

## 2024 Robert College 157th Commencement Exercises

### *Keynote Speech by Erol Hakanoglu RC 74, Board Chair*

#### **Introduction:**

Dear Members of the Class of 2024, Parents & Family Members, Faculty, Trustees, Staff, and Friends of Robert College:

Thank you for honoring me with this incredible opportunity to address you on the 50th anniversary of my own graduation from Robert College. RC 74 was the first fully integrated class after the merger of American College for Girls and Robert Academy in 1971. I sat for my entrance exam in Bebek in late spring and started Lise 1 in Arnavutkoy in late summer that year. My dear departed father who drove me in both cases was a little confused and thought we were lost when we got to the Arnavutkoy gate in early September.

I sincerely cannot imagine a greater honor than standing here in front of you at this moment. I just wish my parents were sitting back there, where proud parents of the Class of 2024 are now sitting. Who knows, perhaps mine are watching as well from somewhere up there?

50 years! *What* was going on 50 years ago?

The first Bosphorus bridge was opened on October 30, 1973 and people were getting used to the idea of driving across to the *other side* rather than taking the Araba Vapuru (ferryboat) after waiting in line inside their vehicles in Kabatas among a plethora of peddlers and vendors for a long while. In 1974, Ismail Cem RC 59 was appointed by Prime Minister Bülent Ecevit RC 44 to head and hugely improve TRT (Turkish Radio and Television) in his short tenure. A war in the Middle East led to an oil embargo which rocked the world economy seismically. Just two weeks before I left to attend Columbia University in the City of New York, on August 9, 1974, Richard Nixon resigned from the US presidency barely avoiding impeachment. And of course, *West* Germany beat my favorite team in the tournament, The Netherlands, 2-1 in the World Cup Final on our prom night at the Palet restaurant in Tarabya on July 7, 1974.

And now back to the present:

As the new Chair of the Board of Trustees, I spent two weeks on campus this past October. I stayed at Yali by the Arnavutkoy gate where David Koth who taught me what a mathematical proof was in Lise 1 used to live. I sat in classes, spoke to students in person and in groups, conversed with members of the faculty and administration, attended an *Assembly* where the ethical implications of Artificial Intelligence were discussed. I took part in US Ambassador Jeff Flake's visit to our campus for the 100th anniversary of the Turkish Republic and listened to his praise of the incredibly effective

panel discussion led by a model UN member whom he told me afterwards, he wanted to recruit to the United States Senate. I even got to teach a class, *Mathematics for Oxford*, where I was humbled by the quality and the celerity of the answers by the two students to the problems I posed them. Unsurprisingly, one is a member of the trio on its way to Harvard and I am sure the second who was a junior at the time won't do too shabbily next year either!

I left for New York thinking that my beloved school was in even better hands than when I was here half a century ago and that the quality of education, its conceptual and practical excellence, was second to none.

Now please allow me to share some thoughts with you.

Steve Jobs gave one of the most memorable graduation speeches I know of at Stanford in 2005. It is available widely and if you have not seen or heard it, I recommend that you do so. In it, he says many things that are hugely important but one sentence remains with me more than any other:

“Your time is limited, so don't waste it living someone else's life.”

As such, I will try to cover a few themes which I believe would be valuable to *any* well-lived life.

### **1) Justice and Fairness:**

I am blessed to have had great teachers. One who influenced me most is a philosophy professor, the late John Rawls whom I was lucky enough to meet and sit in his classroom. *A Theory of Justice*, his magnum opus, had been out for a few years and the course was based on its text. Imagine a world where everyone goes to sleep without knowing who they will wake up as and that they are all indifferent to this fact. *That* would be a *just* world according to the master. I strongly believe that striving towards such a world is a worthy goal for anyone. Please consider reading his book if you haven't already.

I would also highly recommend reading and rereading Spinoza's *Ethics*. One of the most profound works of philosophy formulating a near-perfect system of thought and a way of life.

### **2) Beauty, Elegance and Symmetry:**

Seek for beauty and elegance everywhere: not just in works of art and music, in nature, but also in a mathematical proof, or like Steve Jobs, in the typography of computer fonts.

We have learned about Maxwell's equations. Let's dig as deep as we can not only to understand their meaning but also into the *process* that made them come about. James

Clerk Maxwell interpreted and reinterpreted the work of giants, drawing little diagrams and pictures to help him conceptualize and then translating it to equations expressing the deepest laws of nature. His sense of beauty and symmetry made him seek out the reason for the glaring *asymmetry* between Ampere's law and Faraday's law, to correct the former and to combine them with Gauss's laws for electricity and magnetism. The result is one of the most important and enduring laws of nature ever captured in four beautiful equations.

I quote Richard Feynman, one of the most important scientists of the 20th century:

"From a long view of the history of mankind — seen from, say, ten thousand years from now — there can be little doubt that the most significant event of the 19th century will be judged as Maxwell's discovery of the laws of electrodynamics. The American Civil War will pale into provincial insignificance in comparison with this important scientific event of the same decade."

