

Texas Medical Center and Texas Heart Institute



Working in the Team of World Legends



By Dragica Bošnjak
DELO

His mother – like all caring parents who closely observe the first serious independent steps of their teenagers, especially when they are unusually bold – anxiously shook her head, as if to say, of course, “whoever flies high falls low...” No, came the determined rejoinder: “Whoever flies high, sees far!” And this is how today, after more than two decades living and working in the centre of the five million-strong city of Houston, which is famous for the Texas Medical Center and especially its institute for the heart, the M.D. Anderson Cancer Center, well known universities and numerous other medical institutions, and a stone’s throw from the NASA space centre, our acclaimed countryman Prof. Dr. Igor D. Gregorič MD, vividly recalls the ambition he uttered aloud early on: He would go to America and become a heart surgeon!



Dr Igor D. Gregorič MD

This story, even told after a workday of more than 12 hours – which is no rarity, when for instance an artificial pump in a patient is replaced by a donated heart – is accompanied by the characteristic grin, which in the daily routine no doubt serves to disarm, calm and compel. Day has long since fused into night, and the small group of Slovenian medical interns, who are numerous enough at this time to be able to form pretty much their own cardiology intensive care unit, have already trickled in. They are intimately familiar with the rhythm of work in the wards and operating theatres, since they themselves have only just got out of their working clothes. The younger ones, students or doctors at the beginning of their internship with relatively modest experience, “crane their necks” even closer to the distinguished grey-haired surgeon, bent over an open chest cavity, and some get to “hold the clamps”, while others, especially the intern “veterans” such as “Petra from Sobota”, who is now in Houston for the tenth time, even get to “do incisions”, create an anastomosis, sew stitches and so forth.

In the very late evening, when Prof. Gregorič can finally join his current, who knows which, group of Slovenian protégés – in a decade a large number have come here and it is hard to count them – they already know that the operation is finished. They quickly check up on how things went with some higher-risk detail, then they devote themselves to “current news” on the home front; a day earlier, one younger colleague had arrived for a brief spell around the hospital labyrinths of the famous St. Luke’s Episcopal Hospital in the very heart of the unimaginably gigantic medical complex, while the American internship of another will soon be up and he will have to start packing his bags.

Working in the Team of World Legends

... Just as Dr. Gregorič himself had to pack his bags in that distant May of 1984, when he left his native Primorska to cross the Atlantic. Then followed years of professional training, and today we can say with no small pleasure that he is at the very top of his profession in the world, rubbing shoulders with some of his previous mentors, now colleagues, such as Professors George J. Reul and Oskar Howard “Bud” Frazier, and led by the still active founder of the institute, Denton A. Cooley, plus other outstanding experts. After all this time spent across the Atlantic, our interviewee could have long since obtained American citizenship. But “Dr. Gregorik”, as indeed he is known by the staff, or among his closer professional colleagues, as is the custom in America, simply Igor, always travels around with a Slovenian passport and at home he uses his personal ID card. This is quite sufficient for him for all travel around the world, and of course when he comes home at least three times a year, and if possible more frequently – his partner, a young doctor called Nina, lives in Ljubljana.

Otherwise in its primary meaning, the word “home” rings of Primorska, where his sister Vlasta, also being a doctor, who lives with her family, Dr Gregorič also inherited some property from his deceased parents. Of course in every person there is also a part of the non-material heritage; this is created by the earliest parental, teacher and other messages and models for life, pleasant and less pleasant events, which, especially the latter, are burnished by time and later in the period of maturity are regarded as “valuable experiences”. And then there may be entirely

personal, very intimate and pleasant “sentiments”. For Dr. Gregorič this is embodied by the letter D, between his first name and surname, on his business card and on his internet resume, and in documents he is also officially Darko. Of course this detail would be in no way special, since many people, especially in professional circles, have two names or various different combinations.

“But with me my parents couldn’t agree on what name to give me, so both stuck. My mother wanted me to be Darko, because that was the Partisan name under which she met my father, who was actually Alojz. He, on the other hand, liked Russian names. When he was about 18, he was conscripted into the Italian army in Primorska, and sent to the Russian front, where he got sick, but he was somehow rescued by a Russian commander called Igor... You see, this is how equality and equal influence from both parents was nicely demonstrated in a simple, humble rather than wealthy, family.”

