}_u x . =_y \Lambda) -= \Lambda :: x \varepsilon u . \supset_x .\cdot. y \varepsilon u . x \mathrm{S}_u y . \overline{z \varepsilon}(z \varepsilon u . x \mathrm{S}_u z . z \mathrm{S}_u y) = \Lambda : -=_y \Lambda$. Def.

10. $u, v \varepsilon \mathrm{K\,bord} . \supset : \mathrm{Ntrasf}'u = \mathrm{Ntrasf}'v . = f \varepsilon (v \mathrm{\,ford\,} u) . -=_f \Lambda$. Def.

11. $\mathrm{Ntrasf} = \overline{x \varepsilon}(u \varepsilon \mathrm{K\,bord} . x = \mathrm{Ntrasf}'u . -=_u \Lambda)$. Def.

12. $u, v \varepsilon \mathrm{K\,bord} . \mathrm{Ntrasf}'u = \mathrm{Ntrasf}'v . \supset . u \sim v$.

13. $u, v \varepsilon \mathrm{K\,bord} . \supset :: \mathrm{Ntrasf}'u > \mathrm{Ntrasf}'v . = .\cdot. \mathrm{Ntrasf}'u -= \mathrm{Ntrasf}'v . w \varepsilon \mathrm{K\,bord} . w \supset u . \mathrm{Ntrasf}'w = \mathrm{Ntrasf}'v . -=_w \Lambda$. Def.

14. $\alpha, \beta \varepsilon \mathrm{Ntrasf} . \supset : \beta < \alpha . = . \alpha > \beta$. Def.

15. $\alpha, \beta \varepsilon \mathrm{Ntrasf} . \supset : \alpha = \beta . \smile . \alpha > \beta . \smile . \alpha < \beta$.

16. $m \varepsilon \mathrm{N} . \supset :: u = Y_m . = .\cdot. u \varepsilon \mathrm{K\,bord\,N}_0 : 0 \varepsilon u : m' \varepsilon \mathrm{N} . m' -> m . =_{m'} . m' \varepsilon u : m', m'' \varepsilon u . m' < m'' . \supset_{m', m''} m' \mathrm{S}_u m''$. Def.

17. $m \varepsilon \mathrm{N} . \supset . \mathrm{Ntrasf}' Y_m = m + 1 = \mathrm{num}\, Y_m$. Def.

18. $u \varepsilon \mathrm{K\,bord} . \mathrm{num}\, u \varepsilon \mathrm{N} . \supset . \mathrm{Ntrasf}' u = \mathrm{num}\, u$.

19. $u \varepsilon \mathrm{K\,bord} . \mathrm{num}\, u = \infty . m \varepsilon \mathrm{N} . \supset . \mathrm{Ntrasf}'u > m$.

20. $u = \omega . = .\cdot. u \varepsilon \mathrm{Ntrasf} : m \varepsilon \mathrm{N} . \supset_m . u > m : \alpha \varepsilon (\mathrm{Ntrasf} - \mathrm{N}) . \alpha < u . = \Lambda$. Def.

21. $\alpha \varepsilon \mathrm{Ntrasf} . \supset :: u = Y_\alpha . = .\cdot. u \varepsilon \mathrm{K\,bord\,Ntrasf} : 0 \varepsilon u : \alpha' \varepsilon \mathrm{Ntrasf} . \alpha' -> \alpha . =_{\alpha'} . \alpha' \varepsilon u : \alpha', \alpha'' \varepsilon u . \alpha' < \alpha'' . \supset_{\alpha', \alpha''} . \alpha' \mathrm{S}_u \alpha''$. Def.

22. $\alpha \varepsilon \mathrm{Ntrasf} . \supset . \mathrm{Ntrasf}'(Y_\alpha - \alpha) = \alpha$. Def.

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3. Cantor, XLIX, p. 59.
4. » » p. 60.
5. » » p. 59, 60.
7. Gutberlet, XL, p. 183.
9. Cantor, XVIII, p. 4.
10. » » p. 5.
12. » XLIX, p. 74.
13. Cantor, XLIX, p. 26.
15. » » p. 26.
17. » XVIII, p. 3.
18. » » p. 3.
20. » » p. 33; » XLIX, p. 34.
22. » XVIII, p. 15.

