

Iz povijesti stomatologije

From the History of Dentistry

ŽIVOT I RAD AKADEMIKA DRAGE PEROVIĆA (1888. - 1968.)

Drago Perović prvi profesor anatomije na Medicinskom fakultetu Sveučilišta u Zagrebu bio je i prvi nastavnik za isti predmet studentima stomatologije na Stomatološkom odjelu Medicinskog fakulteta u Zagrebu (1948-1962), i studentima stomatologije na Stomatološkom fakultetu Sveučilišta u Zagrebu (1962.-1967.), tj. od njegovoga osnutka.

Prof. dr. sc. Jela Krmpotić-Nemanić nasljednica Prof. Perovića ocrtala je njegov život i rad na tradicionalnom Memorijalu održanom njemu u čast u velikoj predavaonici Zavoda za anatomiju "Drago Perović" Medicinskog fakulteta Sveučilišta u Zagrebu 15. siječnja 1999. godine ovim riječima:

Život i rad akademika Drage Perovića

Akademik prof.dr. Drago Perović rođen je 1888. u Gorici kraj Trebinja. Gimnaziju je završio u Mostaru (jedan od profesora mu je bio i pjesnik Jovan Dučić). Medicinski fakultet završio je u Beču 1913. s najvišim ocjenama i u čast doktora promoviran *sub auspiciis imperatoris* te je na svečanoj promociji kao priznanje dobio carski prsten.

Već iduće, 1914. godine, dobio je dr. Perović poziv za redovitog profesora anatomije u Beogradu, no to je rat omeo. Premda vrlo mlad, dr. Perović već je tada bi priznat i cijenjen stručnjak.

Beogradski Medicinski fakultet još je dvaput ponovio poziv prof. Peroviću, i to 1920. i 1932. godine*.

Potkraj Prvoga svjetskog rata, kada su prilike dopustile, pozvan je dr. Perović da preuzme nastavu iz anatomije na Medicinskom fakultetu u Zagrebu. Odazvao se je tome pozivu i svojim je prvim predavanjem "O smjernicama znanstvenog i nastavnoga rada u anatomiji" 12 siječnja 1918. otvorio nastavu na zagrebačkom Medicinskom fakultetu.

U školskoj godini 1925./26. izabran je za rektora, a godine 1926/27. za prorektora Sveučilišta u Zagrebu.

Prof. Perović najveću je pozornost dao nastavi i radu sa studentima i podigao ju na vrlo visoku razinu. Prve godine predanoga rada posvetio je izradi priprava i stvaranju anatomskog muzeja, koji je postao uzorom drugim anatomskim institutima. Osobito je važno istaknuti da je muzej bio u studentskoj učionici, pa su pripravnici uvijek bili pr ruci studentima. Pripravke za muzej najvećim je dijelom izradio sam, a poslije mu je pomogao njegov preparator Ivan Allinger. Prof. Peroviću zahvaljujemo jedinstvenu zbirku rastavljenih lubanja od fetalne dobi pa do 28. godine života. Ta je zbirka dragocjena građa za embriološke studije i uvijek izaziva priznanje stranih stručnjaka koji posjećuju Institut radi studija te zbirke.

U svojim znanstvenim radovima Perović je otkrio nekoliko vrlo važnih zakonitosti i došao do zapažanja koja su preuzeta u svjetsku literaturu. Ovdje navodimo samo neke.

Studirao je razvoj endolimfomatične cijevi, zatim vrlo komplicirani orbitalni izdanak nepčane kosti.

Opisao je za praksu važan zavijeni prednji dio donje nosne školjke, **para evoluta**. Prvi je opisao i do tada nepoznati izdanak gornje čeljusti (**proces frontosphenoides**) koji seže do čeone kosti.

Među znanstvenim radovima prof. Perovića treba osobito istaknuti njegova istraživanja maksilarnog sinusa i nosne šupljine.

Osobito je pozornost prof. Perović posvetio hijatusu maksilarnog sinusa. Dokazao je da rub hijatusa nije cjelovit. Također je dokazao da prednji dio ruba jedini razvija s unutrašnje strane primitivne hrskavične nosne čahure.

Studirajući parcijalne pregrade u maksilarnom sinusu dokazao je da se gornji rub hijatusa sastoji od dvaju dijelova koji međusobno konvergiraju i na mjestu dodira se izbočuju prema maksilarnom sinusu, **punctom convergii**.

Na stražnjemu dijelu gornjega ruba hijatusa opisao je u osnovnoj formi četiri ruba i tri plohe: polje za etmoidni labirint, srednje polje koje odgovara gornjem nosnom hodniku, i donje koje odgovara srednjem nosnom hodniku.

