

Things I Learned  
from  
Dimitri Nanopoulos

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*Joel W. Walker*

*May 15, 2019*

In early 1997 Laura and I had been married for half a year.

I was finishing a physics bachelor's degree at Harding University, a small private school in Arkansas — she had graduated the prior Spring.

Texas was my home, and I had acceptance letters from two doctoral programs in state.

We set off, unannounced, to seek our fortune.

The first stop was Austin.

The graduate adviser told me that funding was difficult, and that, being from a small school, I would need leveling.

Laura was deeply offended — which I still appreciate.

Next, he invited me to walk the halls, and to visit with who I liked .... but, to please not disturb Professor Weinberg.

The next stop was College Station.

Growing up in Lubbock, most of what I knew about Texas A&M came from Aggie jokes.

I almost drove away when we couldn't find parking, but Laura (as usual) had more sense.

In the Physics Department, we found George Kattawar.

He asked what I wanted to do, and I said particle physics.

He said, “Well, let me take you down the hall to the Guru.”

I didn't realize my luck ... in hindsight, that was a 40% branching fraction, at best.

But, that's how we met Dimitri.

We visited for a good while.

Everything was exciting when he described it.

He was gracious and personal, and visited as much with Laura as he did with me.

It took a bit longer for us to realize it, but our decision was made that day.

In the years to follow, I have been privileged to know Dimitri as a teacher and a mentor, and ultimately as a colleague and a friend.

Dimitri was born on September 13, 1948 — Friday the 13th, he will tell you.

He celebrated a 70th birthday just this last year.

I know this date well, because it is one day before my father was born.

This struck me as such a cosmic coincidence that I was convinced if one corrected for time zones and hour of birth the symmetry would be exact.

So, Dimitri was born (of course) in Greece, and my father in Boston ... one then has to think carefully about which way the Earth turns (“spin up”).

The conclusion, unfortunately, is that sometimes loop corrections go the other way ...

But, the good news is: one less fine tuning to worry about.

Most of you are familiar with Dimitri's distinguished academic trajectory, from Athens to Sussex for his PhD, with positions at CERN, Harvard, and Madison (+ others).

He has made a home at Texas A&M for the last 30 years (since 1989), having been sought out by Richard Arnowitt during the leadup to the SSC.

But, you may be less familiar with the scientific promise that Dimitri showed in the earliest stages of his education.

In fact, the Greek pre-school system leads the world in curriculum integration of advanced mathematics and theoretical particle physics.

Or, so I reliably surmise from the number of his lectures that included the phrase “*As you know from kindergarten ...*”

As research students, we — Andreas Mershin, Ching-Ming Chen, Eric Mayes, myself, others — would typically meet Dimitri at his HARC office in the Woodlands on Fridays.

Jerry Cleaver gave a lot of time there to teaching us as well.

A set of sandwich boxes were always on hand for our lunch.

It was a quiet place to visit and work — some seclusion can be essential, and I understood why Dimitri insisted on it.

So, flexibility in scheduling is perhaps one of the most important tricks I picked up from Dimitri ...

But, my first regular interactions with him were those of a student to a teacher.

Every semester he taught a course on Particle Physics, or Cosmology, or String Phenomenology, etc.

James Dent and Eric Mayes will recall those classes well.

These were outstanding lectures — well prepared and informed by a lifetime of personal insight.

And they were always entertaining ... this you will accept without proof.

We learned many things from Dimitri.

Often, the subtext was more important than the text.

Things that aren't in the books can matter the most.

*“Good Morning ...”*

We learned that class must always start with  
“Good Morning!”

Even if it is not particularly good ...

And, even if it is not morning.

*“Real time, online ...”*

We learned that nothing can replace a top to bottom calculation ... with chalk.

*“We're not two-loop guys ...”*

But, we learned that one must not lose  
the physics in a haze of symbolism.

*“It's the chirality, stupid ...”*

We learned that symmetry is determinative.  
(apologies to James Carville)

*“The Greek alphabet has 24 letters ...”*

We learned to favor minimal solutions.

*“One stone, two birds ...”*

We learned that good ideas answer more questions than the one you originally asked.

*“Mutatis Mutandis ...”*

We learned that a good idea may persist ...  
even if everything around it has to change.

*“Extraneous ...”*

We learned to not bend over backwards  
to engineer outcomes.

*“Elements ...”*

We learned to comprehend concepts  
by their simplest realization.

*“Correlation ...”*

We learned that two lines are expected to cross,  
but three are not.

*“Dynamics ...”*

We learned never to put by hand what may  
come of its own volition.

*“Intuition ...”*

We learned to anticipate possible outcomes,  
and that this skill must be trained.

*“Taste ...”*

We learned that the most important freedom is that of how, and on what, one spends their time.

*“You don't have to be Weinberg to see that ...”*

We learned that maybe there is hope  
for the rest of us, after all.

*“What goes meow-meow on the roof...”*

Actually, I'm not sure what we learned there.

*“Know the electron mass ...”*

We learned to stay connected to  
experimental data (reality).

# *“Theory of Everything ...”*

We learned that top-down formalism may explicitly reveal structure implicit to a derived construct ...

and, the fluency by which a proposition is assimilated into a unified explanation may be a hidden clue to that proposition's truth.

Dimitri — It's an honor to celebrate you and your life in physics with all present here today.

With much love and gratitude, I wish for you these things:

- *long life, worth to the living ...*
- *great thoughts, worth to the thinking ...*
- *fulfilling work, worth to the doing ...*

CHEERS!



2002

*DVN, JWW, & Isaac West Walker*