PUBLICATIONS DE L'INSTITUT MATHÉMATIQUE
Nouvelle série tome 38 (52), 1985, pp. 3–6

SERBIAN DOCTORS OF MATHEMATICS IN THE 19^{θ} CENTURY

On the occasion of the 50 th anniversary

of Publications de l'Institut Mathematique

Jovan D. Kečkić

This short note, and this issue of the *Publications*, are dedicated to six Serbian mathematicians who were awarded Ph. D. degrees in mathematics in the 19^{θ} century. Of course, no attempt has been made to trace the first Serbian doctor of mathematics. It would be difficult enough to try and find the first doctor of mathematics in any particular nation, but Serbian history is so complex that such a task would be virtually impossible.

The Serbs already had a clear sense of their nationality in the 14 th century[1], but the Turkish invasion and the fall of the Serbian Empire halted their natural development so drastically that until the beginning of the 19 th century all the various Serbian territories remained under foreign occupation, and the people were subjected to an unrelenting programme of denationalization[2]. For that reason we cannot for instance safely speak about the nationality of Rudjer Bošković (1711–1787), the greatest Yugoslav (South Slav) mathematician[3].

The questions of national survival was the immediate concern of the day and, needless to say, scholarship and research did not flourish. In search of knowledge many talented people left their homes and made their careers all over Europe where they became assimilated by other cultures.

Although certain Serbian territories gained their independence *de facto* much earlier, the Berlin Congress in 1878 recognized *de jure* the existence of two independent, Serbian states: Serbia and Montenegro[4], and soon after that, exactly a

[1] This is, by European standards considered to be very early.

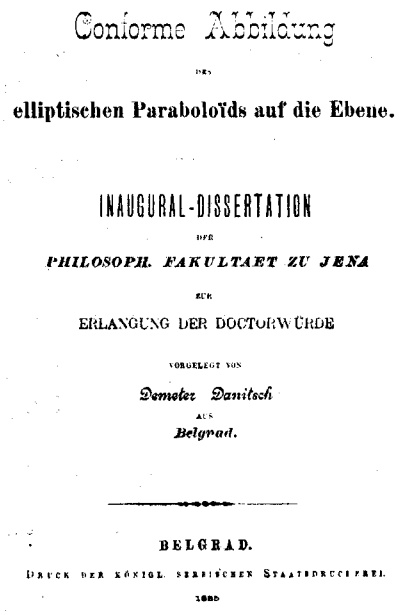
[2] This programme can roughly be characterized by the following (i) encouraging or imposing a foreign religion (Roman Catholic in the lands occupied by Austria or Venice, or Islam in the lands occupied by Turkey); (ii) putting an equality sign between *Serbian* and *Orthodox*; (iii) hence, the "logical conclusion" that people who are not Orthodox by faith cannot possibly be Serbian.

[3] In the Soviet dictionary *Биографический словарь деятелей в области математики*, Киев 1979, both Bošković and Getaldić are classified as Serbo-Croats!

[4] Still, more than half of the Serbian population remained under Austrian and Turkish occupation until the end of the First World War, and the formation of Yugoslavia.

hundred years ago, the first Serb (in the modern sense of the word) received a Ph. D. in mathematics.

Dimitrije Danić (Димитрије Данић, 1862–1932) submitted on 10th March 1885 his paper *Conforme Abbildung des elliptischen Paraboloids auf die Ebene* to the Faculty of Philosophy at the University of Jena (now in East Germany). Johannes Thomae, mathematician and the Dean of the Faculty during 1884/85 commented favourably on Danić's text and allowed him to take oral examinations. On 17th March 1885 Danić passed examinations in mathematics (examined by Thomae), analytical mechanics and physics (examined by Sohnke). As a result he was awarded his Ph. D. degree; the diploma is dated 12th March 1885[5]. The thesis was published in Belgrade, but since it was written in German, Danić also used a germanized version of his name. Danić later became a professor of mathematics at the Military Academy in Belgrade, and wrote a number of very good textbooks which remained in use for a long period of time.



Conforme Abbildung

DES

elliptischen Paraboloïds auf die Ebene.