Perović je također otkrio na nosnoj pregradi izrazit greben koji je prava granica između nosne šupljine i ždrijela i nazvao ga **haonalni greben**. S tim u vezi otkrio je da na stražnjem gornjem dijelu raonika postoji poseban važan uređaj klinasta oblika koji pri udisanju usmjerava zračne struje iz obiju nosnih šupljina u ždrijelo i sprječava nastanak vrtloga. Perović je taj uređaj nazvao **aerodinamskim adaptacijskim tvorbama (formationes adaptationis aerodynamicae)**.

Jedan od najvažnijih radova prof. Perovića jest kauzalno rješenje zagonetke Congdon - van Gilseova pravila, prema kojemu kao papir tanke pregrade između pneumatskih prostora ne podliježu resorpciji.

On je ustanovio da se između sluznice i spužvaste koštane supstancije nalazi tanka koštana ploča od kompaktne kosti koja pokriva površinu spongioze. U području toga kompaktnog štita zbiva se pneumatizacijski proces. Pri tome postoje istodobno dva usklađena obratna procesa: na jednoj strani resorpcija, na drugoj apozicija. Resorpcija u vezi s periorom ispod sluznice, a apozicija u vezi s endostomom u spongiozi.

Ta dva suprotna procesa ne mogu izolirano djelovati već tvore jedinstvenu funkcionalnu cjelinu. Ako rad jednoga dijela izostane, čitav uređaj bude toga čast rasformiran i prestaje funkcionirati. Perović je taj uređaj nazvao **pneumatičkim strojem (appartus pneumatisationis)**.

Da bismo spoznali koliko je prof. Perović bio dalekovidan u svojim planovima evo nekoliko redaka iz njegova nastupnog predavanja.

“Današnji dan, kad otpočinjemo predavanje iz Anatomije kao prvog i temeljnog predmeta medicine na ovom kr. sveučilištu Franje Josipa I., označuje jedan veliki napredak u kulturnom razvoju našeg naroda.

U prvom redu hrvatsko će sveučilište u najkraće vrijeme, pridolaskom i ostalih medicinskih nauka, postati u potpunom smislu ono, što po svojoj zadaći treba da bude, a to je u n i v e r s i t a s, skup i centar svega ljudskog znanja.

Važnost anatomije za medicinsku obuku - to je važnost temelja za kuću. Sve druge medicinske discipline mogu zidati samo na ovoj podlozi, i zato treba da je ovaj temelj čvrst, solidan, da nikada ne može popustiti. Jer ako je taj manjkav, sve zidanje na njemu postaje iluzorno i sav trud kliničara postaje Sizifov posao. Otuda slijedi da obuka baš u ovom predmetu mora da bude skrajnjih granica mogućnosti temeljita, da budući liječnici upoznaju ovaj savršeni i komplicirani stroj, kakav je ljudsko tijelo do skrajnjih tančina. Samo je onaj pravi liječnik koji može anatomske misliti i na taj način sve simptome bolesti svoditi na njihovu anatomske podlogu, kao što vješt majstor kod svakog poremećenog stroja za čas nađe onaj dio, koji ne funkcionira kako treba.

Što se same obuke tiče, to možemo mirne duše reći, da ona neće ni najmanje stradati zbog mladosti zavoda. **Jer glavno je težište sve anatomske obuke razudba, a za nju su potrebne tri stvari: materijal, podesna dvorana i ustrajna marljivost.**

Posvetiti ćemo dakle osobitu pažnju razudbi i neprestano nastojati, da đaci pruženi im materijal potpuno iskoriste. To će im biti tim prije moguće što ćemo i mi uvesti metodu razudbe na konzerviranim tjelesima. Anatomija je predmet, koji se uči očima, jedna od najrealnijih struka ljudskog znanja, gdje sve o čemu se govori ne treba na dugo i široko obrazlagati i dokazivati, već je sve vidljivo i opipljivo i sve treba mladim ljudima pokazati, kako izgleda u prirodi.

Otuda ističe potreba stvaranja mnogobrojnih prepreka za obuku i osnivanja uzornog muzeja. Muzej je lice anatomskog zavoda, najbolje ogledalo duha, koji u njemu vlada.

Onomu, koji iz daleka gleda na anatomiju kao znanost može se lako pričiniti da je u toj nauci već rečena zadnja riječ - da je sve pronađeno i sve poznato.