Let us do the same with Einstein's gifts to humanity. Let us go through his famous thought experiments, in their simplicity, in their elegance and marvel at the beautiful equations he came up with.

Where do these equations and the universal constants they typically involve or imply come from? Who put them there? Were they always there? Even though the answer is *I don't know*, we can clearly sense that they all follow some type of symmetry, and for a lack of better words, they all seem to be objects of beauty. As he or she is working on discovering or creating, whenever something is missing or does not feel right; the lack of symmetry, the lack of elegance or beauty inspires the scientist, painter, mathematician, composer, or performer to look for it or correct it. That is what Maxwell and Einstein did. That is what Leonardo da Vinci and Johann Sebastian Bach did.

Let us now pause for a second and contemplate how beautiful equations such as Maxwell's and Einstein's could be used in human *destruction* and not only in human *construction* and *progress*. Let us please do that. Daily if necessary. We owe it to ourselves, to our families, to our nation and to the world.

### **3) Inquisitiveness and Thoroughness:**

Robert College taught me how to question everything I read, everything I hear and everything I learn from my teachers. The late Mr. Hobson, a beloved RC mathematics teacher of great wisdom, taught me not to assume that something is correct because it is printed in a textbook.

Trying to prove every theorem we encounter in mathematics, logic, computer science and economics is key to understanding them well. *Questioning* what was *thought to be* solid led Einstein to *improve* on Newton. And of course Bernhard Riemann and Nikolai Lobachevsky's questioning of the so-called *parallel postulate* of Euclidian geometry led to *Non-Euclidian* geometry and made Einstein's General Theory of Relativity *possible*.

#### 4) Fascination and Passion

From early childhood, being fascinated by what we see and feel around us is a gift we are handed as human beings. We should continue being fascinated throughout our lives, never relenting in the pursuit of fascination. When we are really fascinated by something, the chances that we will be passionate about it are very high. And without passion it is difficult to truly excel in anything.

#### 5) Lightness:

One of my favorite authors at the time I was a student here was Italo Calvino. Years later, I was extremely excited that I would be able to hear his Norton Lectures in the Fall of 1985 at Harvard.

There were six lectures in the program. Each was devoted to a quality of writing he thought was important: Lightness, Celerity, Exactitude, Visibility, Multiplicity and Consistency. Unfortunately Calvino passed away suddenly, just short of completing the final essay and could not deliver the much-anticipated lectures.

When they were published in book form under the title ***Six Memos for the Next Millennium***, I got the chance to read them. They were all wonderful ideas but the first one struck me most. About *lightness*, he said "...my working method has more often than not involved the *subtraction* of weight. I have tried to remove weight, sometimes from people, sometimes from heavenly bodies, sometimes from cities; above all I have tried to remove weight from the structure of stories and from language."

Modesty, humor and simplicity are all good friends of Calvino's lightness.

In everything you do, I highly recommend you to follow his advice. Weight has its place in work of course, but oppressive weight or heft subtracts from it while, funny enough, lightness *adds* to it.

I strongly recommend his works to anyone not familiar with this brilliant man: the titles of some of his works will give you a little intuition about him: ***Invisible Cities, The Cloven Viscount, Cosmicomics, t-zero, The Baron in the Trees, The Non-existent Knight, If on a winter night a traveller...***

#### 6) Uncertainty:

The world is not deterministic, it is stochastic.

Most decisions are made in an environment which includes some form of uncertainty. The factors affecting our decisions could be volatile and even unstable thereby introducing *risks* we need to take into consideration.

When we try to optimize our *personal objective functions* we can not act as if uncertainty does not exist. We need to *measure* uncertainty to the best of our abilities. Personally, I found decision making under uncertainty fascinating as a young applied mathematician. And I made a career out of it thanks to some funny coincidences.

When I was in graduate school I sat in a lecture for people with no background in economics given by Professor Fischer Black at MIT on the other side of Massachusetts Avenue,. The topics included how mathematical theories are used in modeling financial markets and corporate capital structures.

The highlight for me was the use of the diffusion equation of physics, a well-known partial differential formulation in the *pricing* of financial instruments called *options*. Options give the purchaser the right but not the obligation to buy or sell a financial security or commodity at a predetermined price over a set time horizon. Nobel prize winning economist Paul Samuelson had tried and failed to come up with a correct pricing formula. Fischer Black, an applied mathematician who never took a course in economics throughout his undergraduate and doctoral studies at Harvard, alongside two young economists, Myron Scholes and Robert Merton managed to analyze the problem and solve it using an analogous diffusion equation formulation.

Some years later, I received a call from Professor Black, inviting me to have lunch with him on the trading floor of Goldman Sachs in New York. I was more than a little puzzled. I did not know what Goldman Sachs was, had no idea what a trading floor was and definitely had no clue of what the absent-minded professor was doing there.