INAUGURAL-DISSERTATION

DER

PHILOSOPH. FAKULTAET ZU JENA

ZUR

ERLANGUNG DER DOCTORWÜRDE

VORGELEGT VON

Demeter Danitsch

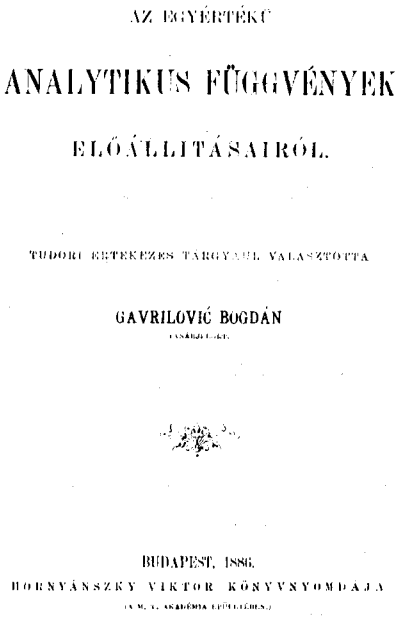
AUS

Belgrad.

BELGRAD.

DRUCK DER KÖNIGL. SERBISCHEN STAATSDRUCKEREI.

1885



AZ EGYÉRTÉKŰ

ANALYTIKUS FÜGGVÉNYEK

ELŐÁLLITÁSAIRÓL.

TUDORI ÉRTEKEZÉS TÁRGYÁUL VALASZTOTTA

GAVRILOVIĆ BOGDÁN

BUDAPEST, 1886.

HORNYÁNSZKY VIKTOR KÖNYVNYOMDÁJA

(A M. T. AKADÉMIA LEPTLETÉBEN.)

Bogdan Gavrilović (Богдан Гавриловић, 1864–1947) received his Ph. D. on 11th June 1887 at the University of Budapest. In order to obtain the degree he passed examinations in mathematics (on 5th June 1886, examined by G. Kondor and Á. Scholtz), astronomy (on 8th June 1887, examined by G. Kondor) and experimental physics (on 8th June 1887, examined by L. Eötvös and A. Scholtz)[6]. His thesis entitled *Az egyértékü analytikus függvények elöállitásairól* (Construction

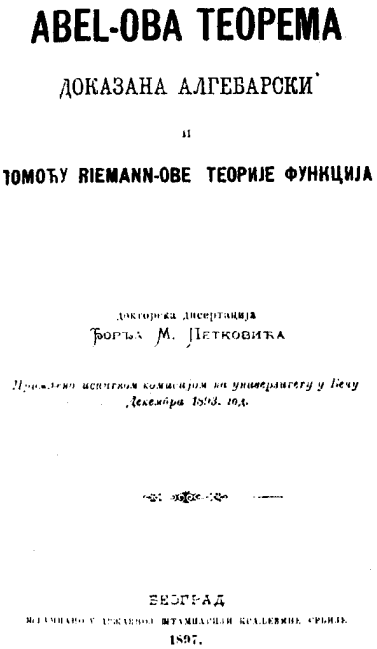
[5]These informations were obtained from Dr. V. Wahl, Universitätsarchiv, Jena.

[6]These informations were obtained from Dr. L. Szögi, Archives, Faculty of Sciences, Budapest.

of one-valued analytic functions) was also published in Budapest. Immediately after that he began his university career at Belgrade. He was for a time Rector of the University and also a member (and president) of the Serbian Academy of Sciences. Among other things he published a few research papers mainly on complex analysis and linear algebra and also a very good textbook on determinants.

Vladimir Varićak (Владимир Варићак, 1865–1942) was awarded a Ph. D. in mathematics in 1891 by the University of Zagreb for his thesis *Teorija nožišnih krivulja* (Theory of pedal curves). All his life we worked at the University of Zagreb (professor from 1902 until 1936) and played a key role in the development of mathematics in Croatia. He published important papers on noneuclidean geometries and the relativity theory.

Đorđe Petković (Ђорђе Петковић) received his Ph. D. on 17th December 1893 at the University of Vienna. He was examined by G. v. Escherich and L. Gegenbauer (mathematics), F. Exner (physics) and R. Zimmermann and Th. Vogt (philosophy). The text of his thesis was later (1897) published in Belgrade under the title *Abel-ова теорема доказана алгебарски и помоћу Riemann-ове теорије функција* (Abel's theorem proved algebraically and by Riemann's theory of functions). He worked as a mathematics master at secondary schools in Belgrade but other facts relevant to his career are not known to the present author.