Naprotiv, možda nikad nismo bili iskrenije uvjereni, kako smo dalje od zadnje moguće spoznaje, nego baš danas, kad anatomska literatura ispunjava čitave biblioteke. Jer priroda je slična mitskoj nesavladivoj hidri i svako novo otkriće otvara nam stotinu novih vidika i zadaje stotinu novih neriješenih zagonetaka.

Ali kad se upozna prošlost jedne nauke, tad istom razumijemo njenu sadašnjost. I kao što stup obasjan svjetlom sa jedne strane, baca na protivnu stranu sjenu, koja mu pokazuje konture, tako vidimo da i sadašnje stanje naše nauke u svjetlu prošlosti baca duge sjene na budućnost i time nam pokazuje glavne konture njezinog daljnjeg razvijanja.

U starim prokušanim stoljetnim anatomske pristupima je učvršćena tradicija, određen smjer znanstvenog rada i metoda obuke. Tu je potpuna i bogata stručna biblioteka i obilan muzej s mnogobrojnim preparatima za obuku, koje su izgrađivale generacije znanstvenih radnika. Ovdje sve to treba na novo stvarati, ali tim uzvišeniju i ljepšu zadaću imamo pred sobom.

Hoću da iz mnoštva istrnem samo jedan primjer za po bliže objašnjenje. Mislim na anatomske terminologiju. Mi do sada nemamo jedinstvenih, opće priznatih naziva za pojedine organe. Koliko god je naš jezik bogat, ipak ćemo često stići na granicu njegove moći i uzalud ćemo tražiti u njemu izraz koji nam treba. Jer kao što je narod dao ime svemu onom što vidi i za što znade da postoji, tako isto nije mogao dati naziva za ono što ne vidi i za čiji opstanak uopće ne sluti”.

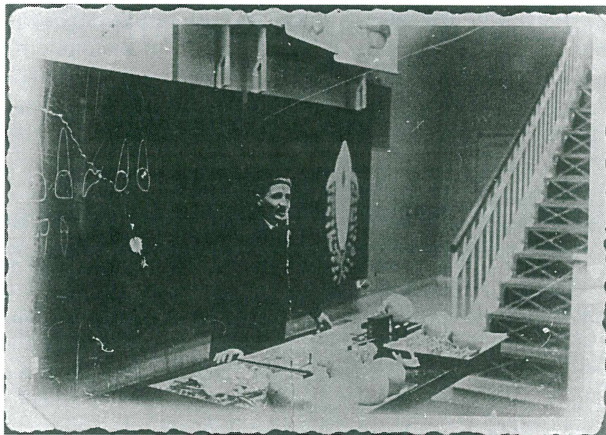
Profesor Drago Perović ugradio je svoj život u izrečene misli dosljedno je slijedio to mišljenje u svakom trenutku života. Ni iz čega je izgradio Zavod koji se svojom prepoznatljivošću ističe pred sličnim institucijama u ovome dijelu Europe.

Iz potencijalnih mladih ljudi upisanih na studij medicine uspio je baš s pomoću studija anatomije razviti prepoznatljivost liječnika diplomiranih na Medicinskom fakultetu u Zagrebu.

Ovaj memorijal je želja i dužnost nas koji smo odgojeni u njegovu ozračju da osvježimo sjećanje na rad i život uistinu velikog čovjeka i nastavnika, ali isto tako i podsjećanje sadašnjih nastavnika na način kako treba shvatiti svoju položaj nastavnika iz predmeta Anatomija, na Medicinskom fakultetu Sveučilišta u Zagrebu.

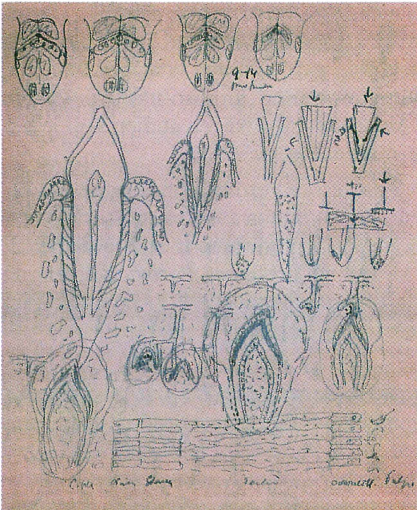
Jelena Krmpotić-Nemanić

Nakon svečanoga dijela Memorijala bili smo nazočni izložbi o nastavničkomu radu akademika Perovića na kojoj je uz ostalo bilo izloženo i šest listova sa crtežima profesora Perovića kojima se služio kao podsjetnikom za pojedina predavanja. Kao što će se vidjeti, najveći dio crteža odnosi se na zube, odnosno organe usne šupljine. Te je crteže profesor Perović počeo stvarati još od 1918. godine, tj. od početka svoje nastavničke misije na Medicinskom fakultetu u Zagrebu, a služili su mu kao predložak za velike crteže na