Investment with no guarantee of return

From what he said later it would appear that the members of the family were also very closely tied and caring, since it was no easy thing even to send a child to university in another town, let alone to support several years of study and professional training in America. “And without any guarantee of a serious return,” as Dr. Gregorič recalls that period. When he was a doctor with several years of experience in general medicine, and he went off to America, a degree and knowledge “from outside” in itself were far from any guarantee of employment; at least not at that prestigious address and not in that profession. The invitation to Houston as a positive response to his request, the chance of seeing up close the work of that famous cardiovascular centre, therefore cracked the door open only enough for him to be able to join a whole line of other young people from all over the world with similar ambitions. So to begin... of course at the very beginning.

“At THI there were always hundreds of people arriving from different parts of the world, and at any time there were some 30 or more interns in the operating theatres and wards. I was just one of many ... with a great desire to be as close as possible to the experts and wherever possible in the given circum-



Dr Gregorič preparing the Donor heart for heart Transplant.



View of the operation from the observation dome.

stances, directly present in the operating theatres. In addition to their normal duties, my prematurely deceased colleague Dr. Brane Radovančević and I spent almost every free moment in the transplant ward, and helped do research ... right up until I finished my internship in general surgery. There was a lot of hard work, with a few happy coincidences along the way.” Such as this – one of the key factors in the idea of America taking root in his

head goes a little further back in the past, to the fact that he did his national military service in a former prestigious medical institute, the Military Medical Academy (VMA) in Belgrade. “I had the good luck as a young army doctor to wind up in the coronary unit. I was already keen on cardiology, but I also wanted to be a surgeon. And what at that time could be more enticing than the chance of working in such a ward, where the two were combined, in other words cardiosurgery...” But the opportunities for such a specialisation, which among doctors is highly sought after, are of course not overflowing.

Waiting for internship

“After I finished my national service in 1981, with some working experience in general and family medicine in Kanal and as a surgery intern at the Franc Derganc Hospital in Šempeter pri Novi Gorici, I searched for the possibility of specialising in cardiosurgery. At that time the only possibility was in Ljubljana ... They promised to let me know when an opportunity arose for this. You can probably guess that this dragged on for some time...”

But national service at the VMA was interesting not just because of the work in cardiosurgery. This was a medical institution which at that time, in the eighties, sent some difficult patients to Dr. Cooley at the Texas Heart Institute for cardiosurgical operations. At that time the Ljubljana Clinical Centre also collaborated with TMC, but with another distinguished expert in the field of cardiosurgery, Dr. Michael DeBakey. Dr. Gregorič thus knew a little about THI

from his time at the VMA, and a more tangible possibility of going there “that is, here, to Houston, where I am today at the very peak of the cardiosurgical team for cardiac transplantation, artificial hearts and auxiliary heart pumps,” arose after three years at a lecture for surgery interns organised at the Clinical Centre in Ljubljana. And there one of the lecturers mentioned the possibility of training at THI.

Finally – America, oh, America!

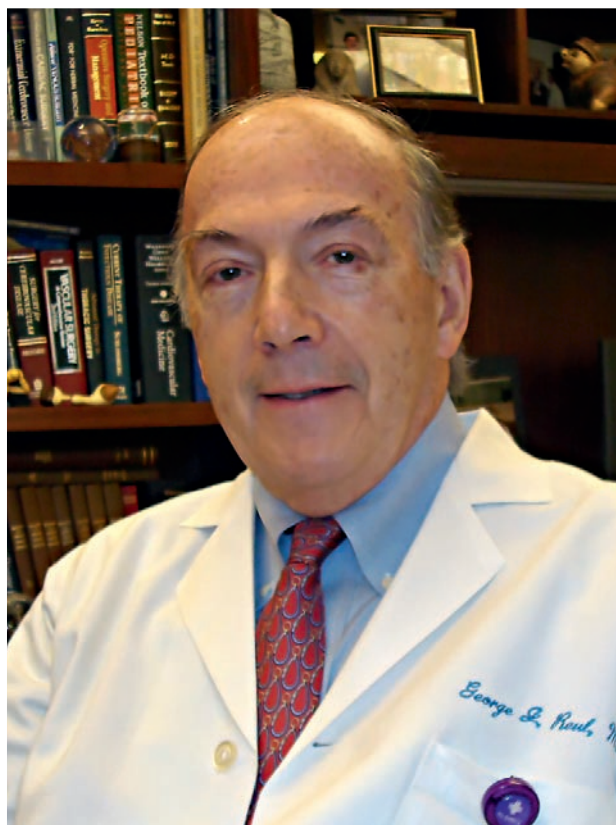
“No, in America I had no one and nothing. I didn’t know where I would be staying, with whom, and how it would be... When colleagues arrived later, we joked that we had landed in Houston like some parachutists. When I finally received the invitation to come to THI after a long and tense wait, in addition to my basic luggage and some money to be going on with, which we had managed to put together at home, I took with me just the address of some lady. A distant relative of some friends of friends. Mrs Jožica was not expecting me at all. She hadn’t a clue who this stranger was who had arrived in a taxi, and who claimed to have got her address from some acquaintances in Ljubljana, with the assurance that she would help me. She probably took pity on me, this quiet, well-presented young man who because of the delay to the flight from Belgrade via New York had spent the night at Houston’s Hobby Airport. She was kind and understanding of my plight. We agreed that I could stay with her until I found something suitable.”

