NOTES AND ERRATA: VOLUMES 1 AND 2

VOLUME 1.

O. BOLZA: *The elliptic σ-functions* ···.

P. 54, l. 8 up. *For* J' *read* T'.

W. F. OSGOOD: *On the existence of the Green's function* ···.

Pp. 310–314. I desire to point out the relation of my paper "On the existence of the Green's function for the most general simply connected plane region" to the analysis contained in HARNACK'S *Logarithm. Potential* (1887), § 39. HARNACK there proposes the problem of showing the existence of a Green's function corresponding to an arbitrary simply or multiply connected continuum, i. e., precisely the problem that I have solved for a simply connected continuum, the extension of my results to multiply connected continua being obvious. (The extension is, namely, this: A Green's function for a multiply connected continuum will always exist when the boundary of the region does not contain isolated points, but is such that with each point of the boundary may be associated two other points so chosen that the three points lie on a Jordan curve.) In the solution which follows he restricts himself to a simply connected continuum F bounded by a Jordan curve C (cf. footnote, p. 310 of my article) and by an arbitrary set of curves (Einschnitte), finite in number, which lie within C, meet C each in a single point, and do not cut themselves or each other. In order to solve the problem, he constructs a set of nested polygons lying within F and having the boundary points of F as their points of condensation. The Green's functions belonging to these polygons are shown to converge toward a limit g, corresponding to the function u of my paper, which is a function similar in character to the Green's functions just considered. Up to this point both HARNACK'S methods and mine are substantially the same as those of POINCARÉ, Bulletin de la Société mathématique de France, vol. 11 (1883), p. 112; cf. also HARNACK'S

reference to SCHWARZ, loc. cit., p. 121. It remains to show that the function g (or u) assumes the required boundary values. To do this HARNACK employs as a majorante the Green's function belonging to a polygon Q lying wholly without F and having a point of its boundary in common with a point A of the boundary of F. His analysis suffices to show that the function g (or u) will take on the required boundary value in the point A, but not that this will be the case for a point of the boundary of F that cannot be reached by a polygon Q. Thus an ordinary beak-shaped cusp (Schnabelspitze) could not be treated by HARNACK'S method. It appears, then, that HARNACK did not solve the problem he proposed even for regions F bounded by a finite number of pieces of analytic curves, to say nothing of regions, some of the points of whose boundaries cannot be approached along a continuous curve lying wholly within F. In my solution, I have employed the same method of the majorante (the function U) adopted by HARNACK, but have so chosen U that my proof covers *all* cases; and I have pointed out that there are here included cases which, I believe, had never been thought of before.—W. F. O.

P. 312, l. 1 up. *For* 167 *read* 67.

P. 314, l. 10. *After* whether *insert* if.

E. KASNER: *The invariant theory of the inversion group* ····.

P. 431, l. 6 up. The complete reference is: MAURER, *Ueber die Endlichkeit der Invarianten-Systeme,* Münchener Sitzungsberichte, vol. 29 (1899), pp. 147–175.

P. 440, l. 18. *For* $F(\lambda f + MQ)$ *read* $F_{\lambda f+MQ}$.

P. 443, l. 9. " $(ABCD)$ " $(ABCu)$.

P. 445, l. 12. The lower right hand element of the determinant g_{123} should be $\lambda_1\mu_1$.

P. 448, l. 17. *For* circles *read* cyclics.

P. 449, l. 3. " I_{ik} " I_{ik}^2.

P. 467, l. 13. " Σ' " Σ.

P. 469, l. 18. " x " ψ.

P. 469, l. 5 up. " ϕ " Φ.

P. 475, l. 15. " $a_4 - a_1$ " $a_4 - a_2$.

P. 477, l. 8 up. The expression in braces should be squared.

P. 480, l. 20. *For* l_1 *read* l.

P. 489, l. 5 up. " WEITER " WEILER.