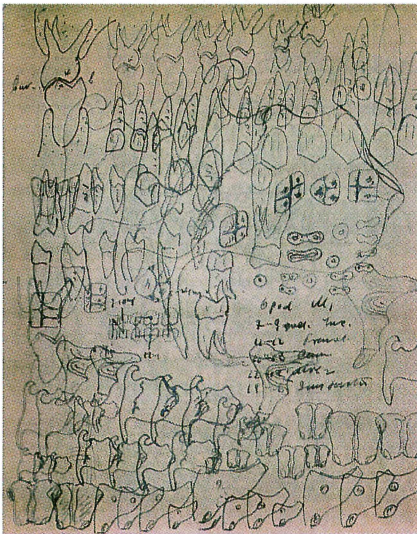


Fotografija 1. *Profesor Perović na predavanju o zubima u velikoj predavaonici Zavoda za anatomiju Medicinskog fakulteta u Zagrebu.*

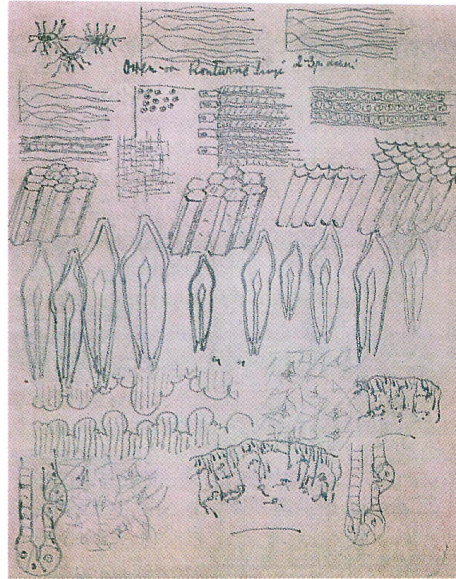
Photograph 1. *Prof. Perović, during a lecture on teeth in the great lecture hall of the Department of Anatomy at the School of Medicine in Zagreb.*



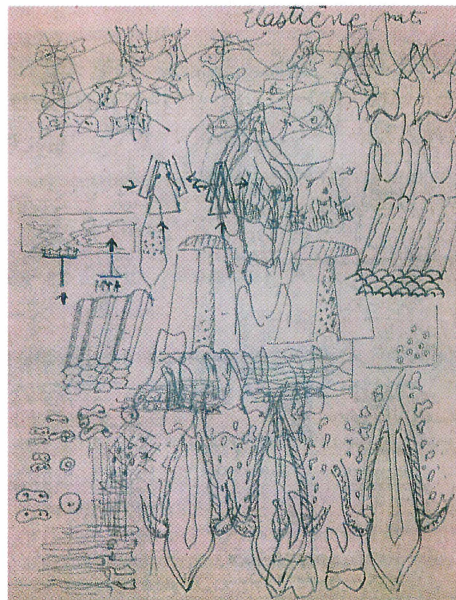
- List 1. *Embrijski razvoj zuba; strukture zubnoga organa od periferije pulpe, preko odontoblasta i njihovih nastavaka do cakline i adamantoblasta. U gornjem dijelu lista nacrtan je jezik i označene su njegove regije.*
- Sheet 1. *Embryonic tooth development; structure of the tooth from the pulp periphery, through the odontoblasts and their prolongation up to the enamel and adamantoblasts. In the upper part of the list the tongue is drawn and its regions marked.*



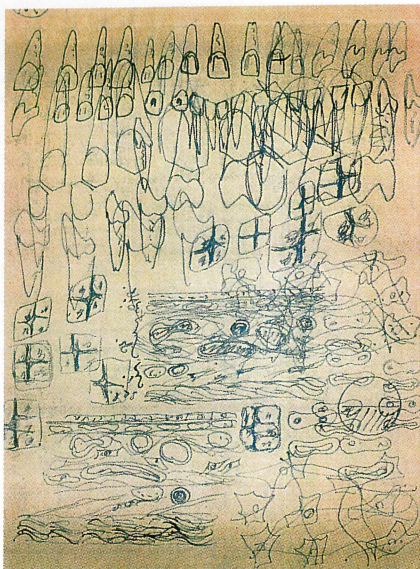
- List 2. *Prikazan je redosljed nicanja mliječnih i trajnih zuba; grizne plohe gornjih i donjih kutnjaka te interkuspidacija kvržica prvih trajnih kutnjaka, crteži pojedinih skupina zuba od sjekutića do kutnjaka u vestibularnom i oralnom smjeru, poprečni presjeci korijenova zuba; larings.*
- Sheet 2. *The order of eruption of milk and permanent teeth is shown; the grinding surfaces of the upper and lower molars and intercuspitation of the first permanent molars, sketches of certain groups of teeth from the canines to the molars in the vestibular and oral directions, cross-sections of teeth roots; larynx.*