As he explains, Dr. Gregorič had actually tried a little bit of American life earlier. But that was just on holiday, in other words very much working experiences. As a student in the mid-seventies he worked at petrol stations – as he had done at home for the Petrol company when he was 15 – and earlier in America in tobacco fields, and he also space painted apartments and did various odd jobs.

“Even as a child I had good manual dexterity. Probably from my father, who was very dextrous. He made and repaired a lot of things, various machines and devices, himself. He always got me involved in his work, and also took me everywhere with him. And my mother was not lacking here, either. When some television programme was over, a sweater or some other knitted garment would be almost finished.”

First steps into small-scale surgery

Our interviewee’s words about his experiences in general medicine back in Primorska are also fascinating and at times quite touching. Expecting the possibility of specialising immediately in surgery seemed audacious and conceited. And since the peripheral



Dr George J. Reul



Dr Denton Cooley

Photo: Dragica Bošnjak

health centres at that time for the most part did not have the custom of performing what was called small-scale surgery, he says with a smile, he was like a squirrel gathering and bringing in sewing equipment and various such items; he sterilised the equipment at the hospital.

That relatively short period, when he among other things went around in a Fiat 500 visiting patients in remote villages, he calls a true idyll. The clinic equipment was supplemented at that time with an ECG machine, which was a rare and previous novelty in such areas, but he was very familiar with them from his cardiology days at the VMA. And when the opportunity arose, he also volunteered for surgical work at the hospital. This proclivity for surgery, gaining experience, knowledge and skills, and also his calmness when there was a veritable “flood of blood”, were very important on various occasions “in the field”, where you have to quickly make the right response even though, or precisely because, it is far from the hospital. Such cases, which were noticed and positively assessed by Dr. Koglot, “were an admission ticket to start a specialisation internship in general surgery in Nova Gorica.”

However, as already mentioned, in the eighties and a little later, in the period probably remembered by our middle aged and older generations for the high inflation levels and devaluation, Milka Planinc, the odd-even system and so forth, the decision had already been taken to go and get at least some professional experience in the USA.

The dilemma: return or risk ...

It was agreed with his home institution, the Šempeter Hospital, that he would go to THI in Houston for half a year. This was interesting, and he saw that he had already learned new things, so he wanted to stay in America for another six months. But at that time at home in Slovenia there was a lack of personnel, so the hospital management did not agree to him extending his stay. He found himself on the horns of a dilemma: should he pack up all his things, then await specialisation internship at home and probably a secure job – or should he roll the dice? America was offering him a fascinating professional challenge, he could work as an assistant in operations and he had a lot of desire to succeed, although there was no guarantee at all that this would really happen. Assisting in operations



Photo: Dragica Bošnjak

does sound fine, and in actual fact gradually, as he gained experience, he would practically participate more and more in surgical procedures, but what was otherwise an excellent opportunity for professional enhancement had a minor “drawback”: this work was not paid. Until a physician from abroad obtains the American nostrification of his degree, he cannot expect to get paid.

“No one forced me into such an exhausting rhythm of work in that medical jungle, where they perform 5,000 operations a year. No one demanded of me that I should spend every day, including Saturday, practically all day from seven in the morning until midnight, in the operating theatre. It would indeed have been more logical and simpler first to get the nostrification done. But since I was already there, in direct daily contact with such distinguished surgeons, at the very centre of exceptionally exciting developments, both in clinical and research work, where they were also working on developing artificial hearts, auxiliary pumps and so forth, I made the carefully considered decision to persevere right there for a little longer. This was

a very carefully considered decision, as well as a desire for them to observe me, remember me and help me. If at that moment I had taken the time to study, in a few months or a year no one would recognise me any longer, and again I would just be one of the mass of young doctors from all over the world who circulate through the operating theatres and wards. In order for me to be able to make an impression, or at least I thought I could make one, I had to be convincingly better. I had to be more or less day and night in the operating theatre, always available. I had vision and ambition, I wanted to learn a lot and for that reason I needed to make great sacrifices. Four years of drudgery without pay...”