23. $u , v \varepsilon \mathrm{K\,bord} . u \cap v = \Lambda .\because w \varepsilon \mathrm{K\,ord} : w = u \cup v : x , y \varepsilon u . x \,\mathrm{S}_u\, y .$
$\supset_{x,\,y} . x \,\mathrm{S}_w\, y : x , y \varepsilon v . x \,\mathrm{S}_v\, y . \supset_{x,\,y} . x \,\mathrm{S}_w\, y : x \varepsilon u . y \varepsilon v . \supset_{x,\,y} . x \,\mathrm{S}_w\, y ::$
$\supset . w \varepsilon \mathrm{K\,bord} .$

24. » » » $\mathrm{Ntrasf}`u = \alpha . \mathrm{Ntrasf}`v = \beta : \supset . \mathrm{Ntrasf}`w = \alpha + \beta .$ Def.

25. $v \varepsilon \mathrm{Kbord} : u \varepsilon v . \supset_u . u \varepsilon \mathrm{K\,bord} : u , u' \varepsilon u . \supset_{u,u'} . u \cap u' = \Lambda :: w \varepsilon \mathrm{Kord}$
$.\because x \varepsilon u . u \varepsilon v . = x \varepsilon w : u \varepsilon v . x , y \varepsilon u . x \,S_u\, y . \supset_{x,\,y,\,u} . x \,S_w\, y :$
$u , u' \varepsilon v . u \,S_v\, u' . x \varepsilon u . y \varepsilon u' . \supset_{x,\,y,\,u,\,u'} . x \,S_w\, y :: \supset : w \varepsilon \mathrm{K\,bord} .$

26. » » » $\mathrm{Ntrasf}`v = \beta : u \varepsilon v . \supset_u . \mathrm{Ntrasf}`u = \alpha .\because \supset .$
$\mathrm{Ntrasf}`w = \alpha \beta .$ Def.

27. $\alpha \varepsilon \mathrm{II} . = : \alpha \varepsilon \mathrm{Ntrasf} . Y_\alpha \backsim N .$ Def.

28. $\mathrm{II} - \backsim \mathrm{N} .$

29. $u \varepsilon \mathrm{K\,II} . u \backsim \mathrm{N} . \max u = \Lambda : \supset . \beta \varepsilon \big(\beta \varepsilon \mathrm{II} . u \supset Y_\beta : \beta' \varepsilon (Y_\beta - \beta) . \supset_{\beta'} .$
$u - \supset Y_{\beta'} \big) . - = \Lambda .$

30. $\beta \varepsilon \mathrm{K} (\mathrm{N} \cup \mathrm{II}) . \alpha_\beta \varepsilon \mathrm{K\,II} : \beta' , \beta'' \varepsilon \beta . \beta' < \beta'' . \supset_{\beta',\,\beta''} . \alpha_{\beta'} > \alpha_{\beta''} .\because \supset .$
$\mathrm{num}\, \alpha_\beta \varepsilon \mathrm{N} .$

31. $u \varepsilon \mathrm{K\,II} . \supset . \min u - = \Lambda .$

32. $u \varepsilon \mathrm{K\,II} . \supset : \mathrm{num}\, u \varepsilon \mathrm{N} . \cup . u \backsim \mathrm{N} . \cup . u \backsim \mathrm{II} .$

33. $u \varepsilon \mathrm{K} . u \backsim \mathrm{N} . \alpha \varepsilon \mathrm{II} : \supset_\alpha : v \varepsilon \mathrm{K\,bord} . v = u . \mathrm{Ntf}`\, v = \alpha . - =_v \Lambda .$

34. $\alpha , \beta , \gamma \varepsilon \mathrm{N} \cup \mathrm{II} . \supset : \alpha + (\beta + \gamma) = (\alpha + \beta) + \gamma . \alpha (\beta \gamma) = (\alpha \beta) \gamma .$
$\alpha (\beta + \gamma) = \alpha \beta + \alpha \gamma .$

35. $\alpha , \beta \varepsilon \mathrm{N} \cup \mathrm{II} . \alpha + \beta - = \beta + \alpha . - =_{\alpha,\,\beta} \Lambda .$
» $. \alpha \beta - = \beta \alpha . - =_{\alpha,\,\beta} \Lambda .$

36. $\alpha , \beta , \gamma \varepsilon \mathrm{N} \cup \mathrm{II} . \supset : \alpha + \beta + \gamma = \alpha + (\beta + \gamma) = (\alpha + \beta) + \gamma . \alpha\beta\gamma =$
$\alpha (\beta \gamma) = (\alpha \beta) \gamma .$ Def.

37. $u = \Omega . = .\because u \varepsilon \mathrm{Ntrasf} : \mathrm{II} \supset Y_u : \beta \varepsilon \mathrm{Ntrasf} . \beta < u . \mathrm{II} \supset Y_\beta . = \Lambda .$ Def.