- List 3. *Lacunae cementocita, Owenove konturane linije, caklinske prizme, Czermakovi interglobularni prostori, razvoj slinovnih žljezda, elastične niti, crteži uzdužnih presjeka deset donjih prednjih zuba.*
- Sheet 3. *Lacunae cementocits, Owen's contour lines, enamel prisms, Czermak's interglobular spaces, development of the salivary glands, elastic fibres, sketches of longitudinal sections of the ten lower front teeth.*

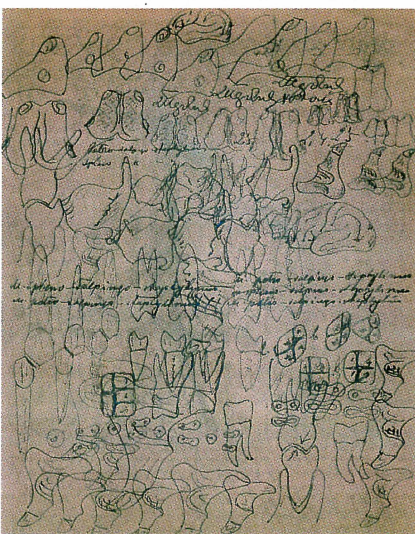


- List 4. *Elastične niti, caklinske prizme, uzdužni presjeci triju zuba i njihovoga parodontia, poprečni presjeci korijenova.*
- Sheet 4. *Elastic fibres, enamel prisms, longitudinal sections of three teeth and their periodontium, cross-sections of roots.*



List 5. *Crteži frontalnih zuba labijalno, palatinalno i lateralno, interkuspidacija nekih parova frontalnih zuba, crteži griznih ploha kutnjaka, poprečni presjeci korijenova donjih kutnjaka, crteži elastičnih vlaknaca.*

Sheet 5. *Drawings of frontal teeth labially, palatinally and laterally, intercuspitation of pairs of frontal teeth, drawings of grinding surfaces of molars, cross-sections of roots of lower molars, drawings of elastic fibres.*



List 6. *Crteži laringsa, mišića nepca, maksimalne interkuspidacije prvih trajnih kutnjaka, nekih parova frontalnih zuba, crteža griznih ploha kutnjaka, crtež dijela mozga, moždanog motornog centra za govor.*

Sheet 6. *Drawings of the larynx, muscles of the palate, maximal intercuspitation of first permanent molars, some pairs of frontal teeth, a drawing of grinding surfaces of molars, a drawing of part of the brain, cerebral motor centre of speech.*

ploči u velikoj predavaonici Zavoda za anatomiju. U vremenu kada još nije bilo pomagala kao što su dijapozitivi, providnice za grafoskop ili video i druge vrste prezentacija, vlastiti crteži bili su golem prilog zornosti nastave. Poslije su pomoć pružali i profesionalni slikari u ateljeu koji je bio u sastavu Zavoda za anatomiju.

Citiranost radova profesora Perovića prati se od Medlinea do SCI-a, bilo u odnosu prema zastupljenosti radova u Medlineu (od 1960. do 1975.), odnosno u SCI-u (od 1962. godine) do citiranosti radova profesora Perovića u drugim radovima od 1963. (J Emb Exp M) do 1997. (Annals of Anatomy) godine.

Ovaj prikaz namijenjen je uspomeni na 110. obljetnicu rođenja akademika Drage Perovića (1888. - 1998.). Dvadesetak naraštaja stomatologa imali su čast i zadovoljstvo slušati predavanja profesora Perovića i polagati ispit pred strpljivim i pravednim ispitivačem. Njegov interes za brojne i zanimljive strukture usta i okoliša očituje se u najznačajnijim istraživačkim radovima, a osobitu pozornost privlačili su zubi u njegovu nastavnom programu, što je ostalo tako bogato zabilježeno i u predočenim crtežima.

Veliku zahvalnost iskazujemo prof. dr. sc. Jeleni Krmpotić-Nemanić za tekst "Život i rad akademika Drage Perovića", te za komentiranje podrijetla i sadržaja crteža.