Valuable support of mentor with Slovenian roots

Right at that time, in September 1988 I received at my home address in Primorska an invitation to do an internship in cardiosurgery at the Ljubljana Clinical Centre. But at that time “America had already worked its magic...” The entirely hardened decision to stay in Houston was further boosted by an

Dr Igor Gregorič (left) and Dr. O. H. ‘Bud’ Frazier holding Abioco Total Artificial Heart.

agreement with his then mentor, head of the vascular surgery department, Prof. Reul, for me to take six months’ study leave and perform the nostrification of my degree, which would finally allow me to get paid for the work I did. There is certainly no need to elaborate on how modestly he had to live until then, scrupulously allocating every last cent that he was sent from home. Legally he could not take a job, and he could have been immediately sent home if he had done, and in that situation he clearly developed a stronger sense of responsibility that the investment made in him by those at home should be returned. This helped him in his perseverance and motivation. It should also be added that Prof. Reul, who has Slovenian roots through his grandmother, did indeed share with him unselfishly great knowledge and experience, and encouraged and supported him in his decision to obtain the position of “fellow” once he had obtained his nostrification. Then another four years of fairly but not entirely independent, more responsible and finally paid work; only doctors with an American licence can treat private patients independently in



Texas Heart Institute at St. Luke's Episcopal Hospital



Dr. J. Willerson the President Elect of Texas Heart Institute



Dr. Srdjan Verstov'ek, from Texas M. D. Anderson Cancer Center.



Dr. Špan and Dr. Poglajen - The Residents in CVS and Cardiology from University Clinicam Medical Centre (UKC) Ljubljana, spending their 6 Month rotation at THI (Texas Heart Institute).

America. We should condense this story, however, although even a shorter version of his story would be full of fascinating experiences. These experiences were gained in an environment where he had the opportunity to participate actively in several thousand cardio-surgical operations. As said, however, we should just mention briefly that several times he had to go a few steps back down the ladder that he had already climbed, in order to make new jumps ahead; not for failures, but simply because this was dictated by the system of study, specialisation and advancement. As a "fellow" he had four years of experience in the field of cardiovascular surgery under his belt, but he still had first to complete his specialisation in general surgery. Without that specialisation he could not specialise directly in cardiothoracic surgery. So one step forward, three steps back and then again ahead ... one after the other, eight years of training, specialisation and subspecialisation, right up until 1998, when it was possible to speak of being successfully established in a position that facilitated a proper, successful American career both at THI and at the university there, where he was also employed.

Together with Prof. Frazier for complex operations

At the time when he was employed full-time at the university, Prof. Frazier, head of the department for cardiopulmonary transplants at THI and head of transplant activities at St. Luke's Episcopal Hospital, frequently invited him to come and assist in some fairly complicated heart transplant or for instance the installation of an artificial heart or auxiliary mechanical pump. In 2000 he accepted an offer of full-time employment at St. Luke's, which was also the main clinical base for such operations, and he became a member of Cooley's team, the only foreigner out of nine cardio-surgeons. The team is composed of distinguished names which today can claim thirty, forty or – in the case of the founder of THI, Prof. Denton A. Cooley – more than sixty years of experience.

Among pioneers in developing cardiosurgery

Joining such a team, which was among the pioneers in developing transplants, artificial hearts and auxiliary pumps,

was certainly an exceptionally precious opportunity for a physician. Just as it is an indescribably exciting experience for a person "from outside and far away" who finds himself for the first time in an endless labyrinth of buildings, passages between them, corridors and wards, and can observe closely the entire procedure of a heart transplant, or the installing or removal of an auxiliary heart pump, from the first incision to the last stitch. Yet it is also incredible how quickly the eyes become accustomed, and the mind and emotions accept the fact that in an open chest cavity, where there is an entirely worn out, almost formless heart muscle that has been assisted for some time by a pump, there will soon be a new heart; while Prof. Frazier leans over the patient, Prof. Gregorič prepares the heart, which has been brought into the operating theatre a little earlier, for transplanting. When everything is prepared as it should be, modelled as precisely as possible to suit the recipient and donor, the skilful strokes of this well-rehearsed tandem will enable a still but healthy young heart to find once again its natural rhythm in a new body. Occasionally, with the influx of blood, this happens spontaneously, but usually it starts up with electrostimulation. From the calm movements and behaviour of the surgical team we can deduce, or at least we inexperienced observers can imagine and tell ourselves with bated breath, and this can be affirmed by those who know a little bit about it, medical students and entirely fresh young interns, that the initial highly irregular, wildly fast or slow quivering in the open chest cavity is normal. The heart will soon gain its normal rhythm.