Oh well! I made it to the lunch and the rest is my personal history. As a good Robert College graduate, I took chances after weighing them, I was not afraid to change fields as long as the lure of *learning* was there. Being away from my comfort zone was not a real a deterrent. I decided to take an offer from Goldman and move to New York City. I learned finance from the master, learned investment banking, learned capital markets, mergers and acquisitions, asset allocation and how to manage large groups of people from extremely diverse backgrounds all over the globe. When I was promoted to the highest level of management at the firm, the senior partner at the time asked me what I thought was the principal reason of my success. I responded without blinking for a second: Robert College of Istanbul — I had to provide a very brief explanation to the people attending!

## **7) Chance and Necessity:**

If we assume a simple dynamic system as the model of human life, even such a system is governed by a process consisting of an expected behavior, variance around that expectation and a control variable. Control has a cost but if it is used optimally, it reduces uncertainty. Over time, we take what we are given, and manage it while minimizing the negative aspects of variability using this control while making sure we don't run out of gas along the way. We don't know the future and we don't know when we will run out of time. We cannot go backwards and take advantage of 20/20 hindsight. Time and entropy, for mere humans unlike for *Maxwell's demons*, proceed in

one direction. With the passage of time entropy increases. But information is the enemy of entropy. It is negative entropy. Using information intelligently we try to reverse some of the negative effects of entropy. This is really the struggle. The struggle against the second law of thermodynamics. By always learning we have a fighting chance!

We are all dealt cards when we are born. We do not get to keep all of them. We are dealt others along the way. We combine and recombine. We take chances with what we have. We need to. We need to calculate and recalculate risks well and weigh and reweigh them against expected rewards. If we do this well, and continuously, we have a better chance to get somewhere good.

Orhan Pamuk RC 70 wanted to become a painter. After graduation he started studying architecture at ITU since he thought it was somehow related to his first love. He then switched to journalism as he decided to become a novelist despite the pressure by most people around him to do something that led to financial security. His first novel ***Karanlık ve Işık*** (*Darkness and Light*) was rejected by publishers and was only published after the *unpublished manuscript* won the Milliyet Yayinlari Novel Contest in 1979. The novel was re-published under the title ***Cevdet Bey ve Oğulları*** (*Cevdet Bey and His Sons*) in 1982 and won the Orhan Kemal Prize in 1983.

After a hugely successful run as a novelist, essayist and autobiographer (he sold over 13 million books which were translated to 63 languages), he became the first ever Turkish citizen (*and RC graduate*) to be awarded the Nobel prize (in literature) in 2006.

Before I conclude, here is something from the third page of my doctoral thesis:

### **A Little Fable by Franz Kafka:**

*"Alas", said the mouse, "the whole world is growing smaller every day. At the beginning it was so big that I was afraid, I kept running and running, and I was glad when I saw walls far away to the right and left, but these long walls have narrowed so quickly that I am in the last chamber already, and there in the corner stands the trap that I am running into."*

*"You only need to change your direction," said the cat, and ate it up.*

### **Conclusion**

You have learned well. You have lived an exciting five years in one of the best if not the best high school in the world. You have learned how to think for yourselves, not to be afraid, to trust your intuition. I believe that these are all fine *but please* never think that your view of the world is the only one out there. Be humble, be modest, be open to debate, be open to lose a debate when someone else has the better idea. It is like playing chess. You do the best you can and still can lose the game. Just remind yourself that there is always another game to play and win.

You will undoubtedly go far. Never forget where you started from. Never forget everyone and everything who made you what you are at any point in time. Our lovely country needs us. It has given us a lot and we need to give back. Let us not just concentrate on being the best for the sake of just ourselves and that small circle around us. As RC graduates, we tend to excel in academia, in industrial and financial enterprises. That is all great. But we also need to be part of our country's civil society, its public spheres, its governance and give all we can to make it the best it can be.

What you should all bear in mind is that we are human beings who have discovered *only a few things that make up our vast universe*. Many of these discoveries contain symmetry, beauty and elegance. The laws of physics; their underlying language -- that of mathematics; the aesthetic magnificence of the fine arts from the cave paintings of Lascaux to the Persian miniatures of the 15th century, to the masterpieces of Leonardo, to the enchanting inventions of Paul Klee; the musical genius of composers over centuries from J.S. Bach to Philip Glass; poetry from Homer to Omar Khayyam, to Mevlana Rumi, to Louise Glück, are there to guide us and show us the way. Maynard Keynes's *dismal* science of economics is yet too young, incomplete, and most likely will never approach the heights reached by mathematics, physics, poetry, and music. Still, we should try, using the philosophical wisdom of the ages, to eliminate the asymmetries in the distribution of resources, wealth and income which are plain ugly.

Even if it may feel like we covered many topics from such a variety of fields of intellectual pursuit, we really haven't covered much at all. In the true spirit of everything we have said so far, the silences and the gaps are part of the arguments, of the discussions and of progress. It is the hope of yours truly, that everyone of you fills in as many of these gaps with brilliance and wisdom.

For me, the appropriate last words always belong to Ludwig Wittgenstein — in his magnum opus, ***Treatise on Logic and Philosophy*** (*Tractatus Logico-Philosophicus*) he says:

“What can be said at all can be said clearly, and what we cannot talk about, we must consign to silence.”

Thank you.