Prof. dr. sc. Ivanu Vinteru, predstojniku Zavoda za anatomiju "Drago Perović" Medicinskog fakulteta u Zagrebu, srdačno zahvaljujemo na ustupljenim listovima s predmetnim crtežima, i na dopuštanju da se taj dio naše medicinske prošlosti prikaže stomatološkoj javnosti.

Gospodinu Marijanu Vukoviću, namješteniku Nacionalne i sveučilišne knjižnice, srdačno zahvaljujemo na pretraživanju citiranosti radova prof. Perovića i citiranosti profesorovih radova u drugim radovima.

Izvori:

1. Pedeset godina nastavnog, znanstvenog i stručnoga rada u Zavodu za anatomiju "Drago Perović" (1918. - 1968), (1970), Medicinski fakultet Sveučilišta u Zagrebu, Zavod za anatomiju "Drago Perović", predstojnica prof. dr. Jelena Krmpotić-Nemanić, "Medicinska naklada", Zagreb
2. KRMPOTIĆ-NEMANIĆ, JELENA, (1999), Život i rad akademika Drage Perovića, predavanje održano 15. siječnja 1999. godine u Zagrebu na tradicionalnom Memorijalu profesoru Peroviću u čast i na sjećanje na njegovo nastupno predavanje koje je održao u auli Sveučilišta 12. siječnja 1918. godine "O smjeru nastavnog i znanstvenog rada u anatomiji".
3. LINČIR ILEANA, Bazični medicinski sadržaji u studiju stomatologije, (1994) u Ljetopis: Stomatološki fakultet Sveučilišta u Zagrebu: 1948-1993., gl. ur Goran Knežević, Stomatološki fakultet Sveučilišta u Zagrebu, Zagreb, str. 45-48
4. Citations from OLDMEDLINE, 16. 11. 1999., http://130.14.32.43/cgi-bin/VERSION_A/IGM

5. SCI, 1962, Annual, Citation Index 1965-1969, Five - Year Cumulation, 1975- 1979, 1982, 1983, 1984, 1991, 1997

Zvonimir Kaić
Katedra za povijest stomatologije,
Zavod za dentalnu antropologiju
Stomatološkog fakulteta
Sveučilišta u Zagrebu
Gundulićeva 5
10 000 ZAGREB
e-mail zvonimir.kaic@sfzg.hr

THE LIFE AND WORK OF ACADEMICIAN DRAGO PEROVIĆ (1888 - 1968)

Drago Perović was the first professor of anatomy at the School of Medicine University of Zagreb. He was the first teacher of the subject to students of dental medicine at the Department of Dental Medicine, School of Medicine in Zagreb (1948-1962), and students of dental medicine at the School of Dental Medicine University of Zagreb (1962-1967), i.e. from its foundation. Prof. Jelena Krmptić-Nemanić, Prof. Perović's successor, described his life and work at the traditional Memorial held in his honour in the great lecture hall of the Department of Anatomy "Drago Perović" of the School of Medicine University of Zagreb on 15th January 1999, with the following words:

The life and work of academician Drago Perović

Academician Prof. Drago Perović was born in 1888 in Gorica, near Trebinje. He finished High School in Mostar (one of his professors was Jovan Dučić) and later studied at the School of Medicine in Vienna, where he graduated as *Sub auspiciis imperatoris* in 1913, and during the ceremony received an imperial ring.

The following year, 1914, he was offered the position of Professor of Anatomy in Belgrade, which the war prevented. Although very young, Dr. Perović was already at that time a well known and respected expert.

On two more occasions the School of Medicine in Belgrade offered the position to Prof. Perović, in 1920 and 1932.

Towards the end of the First World War, when circumstances allowed, Dr. Perović was invited to take over the teaching of Anatomy at the School of Medicine in Zagreb. He accepted and with his inaugural lecture on the 12 January 1918 "On the directions of scientific and teaching work in Anatomy" he began teaching at the School of Medicine in Zagreb. During the academic year 1925/26 he was elected Chancellor and in 1926/27 Vice Chancellor of the University of Zagreb.

Prof. Perović paid most attention to teaching and work with students, which he raised to a very high level. He devoted the first years of his work to the preparation of specimens and the development of an anatomy museum, which was a model for other anatomy institutions. It is important to emphasise that the museum is situated in the student's

class-room and thus the specimens are always available to students. He prepared most of the specimens for the museum himself, and was later helped by his preparator, Ivan Alinger. We are grateful to Prof. Perović for the unique collection of disassembled skulls from foetal age up to 28 years. This collection is valuable material for embryological study, and always provokes the admiration of foreign experts who visit the Institute to study the collection.

During his scientific work Prof. Perović discovered several very important patterns and made observations which were accepted in world literature. We give here only a few.