What the interior of the auxiliary pump shows

Yet seen through the eyes of Prof. Frazier and Prof. Gregorič, who performed the described operation together, just as they have done countless times in the past, while they each also perform a great many operations independently with some junior assistant, this is now the concluding routine procedure that can be dealt with by the more junior part of the team. Their interest will now be focused on a detailed inspection of the removed pump. After very close inspection, they will obtain new data and enrich the experiences being gained gradually with different types of pump. "We colleagues at the institution itself



and at various wider professional meetings are talking very intensively about the functioning of the pumps and the status of our patients: we are comparing different variabilities regarding pressures in the circulatory system and regarding possible disturbances in blood circulation, signs of clotting, and we are interested in every detail of the functioning of the respiratory and circulatory organs, the neurological status and so on and so forth. We have to verify hundreds of parameters,” explains Prof. Gregorič.

Legendary associates and competitors

For a better understanding, we should stop to refresh certain data concerning the exceptionally rich history of this now unbelievably large complex, called the Texas Medical Center (TMC) and its main protagonists, the famous Michael E. DeBakey and the slightly younger, but no less famous Prof. Denton A. Cooley. In the beginning, these two brilliant colleagues took together the first pioneering steps in the fifties at Baylor Methodist College and at the Methodist hospital of the same name, creating what are today many of the established methods of treating diseases of the heart and circulatory system. Later, in 1969, when Cooley was the first in the world to transplant an artificial heart, they split up and became competitors, who were literally on either side of the street, or actually the car park, each developing their own “heart centre”, where the legendary heart surgeons each performed their own operations on many famous personalities. We may also recall that very early on, indeed decades ago, cardiothoracic surgeons from the Ljubljana Clinical Centre, Prof.

MiroKošak and associates, established cooperation with Houston and that Dr. DeBakey was also in Slovenia. But getting back to Houston: only after four decades did the legendary surgeons break the longest, four-decades-long silence in medicine, and DeBakey, aged 99, and Cooley, 87, had a touching reconciliation a few months ago. DeBakey received an award for his life’s work, awarded to him by the Denton A. Cooley Cardiovascular Surgical Society, and the award was of course presented personally by the Society’s president.

TMC – city within a city

Texas Medical Center is a gigantic complex, a city within a city, and is hard to take in entirely even from the tallest building. It comprises a whole range of clinical hospitals, universities, colleges and research institutions. Within this complex is the especially well recognised and world-famous University of Texas M. D. Anderson Cancer Center. Outstanding teams of experts have been developing clinical and basic research work in the field of oncology, and are also famous for the fact that many of their physicians – including again successful Europeans, such as Prof. Dr. Srdjan Verstovšek from Zagreb – have participated in numerous international research projects, which are also presented at the annual meetings of the American Society of Hematology (ASH). The last such meeting was in Atlanta, and this year, the 50th in succession, will be in San Francisco. Young doctors from Slovenia are also getting professional training in various departments at M. D. Anderson. The TMC complex also incorporates the regional centre for collecting and researching blood and

Dragica Bošnjak and Blaž Kondža with Dr Cooley, who received the delegation of journalists from “DELO”, the leading daily newspaper with SCIENCE supplement in Slovenia. Dr. Cooley led the delegation through the history of the Texas Heart Institute, where over a period of 60 years invented and performed many unique surgical procedures that saved numerous lives.

blood products, Houston Hospice, a health and medical science museum and so forth.

In addition to medical institutions, there are located here various foundations, and within the TMC complex there are several hotels of varying categories with well-provided transport links. Close to the paediatric wards there are suitable accommodation facilities for parents and relations of children receiving treatment.

Most illustrative is no doubt the fact that TMC employs

full-time, temporarily and transitionally approximately 100,000 people, including approximately 10,000 doctors, 25,000 nurses and so on. This makes TMC the “biggest employer” in Houston. Within the Center, in other words in the numerous general and specialised clinics, more than 5.5 million patients are treated every year. And more than 12,000 volunteers participate in the process of dealing with patients and providing assistance to relations or visitors. More than 90,000 people are obtaining education in the student campus and other educational institutions, and of these more than 20,000 are full-time students.