38. $u \varepsilon \mathrm{Kord}_n\, \mathrm{q}_n . = : u \varepsilon \mathrm{Kq}_n . \mathrm{El}_1\, u \varepsilon \mathrm{Kord} . \mathrm{El}_2\, u \varepsilon \mathrm{Kord} \ldots \mathrm{El}_n\, u \varepsilon \mathrm{Kord} .$
Def.

23.	Cantor,	XVIII,	p. 6.	31.	Cantor,	XVIII,	p. 37.
24.	»	»	»	32.	»	»	p. 38.
25.	»	»	p. 7.	33.	»	»	p. 5.
26.	»	»	»	34.	»	»	p. 7, 39;
27.	»	»	p. 35.		»	XLIX,	p. 26.
28.	»	»	»	35.	»	XVIII,	p. 6, 7.
29.	»	»	»	37.	»	»	p. 38.
30.	»	»	p. 37.	38.	»	XLIX,	p. 68.

39. $u, v \,\varepsilon\, \mathrm{Kord} \,.\supset.\, \mathrm{Ty}_1 ` u = \mathrm{Ty}_1 ` v \,.=.\, f \,\varepsilon\, (v \,\mathrm{f\,ord}\, u) \,-\!=_f \Lambda \,.$ Def.

40. $u, v \,\varepsilon\, \mathrm{Kord}_n \,.\supset:\, \mathrm{Ty}_n ` u = \mathrm{Ty}_n ` v \,.=.\, \mathrm{Ty}_1 ` \mathrm{El}_1 u = \mathrm{Ty}_1 ` \mathrm{El}_1 v \,.\, \mathrm{Ty}_1 ` \mathrm{El}_2 u = \mathrm{Ty}_1 ` \mathrm{El}_2 v \ldots \mathrm{Ty}_1 ` \mathrm{El}_n u = \mathrm{Ty}_1 ` \mathrm{El}_n v \,.$ Def.

41. $\mathrm{Ty}_n = \overline{x \,\varepsilon}\, (u \,\varepsilon\, \mathrm{Kord}_n \,.\, x = \mathrm{Ty}_n ` u \,.\, -\!=_u \Lambda) \,.$ Def.

42. $u, v \,\varepsilon\, \mathrm{Kord}_n \mathrm{q}_n \,.\, u \cap v = \Lambda \,.\, w \,\varepsilon\, \mathrm{Kord}_n \mathrm{q}_n \,.\, w = u \cup v : x, y \,\varepsilon\, u \,.\, i \,\varepsilon\, \mathrm{Z}_n \,.\, x_i \mathrm{S}_u y_i \,.\supset_{x,y,i}.\, x_i \mathrm{S}_w y_i : x, y \,\varepsilon\, v \,.\, i \,\varepsilon\, \mathrm{Z}_n \,.\, x_i \mathrm{S}_v y_i \,.\supset_{x,y,i}.\, x_i \mathrm{S}_w y_i : x \,\varepsilon\, u \,.\, y \,\varepsilon\, v \,.\, i \,\varepsilon\, \mathrm{Z}_n \,.\supset_{x,y,i}.\, x_i \mathrm{S}_w y_i : \mathrm{Ty}_n ` u = \alpha \,.\, \mathrm{Ty}_n ` v = \beta \,.\, \mathrm{Ty}_n ` w = \gamma \,.\!\cdot\!.\supset.\, \gamma = \alpha + \beta \,.$ Def.

43. $v \,\varepsilon\, \mathrm{Kord}_n \,.\, \mathrm{Ty}_n ` v = \beta : u \,\varepsilon\, v \,.\supset_u.\, u \,\varepsilon\, \mathrm{Kord}_n \mathrm{q}_n \,.\, \mathrm{Ty}_n ` u = \alpha : u, u' \,\varepsilon\, v \,.\supset_{u,u'}.\, u \cap u' = \Lambda : w \,\varepsilon\, \mathrm{Kord}_n \mathrm{q}_n \,.\, \mathrm{Ty}_n ` w = \gamma : x \,\varepsilon\, u \,.\, u \,\varepsilon\, v \,.=.\, x \,\varepsilon\, w : u' \,\varepsilon\, v \,.\, x, y \,\varepsilon\, u' \,.\, i \,\varepsilon\, \mathrm{Z}_n \,.\, x_i \mathrm{S}_{u'} y_i \,.\supset_{u',x,y,i}.\, x_i \mathrm{S}_w y_i : u', u'' \,\varepsilon\, v \,.\, x \,\varepsilon\, u' \,.\, y \,\varepsilon\, u'' \,.\, i \,\varepsilon\, \mathrm{Z}_n \,.\, u'_i \mathrm{S}_v u''_i \,.\supset_{u'.u'',x,y,i}.\, x_i \mathrm{S}_w y_i :: \supset .\, \gamma = \alpha\beta \,.$ Def.

