## A Remembrance of Janusz Kindler

I met Janusz at Schloss Laxenburg in Austria in 1978, when I was working for the US National Academy of Sciences to organize the first UN World Climate Conference, which would take place in February of 1979. IIASA would host the preparatory meeting of speakers and authors for the conference in the Schloss and also contributed the lead paper on climate and energy. IIASA's Resources and Environment (REN) group was just forming at that time under the leadership of the Siberian hydrodynamicist, Oleg Vasiliev, and Janusz, a water resources engineer from Warsaw Polytechnic. They were quartered amidst much dust and plastic sheeting in the Schloss' Silberkammer and Kitchen Wing, then still under renovation.

The paper on "Climate Variability and the Design and Operation of Water Resources Systems" for the World Climate Conference was co-authored by American John Schaake, from the National Weather Service, and Zdzislaw Kaczmarek, a friend and colleague of Janusz from the Institute of Meteorology and Water Management in Warsaw. Zdzislaw would become the chief of the Polish weather service.

I returned to IIASA as a staff member in June of 1979 to build a climate task and spent most of the next three years in residence, with Oleg first as my boss and then Janusz. By 1980, most of the Silberkammer and Kitchen Wing were palatially renovated although reached through the long chilly Kaisergang, a passageway with many cubicles, often empty. The passage gave our REN territory a feeling of independence, and Oleg and Janusz maintained a warm, federated, un-hierarchical atmosphere. At the far end of the Kitchen Wing an office contained the switch board and telex, which in this era of the Cold War added some mystery.

Janusz' own work when I first met him focused on the then-surprising topic of water demand, sometimes in cooperation with Cliff Russell and Blair Bower from Resources for the Future in Washington DC. In this era, most everyone still assumed high rates of growth in demand for energy, materials, land, and water. Janusz was years ahead of the crowd in focusing on demand-side management, and in most developed countries since 1980 water demand has in fact grown very little, thanks to a mix of technical and behavioral approaches.

When Oleg could not return to IIASA from a visit to Moscow in the late spring of 1980 owing to political difficulties, Janusz gracefully assumed leadership of REN. Grace is a word one associates with Janusz, and he handled this awkward transition extraordinarily well.

Oleg and Janusz had cultivated a strong portfolio of water activities. These included several case studies: Skane region of Southern Sweden (Lennart de Mare, Tsuyoshi Hashimoto); Lake Balaton (Laszlo Somlyody, Alexandr Leonov); Austrian lakes (Neusiedlersee, Salzkammergut, and Carinthian lake district; Kurt Fedra), and Polish reservoirs (with Zdzislaw). More thematic and methodological activities involved Bruce Beck (UK, water quality), Mike Fiering (US, on surprise), Gennady Golubev (USSR, agricultural watersheds, also glaciology), and Don Erlenkotter (US, facility location and optimal sizing). Janusz had a special rapport with a young Polish-American hydrologist, Ken Strzepek, who joined REN. Visitors and advisors included Americans Peter Loucks (Cornell), Don Harleman (MIT), and Walter Spofford (Resources for the Future). I learned an enormous amount about water listening to the seminars, reading many Working Papers, and drinking wine.

While water was the life of REN, the rest of us felt very much embraced. These include Andy Anderson (USA, resource economics), Eli Runca (Italy, air quality), Pekka Kauppi (forests), and me. With Janusz' blessing I started (with Ingolf Stahl, John Lathrop, and Jennifer Robinson) a "carbon and climate gaming group" that built the first multi-player games about greenhouse gas emissions and responses. REN's general manager, Finn Raimo Ruotto, attentively made sure Janusz provided generously for REN but did not exceed limits.

Janusz' soft-spoken, somewhat modal style corresponded with wide knowledge. Janusz knew in detail not only about the Vistula but also about the Tigris and Euphrates (where he had worked for five years) and many other regions. Later he would become expert on Lake Chad. Janusz loved jazz, notably John Coltrane's My Favorite Things (1961), and the timbre of the saxophone and piano in that piece perfectly capture Janusz' own voice and moods.

Many women who worked at IIASA seemed to have special fondness for Janusz, based on the frequency one found them near his office or chatting by the coffee machine. These included a competent and high-spirited cadre within REN, including Sofia Boitsova, Marilyn Brandl, Liz Jaklitsch, Anna John, Pam Hottenstein, and Judy Pakes, as well as Vivien Schimmel and others whose offices were distant. Janusz was, however, busy growing his own family with great affection.

While collaboration and cooperation are words I associate with Janusz, I recall his pride in the outcome of the World Cup in 1982 when the Polish national football team eliminated the USSR and then defeated France for 3rd place.

Janusz and I remained in occasional contact in subsequent years, crossing paths in Washington DC sometimes during his World Bank years. In the 1990s I had the pleasure of introducing Janusz and Joanna to the island of Martha's Vineyard, where they visited with me and then stayed in a cottage in the wonderful gingerbread Campground of Oak Bluffs. In 2017 we shared sadness over the passing of Oleg Vasiliev.

I am grateful to IIASA for having brought us together, and to Janusz as a benevolent and beneficent boss and convivial friend.

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