Owing precisely to the aforementioned legendary cardiothoracic surgeons and their associates and successors, THI – the Texas Heart Institute – symbolises TMC, and the same can be said in the field of oncology for the aforementioned M. D. Anderson Center, just a few dozen metres away. THI, a small section within the enormous complex (TMC), comprises for the visitor what is probably from the outside the most recognisable modern building, with a large sculpture in the form of a heart, housing research institutes, various laboratories and so forth, and St. Luke’s Hospital, which is their clinical partner. THI is actually a non-profit institution, or rather an association of experts who do not have their own clinical base, which is in fact in the hospital, where there are 17 operating theatres available, of course with pertaining intensive care units, laboratories for heart catheterisation and everything else necessary for the most complicated procedures and research, and they also collaborate closely with the nearby children’s hospital. In 2002 a new Denton Cooley building was completed, with some floors housing hospital wards, and alongside



Faculty of Medicine, University of Ljubljana

Dean Prof. Dr Dušan Šuput: “Professor Gregorič is, like many Slovenians who live abroad, still deeply connected to Slovenia and keeps close contacts with friends he left behind. And yet he is different. His passion for medicine and generosity made him one of the leading physicians in his field, including in Slovenia. His ties with cardiovascular surgery are strong and he helped the development of this field in Slovenia by accepting many young residents to work with him in Houston in one of the most prestigious and sophisticated centres in the world.

But there is more, much more - his enthusiasm to help medical students gain new experience abroad. It seems that his experience in the early years of his professional life in the USA convinced him that any intelligent and dedicated medical student deserves all the help and professional guidance he can get in his first steps in medicine. Initially students from the Medical Faculty in Ljubljana came “by chance” and only on their own initiative, but Professor Gregorič knew that more could be done for the students.

A couple of years ago we met and discussed the possibility of establishing an official basis for student and teacher exchanges, and also our common interest in research. He also organized a meeting between the Deans of the UT School of Medicine in Houston, Baylor College and the Ljubljana Medical Faculty. The meeting was very interesting, informative and fruitful. The first agreement between the UT and University of Ljubljana School of Medicine was signed last year, and the collaboration is already expanding to include other medical professionals.

Professor Gregorič is not just an excellent cardiovascular surgeon, he is also one of the leading scientists in the field of developing new surgical treatments for advanced heart failure. As a passionate researcher he proposed large-scale research on the effects of laminar flow of blood on vascular function and the function of various organ systems in experimental animals and humans. The project comprises scientists from the USA, Slovenia, Netherlands, and possibly Germany.

I see Professor Gregorič as a dear friend, excellent cardiovascular surgeon and scientist, and a friend and mentor for many students from our medical school. He also started a fund (by giving up his reward) to help students overcome possible financial problems while visiting and studying at THI. We are glad that we have the opportunity to work with such a great man.”

there are research laboratories, rooms for educational activities and so forth. The passages between buildings are imperceptibly interwoven and linked, and the majority of corridors are imaginatively used for a wide variety of occasional or permanent artistic presentations. This is attractive for patients and visitors, as well as for employees – if of course they are not in a hurry.

Lost in labyrinths

Yet all these corridors endlessly twist and turn, and there are many of them. So it probably comes as no surprise that those employees who are engaged in rather more dynamic work, involving various departments spread around this conglomerate of buildings, prefer just to go straight to supper at the end of their working day, rather than head off to the gym. Gregorič’s personal

assistant Eva Pongratz, a kindly guide through these labyrinths, has probably already heard such and similar comments and questions countless times, regarding how many kilometres she covers in this way every day. But she still offers a broad, relaxed smile in response; still because it is understandable that in a job with a lot of duties, into the bargain her work space, somewhere in the middle of an oval corridor opposite the rooms of Prof. Gregorič and Prof. Frazier, serves as a kind of crossroads and unmissable contact point. A place where almost daily “Gregorič’s” Slovenian interns stop by when they need something, have something to report, have just arrived or are leaving. So it is not surprising that in her small work space there is growing evidence of the tiny Slovenian land, with images of some

of Slovenia’s tourist attractions – in English; these are supplemented by miniatures of old Ljubljana, Idrija lace, and for immediate needs some “sweet sin” such as Prešeren chocolate balls or chocolate figs.

Texas Heart Institute soon to mark fifty years

As mentioned, THI was founded in 1962 by Dr. Cooley, the cardiologist who two months after Dr. Barnard in South Africa performed the first heart transplant in USA in the spring of 1968. So by the end of last year at THI and St. Luke’s Hospital, which is the focal point of his clinical work, more than 1,200 hearts had been transplanted, of which approximately 900 were transplanted by Dr. Frazier, and around 300

University Medical Centre of Ljubljana

Prof. Dr Borut Geršak: "Cooperation with THI actually started years ago with medical students being sent to this institution on a regular basis, to rotate their obligatory practical "surgical" training. Of course Dr. Gregorič was the main person on the American side, and he actually helped hundreds of our students with their first steps in the USA's medical universe. For them it was an experience to see that nowadays there are no fences any more, not just between countries, but more importantly, between human minds. Fortunately the contacts, which had previously been more or less on an academic level, intensified in 2006, with frequent visits of doctors from both sides (Slovenian and US) to both places. The primary driving force was of course the programme of left ventricular assist devices (LVAD) – in this field THI has the biggest experience in the world.



