

## **In memory of Jean-François Geleyn**

Jean-François left us on 8 January 2015. His struggle with his health was not unknown. He hoped still to come to Ghent for the lectures at the university in spring 2015. But his departure came sudden and unannounced and left no opportunity to properly say farewell, neither to express my deep gratitude for what he did for me, and I can fairly say, for us. So I have to write this down.

Jean-François was a giant. ALADIN is Jean-François' creation. The science was top notch. ALADIN started practically out of nothing in 1990 and grew to a scientific collaboration in which roughly 150 NWP experts are involved, spread across 16 countries, which formed the basis for the creation of many NWP groups in these countries. Most of it was based on “in-kind” contributions which illustrates his unique ability to recognize competences and to motivate and to steer people. The number of scientists Jean-François in the NWP community has influenced, inspired, guided, trained, extends over a period of about 25 years and reaches far beyond the ALADIN consortium. While it is impossible to put any numbers on that it must be hundreds. He also (co)supervised 14 PhDs and published papers in top journals, all of them of the highest scientific level. But to make a list of his realizations would be incomplete to give proper credit to his contributions because they reached far beyond track records, impact indices, number of publications and other so-called quantifiable indices.

But Jean-François was fond of using analogies and images to capture the essence of things. So I will use an image here, one that, I am sure, Jean-François would have liked himself.

Plato introduced us to the world of ideas. Ideas can be right or wrong. Even more important than right or wrong, is the relation between the ideas. In some subspaces of Plato's world ideas are structured according to logic, rationality and ordered in a consistent way. If you move along such submanifolds you get the immediate feeling that things make sense.

I have never met someone that could move so fast through Plato's world as Jean-François. No one I know has explored such vast spaces of Plato's space. No one I know, knew so well where the consistent submanifolds of Plato's world are located.

Jean-François also understood that, to make the world better you have to move out of the consistent submanifolds and he understood better than anyone that reality is sometimes merely a shadow of the underlying ideas. He even enjoyed to move out of the consistent submanifolds. Paradoxes, contradictions were an inexhaustible source for humor for him. But, when the situation called for it, he instinctively knew where the consistent manifold was lying and was instantly back on it.

When I started to work in NWP, I was impressed by this and I wanted to learn from him. Many times he was moving too fast. “I don't see it”, I sometimes dared to say. In that case he didn't take my hand and take me into the submanifold and offered the answers on plate, but he replied “look there, it is there”. If I still didn't see it, he said, to use the image of Plato's world: “don't act as such a blind person, the truth lies there”. His style of teaching was atypical, but extremely powerful, because most of the time he did not provide the answers but rather forced you to discover Plato's consistent spaces yourself. He taught you rather to use your instinct to look in the right direction. If you discussed with him you could not stay untouched by this, and most of the time you had a different view on the world afterwards.

In fact, Jean-François was moving faster than any one I know. He understood the role of gray zone(s) a long time before anyone else. At least a decade ago he started to insist on the fact that the thermodynamics would become the real main issue at the high-resolutions and spared no effort to get the diabatic interactions properly formulated. He understood the issues of deep convection faster than any one else and nailed it down in a few terms such as memory, laterality and stochasticity, giving glimpses of consistent submanifolds of Plato's world, that are there to be uncovered. He also understood that what we do in our models for turbulence are very vague shadows of reality and realized that the answers were spread between different approaches, e.g scale-based methods like QNSE or total turbulent energy, or higher-order closer theories, each of them being mere shadows of a deeper underlying the turbulence consistent subspace of Plato's world. His approach to this was to control them all and to embed them all in the models consistently, in order to try to move deeper in Plato's world. Lately he insisted that entropy needs to get a more prominent role. He was still hoping to have some quiet times to shed his intellect on these issues, away from the shadows of the day-to-day business. Alas, nature did not grant him that.

The above list is far from being exhaustive. Apart from such topics which were “his” topics, he moved equally fast in other domains. Whenever asked advice on subjects like data assimilation, ensemble techniques, predictability issues, code engineering, high-performance computing, or any other topic in or outside of science, he often captured the meanings faster than the experts. He was perhaps not always right, but his answers always made sense and he never wasted time with sloppy reasoning or false statements.

He was often misunderstood or, perhaps, should I say “criticized”. But I believe that a lot of that was originating from the fact that people were pointing out the shortcomings of the shadows, while he was in fact inviting them to follow him into Plato's world and not take the shadows as the truth. And I know that his invitations were always genuine, steered by an exceptional enthusiasm, which he expressed in a style that could sometimes be overwhelming. If you had the courage to follow him, he made no prerequisites and took you along. He didn't care how many diplomas you had, where you came from, what your background was, or what your position was. Jean-François took you at face value. Young people, including students at the university, often came with a solution or an idea that sparked his enthusiasm. When that happened, his reactions were overly abundant. He would always shout the idea from the highest place he could find and spared no effort to give the person all the credit, even if it was clear that the seed of the idea was provided by Jean-François himself.

It is tough to realise that he is not there anymore. Who will answer the phone to shed his light whenever I am dealing with some shadows of reality? I will miss the beers we drank together and the dinners we had when he came to Ghent. I will miss his sense of humor. I have lost a true friend.

But Plato claimed that ideas are more real than the physical world, more solid than rocks. I agree with that. While physical objects perish, the ideas remain. The beauty in Plato's space is more pure than the ones we often encounter in reality. Jean-François uncovered huge parts of it and that will not perish. He will be still there and I will still meet him there.

Farewell Jean-François.

Piet