He studied the development of the endolymphatic ducts and the very complicated orbital process of the palate bones.

He described the practically important twisted frontal part of the lower nasal shells, **para evoluta**. First he described the projection of the upper jaw (**processus frontosphenoides**), up until then unknown, which stretches up to the sphenoid bone.

Among the scientific works of Prof. Perović his investigations of the maxillary sinus nasal cavity should be stressed.

Prof. Perović paid special attention to the hiatus of maxillary sinus. He showed that the edge of the hiatus is not complete. He also showed that only the frontal part of edge develops from the internal side of the primitive cartilaginous nasal shell.

While studying the partial septum in the maxillary sinus he demonstrated that the upper edge of the hiatus consists of two parts which mutually coverage and at the place of their convergence protrude towards the maxillary sinus (**punctum convergii**).

On the posterior part of the upper edge of the hiatus he described in basic form four edges and three surfaces: an area for the ethmoidal labyrinth, a central area, which corresponds to the upper nasal passage and a lower area which corresponds to the central nasal passage.

Prof. Perović also discovered a marked ridge on the nasal septum, which is the real partition between the nasal cavities and the pharynx, which he called the **choanal ridge**. In this connection he discovered that on the upper posterior part of the vomer there is a particularly important wedge-shaped mechanism which directs the air current during respiration from both nasal cavities into the pharynx and prevents the occurrence of turbulence. Prof. Perović called this mechanism **formationes adaptationis aerodynamicae**.

One of the most important works of Prof. Perović was the causative solution of the enigma Congdon - van Gilseov's lac, according to which the thin paper-like partition between the pneumatic spaces does not succumb to resorption.

He established that there is a thin bony plate of compact bone between the saliva and the spongy bone substance which covers the surface of the spongiosa. The pneumatization process occurs in the area of this compact protection. At the same time two coordinated different processes take place: on one side resorption and on the other apposition. Resorption in connection with periostoma under the sa-

liva, and apposition in connection with endostoma in the spongiosa.

These two processes cannot function in isolation, but comprise a unique functional whole. If the work of one part fails the whole mechanism immediately ceases to function. Prof. Perović called this mechanism (**apparatus pneumaticisationis**).

In order to understand how far-sighted Prof. Perović was in his plans I will read to you some lines from his lecture.

"Today, at the commencement of the teaching of Anatomy as the first and fundamental medical subject in the Royal University of Franc Joseph I. marks great advancement in the cultural development of our people.

With the arrival of other medical sciences the Croatian University will soon become a **universitas**, a centre of all human knowledge.

The importance of anatomy in medical training - is like the importance of the foundations of the house. All other medical disciplines can only be built on these foundations, and therefore they must be firm and must never give way. Because if the foundations are defective all walls above it become illusory and the striving of clinicians a Sisyphean task. It follows, therefore, that training in this subject must be extremely thorough, and that future physicians become well acquainted with this perfect, complex machine; the human body. Only the physician who can approach problems anatomically can reduce all symptoms of disease to their anatomic basis, in the same way as the skilful mechanic will quickly find the part in a machine which is malfunctioning.

With regard to training, we can quite safely say that it will not suffer at all because of the age of the Department. **Because the main focus of all anatomic training is dissection, for which three things are necessary: material, an adequate hall and persistent hard work.**

Thus we will pay special attention to dissection, and continually strive to ensure that material offered to students is entirely utilised. This will be possible as soon as we introduce a method of dissection on conserved bodies.

Anatomy is a subject which is learned with the eyes, it is one of the most realistic fields of human knowledge, where explanation and substantiation is unnecessary, and where all is visible and tangible and as such should be presented to young people.

There was a need, therefore, to prepare numerous specimens for teaching and the establishment of a model museum. The museum is the "face" of the Department of Anatomy, the best reflection of the spirit prevailing within.

To the person who regards anatomy as a science it may seem easy to presume that the last word has been said in this science - that all has been found and all is known. On the contrary, we have never been more honestly convinced as we are today, when relevant literature fills the library, that we are far from the final possible cognition. Because nature is like the mythical unconquerable Hydra, and each new discovery opens up hundreds of new horizons and presents hundreds of new unsolved mysteries.

However, when the past of a science is understood, we can understand its present, and just as a pillar, bathed in light

from one side, throws a shadow on the other, revealing its contour, in the same way we see that the present stage of our science, in the light of the past, throws a long shadow on the future and thereby reveals to us the main contour of its further advancement.