Not only were surgeons involved, practically the whole

sphere of doctors dealing with advanced cardiac disease were there, including various other medical profiles. Cardiac surgery residents are sent on rotation (6 months) to THI, to familiarize them with another health care system, new rules, to meet new friends, new challenges, to see an international way of thinking and to perceive future success in their young surgical hands.

What should be the goal for the future – to exchange residents from both sides, so US doctors will be able to see new techniques developed by us Europeans, and to see the world of cardiac surgery from our eyes, from our perspective. Plans for the future? – no plans, because the future is already here, today. We just have to grab it in our hands, and put it into our hearts and minds – there are no borders, there are no limits, there are no bad results – just one constant driving force, which evolved us, humans – to master the world, to reach the moon and to touch the stars."

by Dr. Gregorič. These two leading surgeons in this field today have together installed approximately 500 pumps, the first one by Dr. Frazier for Christmas 1986. Over the last 25 years, as a former student at Baylor College, then in close contact with Prof. DeBakey, he can be credited with the development of numerous new approaches in treating severe heart failure.

It has been well known for some time not just among professionals, but also in the general public, that there are not enough replacement organs for all our needs, and they are never available quickly enough for the needs of certain patients. This disparity between need and possibility is only increasing with the ageing of the population, unhealthy lifestyle and for other reasons. It has been determined that each year in America some 550,000 new cases of advanced heart failure are diagnosed. It is therefore vitally important that physicians and of course patients in different situations have different possibilities open to them; when no treatment with drugs is effective any more and/or a heart transplant is not possible or not feasible, there should be the possibility of installing a reliable and safe artificial heart or auxiliary heart pump. The

latter can be used either as a stopgap until a suitable heart can be found, or as temporary support for a worn-out heart muscle, which through being partially unburdened and with the right treatment can be revived.

Development of technology

It is therefore also understandable that parallel to the development of modern medical technology, equipment, aids and substitutes such as artificial hearts and auxiliary pumps, great attention is focused on regenerative medicine, where their researcher Dr. Emerson Perin is at the forefront, and to genetic research, while they are perfecting methods of vascular operations and procedures for preventing major haemorrhaging, the forming and removal of clots and so forth.

The mass of professional and popular literature and conversations with leading experts point to the exceptionally wide field of clinical and research work. Pioneering research is just what the word conveys – searching, charting new paths, even risky procedures, where only time will tell whether and to what extent the right decision was made. The first patients with transplanted hearts had a short time

of survival, since in the initial period there were no proper tools to fight rejection by the organism, and only a greater number of operations and the exchange of experience contributed to a perfection of the methods. The same applies to the development of various types of artificial heart and auxiliary pumps, where every new type is tested for a long time in animals and only then placed in people. On this very point it is also known that the American FDA monitors very closely the results of this type of treatment in cardiology, and has strict approval procedures for the use of such technology.

At the top of the best American hospitals

Thanks to all these efforts and good results, last year for the 17th year they were placed on the famous list of "America's Best Hospitals", right at the top among the ten best hospitals in the USA.

"In order for a person to know where he is, and the quality of his work, he needs to go through critical professional evaluation in his field," says Dr. Gregorič, when we talk about clinical and research experience at THI, and also about a unique phenomenon

– more than a decade of opportunities for young Slovenian doctors and senior-year medical students to gain professional training at this distinguished institution. It began in 1999, when the first four students, Petra, Maruša, Urška and Sonja arrived in Houston. The young interns had to sort out the paperwork themselves, but of course in breaking new ground and throughout this time, in all these ten years, they were helped by Dr. Gregorič. The good experiences quickly spread among the young generation by word of mouth, and in a decade around 400 have come to Houston, representing practically ten percent of all Slovenian doctors.

And as for whether the view of the future is as optimistic – “The sky is the limit!” says our interviewee emphatically, without hesitation. This assertion, accompanied by a convincing smile is not significant simply because it was the only thing he said in English, it has another symbolic importance.