ABEL-OBA TEOPEMA

ДОКАЗАНА АЛГЕБАРСКИ

И

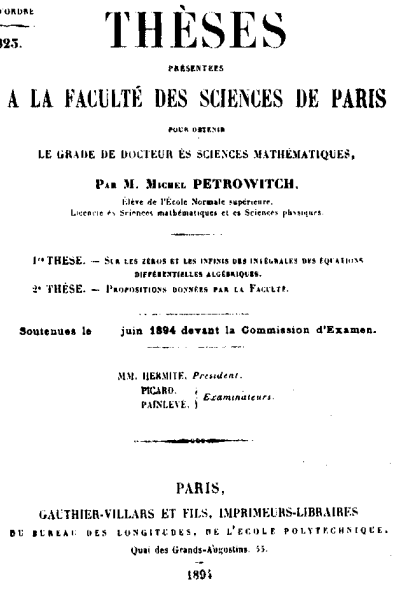
ПОМОЋУ RIEMANN-ОВЕ ТЕОРИЈЕ ФУНКЦИЈА

докторска дисертација

Ђорђа М. Петковића

Београд

1897.



N° D'ORDRE

825.

THÈSES

PRÉSENTÉES

A LA FACULTÉ DES SCIENCES DE PARIS

POUR OBTENIR

LE GRADE DE DOCTEUR ÈS SCIENCES MATHÉMATIQUES,

PAR M. MICHEL PETROWITCH,

Élève de l'École Normale supérieure,

Licencié ès Sciences mathématiques et ès Sciences physiques.

1re THÈSE. — SUR LES ZÉROS ET LES INFINIS DES INTÉGRALES DES ÉQUATIONS DIFFÉRENTIELLES ALGÉBRIQUES.

2e THÈSE. — PROPOSITIONS DONNÉES PAR LA FACULTÉ.

Soutenues le juin 1894 devant la Commission d'Examen.

MM. HERMITE, *Président.*

PICARD. } *Examinateurs.*

PAINLEVÉ. }

PARIS,

GAUTHIER-VILLARS ET FILS, IMPRIMEURS-LIBRAIRES

DU BUREAU DES LONGITUDES, DE L'ÉCOLE POLYTECHNIQUE,

Quai des Grands-Augustins, 55.

1894

Mihailo Petrović (Михаило Петровић, 1868–1943) is probably the best known Serbian mathematician. He got his Ph. D. in June 1894 at the University of Paris where he defended his thesis *Sur les zéros et les infinis des intégrales*

des équations différentielles algébriques before some of the most eminent mathematicians of that time: Ch. Hermite, É. Picard and P. Painlevé. The thesis was published in Paris and some of Petrović's results immediately found their place in Picard's classic *Traité d'Analyse*. Petrović was a professor of mathematics at the University of Belgrade until he retired in 1938, he was a member of the Serbian Academy of Sciences and during his lifetime he published over 250 papers in various journals all over the world. It can safely be said that the development of mathematics in Serbia was largely due to him.

Petar Vukićević (Петар Вукићевић, 1862–19??) was awarded his Ph. D. on 29th September 1894 by the University of Berlin, where he was examined by E. Ladwig, E. Wendt and G. Wallenberg. His dissertation *Die Invarianten der Linearen Homogenen Differential-gleichungen* n^{ter} *Ordnung* was published in

DIE INVARIANTEN DER LINEAREN
HOMOGENEN DIFFERENTIAL-GLEICHUNGEN
n^{TER} ORDNUNG.

INAUGURAL-DISSERTATION
ZUR
ERLANGUNG DER DOCTORWÜRDE
VON DER
PHILOSOPHISCHEN FACULTÄT
DER
FRIEDRICH-WILHELMS-UNIVERSITÄT ZU BERLIN
GENEHMIGT UND
NEBST DEN BEIGEFÜGTEN THESEN ÖFFENTLICH ZU VERTHEIDIGEN
AM SONNABEND, DEN 29. SEPTEMBER 1894
VON
PETAR L. VUKIĆEVIĆ
AUS SVETLIĆ (SERBIEN).

OPPONENTEN:
HERR STUD. PHIL. EMIL LADEWIG.
HERR DR. PHIL. ERNST WENDT.
HERR DR. PHIL. GEORG WALLENBERG.

BERLIN
DRUCK VON GEBR. UNGER (TH. GRIMM)
1894.

Berlin and the results he obtained were soon quoted in the monograph *Handbuch der Theorie der Linearen Differentialgleichungen* by L. Schlesinger. Vukićević later wrote a few textbooks for secondary schools, but never embarked upon a university career.

The purpose of this note was not to analyse the above-mentioned theses, nor to discuss their mathematical significance[7]. Nevertheless, they are important for the cultural history of the Serbian people, and as such they should be remembered.

[7] However, a quick glance shows that at least Petrović's and Vukićević's theses must have been highly interesting at the time they were written.