Tradition is firmly entrenched in the centuries-old, established approach to anatomy, with a determined direction of scientific work and teaching methods. Here there is a well equipped professional library and a museum with numerous specimens for teaching, which have been contributed to by generations of scientific workers. This all has to be continually renewed and thus we have this stimulating and interesting task before us.

From this mass of information I would like to take just one example for more detailed explanation, i.e. terminology. We still do not have generally acknowledged names for particular organs. Although our language is rich, we often find ourselves at the limit of its capacity and in vain look for the term we need. Namely, just as the people named all that which can be seen and which is known to exist, they were unable to name that which was unseen and for whose existence they were not aware".

Prof. Drago Perović based his life on the foregoing concepts and faithfully followed these ideas throughout his whole life. Compared to similar institutions in this part of Europe the Department, which he built up from nothing, was outstanding.

From the potential of the young people enrolled in the study of medicine he succeeded, through the study of anatomy, to achieve recognition for physicians who had graduated from the School of Medicine in Zagreb.

The object of this memorial is to revive our recollections of the work and life of a great man and teacher, and at the same time to remind today's teachers of how they should comprehend their position as teacher of the subject of Anatomy at the School of Medicine University of Zagreb.

Jelena Krmpotić-Nemanić

After the formal part of the Memorial we visited the Exhibition dedicated to the teaching work of Prof. Perović, where six sheets of paper are exhibited with drawings by Prof. Perović, which he drew as reminders for some lectures. As can be seen most of the drawings are concerned with teeth, i.e. the oral cavity. The drawings were done by Prof. Perović during the period from 1918 i.e., at the beginning of his teaching at the School of Medicine in Zagreb, and served as models for large drawings on the board in the great lecture hall of the Department of Anatomy. At a time when there were no aids available, such as slides, transparencies for overhead projectors, or videos and other types of presentations, personal drawings were an enormous contribution to the lucidity of teaching. Hekp was later provided by professional artists who worked in a studio, situated within the Department of Anatomy.

Citation of papers by Prof. Perović followed from Medline to SCI, with regard to representation of his papers in Medline (from 1960 to 1975), and in SCI (from 1962) and

citations of papers by Prof. Perović in other papers from 1963 (J Emb Exp M) up to 1997 (Anals of Anatomy).

This review is intended as a commemoration of the 110th anniversary of the birth of academician Drago Perović (1888 - 1998). Twenty generations of dentists had the honour and satisfaction of attending Prof. Perović's lectures and taking examinations before this patient and fair examiner. His interest in the many interesting structures of the mouth and surroundings is incorporated into his most important scientific works. Particular attention was drawn to teeth in his teaching programme, which was so richly recorded in the exhibited drawings.

Our grateful thanks to Prof. Jelena Krmpotić-Nemanić for the text "The Life and Work of Academician Drago Perović", and for her comments on the origin and contents of the drawings.

Grateful thanks to Prof. Ivan Vinter, President of the Department of Anatomy "Drago Perović" of the School of Medicine in Zagreb, for making available the lists with subject drawings and for permission to present this part of our medical past to dental medicine public.

Grateful thanks also to Marijan Vuković, from the National and University Library for his search for citations of Prof. Perović's papers.

Sources:

1. Fifty years of teaching scientific and practical/professional work in the Department of Anatomy "Drago Perović" (1918-1968), (1970), School of Medi-

cine University of Zagreb, Department of Anatomy "Drago Perović", Head, Prof. Jelena Krmpotić-Nemanić, "Medicinska naklada", Zagreb.

2. Krmpotić-Nemanić, Jelena, (1999), The Life and Work of Academician Drago Perović. A lecture held during the traditional Memorial for Prof. Perović in honour and remembrance of his inaugural lecture in the assembly hall of the University on 12 May 1918 "On the Direction of Teaching and Scientific Work in Anatomy", held in Zagreb on 15th January 1999.
3. Linčir Ileana, Basic Medical Contents in the Study of Dental Medicine, (1994) in Ljetopis: School of Dental of Medicine University of Zagreb: 1948-1993, Editor-in-Chief Goran Knežević, School of Dental Medicine University of Zagreb, p. 45-48.
4. Citations from OLDMEDLINE, 16. 11. 1999, <http://130.14.32.43/cgi-bin/VERSION-A/IGM>.
5. SCI, 1962, Annual, Citation Index 1965-1969, Five Year Cumulation, 1975-1979, 1982, 1982, 1984, 1991, 1997.

Zvonimir Kačić

Department for History of Dental Medicine
Department of Dental Anthropology
School of Dental Medicine
University of Zagreb
Gundulićeva 5
10000 Zagreb
e-mail zvonimir.kaic@sfz.hr