“In fact I see no limit at all, and I am certain that we will continue to work well and develop cooperation with Slovenian universities, something that we have ultimately also confirmed officially with the signing of an agreement. We have several new ideas and concrete research plans,” explains Dr. Gregorič, and to reinforce the point he adds a fresh anecdote about a recent meeting between the legendary Dr. DeBakey and Dr. Frazier.

Ever since he and Cooley have become friends again, DeBakey likes to show up at THI in the laboratory for developing artificial hearts. Upon inspecting one of the newer models, DeBakey throws out: “Well, we’ll see how this thing holds up after ten years...” Frazier looks at him slightly askance. This does not escape the distinguished veteran DeBakey in his venerable nineties, in fact almost in his centenary, and he condescendingly continues the dialogue with his more than 20 years younger colleague Frazier: “Yes, I hope you’ll still be with us in ten years...”

And why the allusion to the sky being the limit has another symbolic significance is probably self-explanatory. After all, in this fourth biggest American city, Houston, less than an hour from the fascinating and rich centre with its high skyscrapers straining ever further towards the sky, is the famous space agency NASA.

Petra Hari, MD, intern at THI in Houston

I first came to Houston as a 6th year medical student in June 1999. The opportunity arose by chance. At Maribor General Hospital, where my colleagues and I were doing practical training in internal medicine and surgery, the traumatology surgeon, Dr. Batista, offered the chance of education in America. So that we could set up contacts, he gave us the fax number of Dr. Igor Gregorič. We received a rapid response, and thus began the “Houston chain reaction”, recalls Petra Hari MD, an intern specialising in surgery from Murska Sobota, who had a wonderful opportunity to train in surgery, having now done ten shorter and longer training stints at the Texas Medical Center in Houston.



“I had the luck to meet Dr. Gregorič just before I travelled to Houston. He had come to Slovenia for a cardiovascular conference. The actual trip to Houston, however, was a journey into the unknown, and the only point of reference was Dr. Gregorič, who met me at the airport, arranged for a room in the student halls of residence, and even took me to the shops until I found my way around... Of course he also sorted out all the necessary paperwork and showed me around the hospital, which for me at that moment was quite a shock. An infinitely big building with complicated corridors in which I frequently got lost, or could no longer find my things. Fortunately all the staff were as friendly and helpful as could be, whether they were interns or distinguished elders of world renown.

“As a student I spent a lot of time in the first month mainly with Dr. Gregorič and his American interns, and I assisted in numerous operations, but the most shining moments were when during an operation I could hold a heart, or just before the end of an operation, when I sewed up the skin under the supervision of an intern, all under the watchful eye of Dr. Gregorič.”

As Petra Hari further explains, she intended to

stay in Houston just for one month, but then after encouragement from Dr. Gregorič and his then secretary, Houston native Sue Sauberli, who offered her a room in her house since the student halls were full, she extended her stay for another month. Thus, she says, she acquired her “American parents Sue and Dean Sauberli and a mentor and friend in Dr. Gregorič, and I had no doubt that I would come back often to Houston.”

And she did every year. To begin with as a student, and later as a surgery intern, for Dr. Gregorič had made it possible for her to do a part of her internship at the prestigious Texas Medical Center. She spent quite some time with Dr. Gregorič on cardiovascular surgery at THI, she was present for heart transplants, the installing of mechanical pumps and major heart operations, and she felt increasingly at home at the enormous Texas Medical Center. She also spent a few months with a team of abdominal surgeons, of whom Dr. R. Patrick Wood and Dr. Claire F. Ozaki had previously taught Dr. Gregorič, and with Dr. Omar Barakat, who had joined the group a few years earlier. She participated in major operations to the pancreas and liver, which occasionally lasted late into the evening, while she spent most of her free time at the abdominal department in contact with patients and with Dr. Barakat, Dr. Ozaki and Dr. Wood. She emphasises in particular that the doctors were exceptionally kind, and that for her as well as other interns they would unstintingly explain the professional details with great energy, and encourage them to study and take part.

“As a surgery intern, with the support of my home hospital, the Murska Sobota General, I had the chance to spend some time on thoracic surgery at the world famous MD Anderson Cancer Center. I learned from thoracic surgery specialists, primarily Dr. Ara Vaporciyan and Dr. David Rice and their interns, the proper procedure for patients with lung and oesophagus cancer, and had the opportunity alongside classical procedures to see minimally invasive operations to treat lung and oesophagus cancer, which up until this year we had not performed in Slovenia. Dr. Vaporciyan and Dr. Rice also always made time to answer my numerous questions, and even taught me how to perform certain procedures on a simulator, while the interns made sure that I was kept informed about patients and planned operations.”