44. $\alpha, \beta, \gamma \,\varepsilon\, \mathrm{Ty}_n \,.\supset:\, \alpha + (\beta + \gamma) = (\alpha + \beta) + \gamma \,.\, \alpha(\beta\gamma) = (\alpha\beta)\gamma \,.\, \alpha(\beta + \gamma) = \alpha\beta + \alpha\gamma \,.$

45. $\alpha, \beta \,\varepsilon\, \mathrm{Ty}_n \,.\, \alpha + \beta \,-\!= \beta + \alpha \,.\, -\!=_{\alpha,\beta} \Lambda \,.$

$\alpha\beta \,-\!= \beta\alpha \,.\, -\!=_{\alpha,\beta} \Lambda \,.$

46. $\alpha, \beta, \gamma \,\varepsilon\, \mathrm{Ty}_n \,.\supset:\, \alpha + \beta + \gamma = \alpha + (\beta + \gamma) = (\alpha + \beta) + \gamma \,.\, \alpha\beta\gamma = \alpha(\beta\gamma) = (\alpha\beta)\gamma \,.$ Def.

47. $m \,\varepsilon\, \mathrm{N} \,.\supset.\, \Phi(m, n) = \mathrm{num}\, \overline{\alpha \,\varepsilon}\, (\alpha \,\varepsilon\, \mathrm{Ty}_n : u \,\varepsilon\, \mathrm{Kord}_n \,.\, \mathrm{num}\, u = m \,.\supset_u.\, \mathrm{Ty}_n ` u = \alpha) \,.$ Def.

48. $$\Phi(m,n) = \sum_{\substack{\gamma_i = 0,1,\ldots,l_i - 1 \\ i = 1,2,\ldots,n \\ l_i = 1,2,\ldots m}} (-1)^{\gamma_1 + \gamma_2 + \ldots + \gamma_n} \binom{l_1}{\gamma_1} \binom{l_2}{\gamma_2} \ldots \binom{l_n}{\gamma_n} \binom{(l_1 - \gamma_1)(l_2 - \gamma_2(l_n - \gamma_n)}{m} \,.$$

§ 3.

1. $\gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, D^\gamma u \backsim \mathrm{N} \,.\supset.\, u \backsim \mathrm{N} \,.$

2. $u \,-\!\backsim \mathrm{N} \,.\, Du \supset u \,.\supset.\!\cdot.\, u = v \cup w \,.\, v \backsim \mathrm{N} \,.\, w = Dw \,.\, \gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, D^\gamma u = w : -\!=_{v,w,\gamma} \Lambda \,.$

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39. Cantor, XLIX, p. 71.
40. » » »
41. » » »
42. » » p. 76.
43. » » p. 77.
44. » » p. 76, 78.
45. » » »
47. Cantor, XLIX, p. 82.
48. Schwarz, LI, p. 11.

§ 3.

1. Cantor, XII, tr. fr., p. 376.
2. » XXIII, p. 471.

3. $Du \backsim \mathrm{N} \,.\, \supset : \gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, D^{\gamma} u = \Lambda \,.\, -=_{\gamma} \Lambda \,.$

4. $\gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, D^{\gamma} u = \Lambda \,.\, \supset \,.\, u \backsim Du \backsim \mathrm{N} \,.$

5. $Du - \backsim \mathrm{N} . \supset . \overline{x \,\varepsilon}\, (\gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, \supset_{\gamma} .\, x \,\varepsilon\, D^{\gamma} u) -= \Lambda \,.$

6. $D^{\Omega} u = \overline{x \,\varepsilon}\, (\gamma \,\varepsilon\, \mathrm{I} \cup \mathrm{II} \,.\, \supset_{\gamma} .\, x \,\varepsilon\, D^{\gamma} u) = \cap ' D^{\mathrm{N} \cup \mathrm{II}} u \,.$ Def.

7. $Du - D^{\Omega} u \backsim \mathrm{N} \,.$

G. Vivanti.

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3. Cantor, XVIII, p. 7-8, 31.
4. » » »
5. Bendixson, XX, p. 419.
6. Bendixson, XX, p. 419.
7. » » »
Phragmén, XXVI.