

## Daniel Carleton Gajdusek

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Daniel Carleton Gajdusek ("Carleton") (Fig. 1), one of the last giants of 20<sup>th</sup> century science, died peacefully in Tromsø, Norway on 12 December, 2008. He was born on 9 September, 1923 in Yonkers, New York, USA, into a mixed Slovak and Hungarian family. He was a brilliant and precocious child who quickly became interested in science, an interest furthered by his entomologist aunt with whom he often visited the Boyce Thompson Institute for Plant Research in Yonkers. "We cut open galls to find insects responsible for the tumors, and collected strange hard gummy masses on twigs which hatched indoors to fill the curtains with tiny praying mantises, and discovered wasps with long ovipositors laying their eggs into larvae of wood-boring beetles." As a teenager, under Dr. John Arthur, he discovered a new chemical compound of the halogenated aryloxyacetic acid group,

that was later patented by the Boyce Thompson Institute as a weed-killer.

His discoveries were many and outstanding. Despite a flow of scientific journals and papers, the majority of researchers make only one or two significant discoveries: Carleton made many. He started with Marcel Baltazard of the Pasteur Institute in Téhéran on rabies, arboviruses and plague in Iran and Turkey. He was the first to point out *Pneumocystis carinii* as an important human pathogen (long before it became a 'signal' of AIDS) [4] and studied hantaviruses [13] long before they became a significant research topic. The first US hantavirus (Prospect Hill strain) was isolated from rodents around his house [14]. He was on track to point out measles as a cause of SSPE [1] and he even organized a symposium on the subject. He first showed that HIV inoculated into



Fig. 1. Daniel Carleton Gajdusek, Paris 2008



Fig. 2. Gajdusek inoculating a primate with kuru

chimpanzee brain caused an encephalopathy [6] and he was the first to show that A $\beta$  is a component of amyloid plaques of Alzheimer's disease [10].

But his major field was transmissible spongiform encephalopathies (TSEs), recently re-named prion diseases (Fig. 2). In the 1950s, he went to Australia to the Walter and Eliza Hall Institute of Medical Research, Melbourne, to join the laboratory of Nobel Laureate Sir Macfarlane Burnett, where he became aware of the strange disease in Papua New Guinea, kuru [2,5,8,11]. Despite the strong opposition of Burnett [2], Gajdusek went to PNG and, along with Vin Zigas, started a life-long journey that eventually brought him a Nobel prize in 1968. He transmitted kuru in 1966 [7] followed by Creutzfeldt-Jakob disease in 1968 [9] and Gerstmann-Sträussler-Scheinker disease in 1981 [12]. He was the first to transmit scrapie from sheep to small laboratory rodents (Chandler transmitted scrapie from goats). Later in his life Gajdusek became fascinated with Kurt Vonnegut's "Ice-9 hypothesis" which underlies the concept of misfolded proteins and molecular casting [3] as a cause of neurodegenerations.

I met him for the first time in 1986 (Fig. 3) when, after a half year stay in Alan G. Dickinson's laboratory

in Edinburgh, I joined the Laboratory of Central Nervous System Studies, National Institutes of Health, Bethesda, Md, USA as a postdoctoral fellow. My stay was pre-arranged from two sources. At a scientific meeting in New Battley Abbey in Scotland, I met Dr. Paul Brown, with whom I talked about the possibility to join the lab. At the same time, Dr. Joanna Wojciechowska brought a letter from Dr. Clarence Joseph Gibbs Jr., inviting a Polish scientist to join the lab. I was shown this letter, I believe, by Professors M.J. Mossakowski and J. Dymecki. Those two efforts jointly sent me to Bethesda on one hot July day of 1986. I stayed until 1989 and returned many times until 1997. Carleton also visited me in Poland, the last time in 2007, and I last saw him in Paris in 2008 (Fig. 4).

Carleton was a compulsive talker – he talked not for minutes but for hours (Fig. 5). I once asked him a casual question at 7 pm and he did not stop talking until 2 am! Some people say that his interlocutors passed by as mirrors and he talked to the next one indifferent to whom he talked. I doubt this, as there are passages in his journal indicating that he extracted very well information from those to whom he talked; I found passages on myself that I never directly told him. For me, they were fascinating, al-



Fig. 3. Gajdusek with myself in his Prospect Hill house, Frederick, MD, in 1986



Fig. 4. Gajdusek with myself in Paris, 2008





Fig. 5. I am listening to one of the never-ending Gajdusek talks, Prospect Hill house, Frederick, MD, 1989

beit demanding, talks. He was also a prolific writer; he wrote more than 50 volumes of his journal, many of which I “published” in a limited edition later in his life. When he came for the last time to Poland in the summer of 2007, he was very fragile and walking with enormous difficulties. He came with his niece, Jana, who had a tripod seat ready for him to rest every minute or two; but besides that, he managed to climb my stairs to see my books and artefacts. Some half a year later, at the kuru meeting and following a pacemaker transplantation, he was a new Carleton, strong and opinionated as always. For the last time, I saw him Paris in 2008, where I and Dr. Richard Yanagihara went to meet him. After that time, he called me every two weeks with his current thoughts; the last time it was about Innes, whose classic *Comparative Neuropathology* I incidentally bought at Abebooks.com recently.

At one meeting in Geneva at a WHO meeting on CJD most of the participants were former Carleton collaborators and postdocs, including David Asher, Paul Brown, Susarla K. Shankar and myself. Among many others I would mention Joseph Gibbs Jr., Colin Masters, Richard Yanagihara, Larisa Cervenakova,

Don Guiroy, Ralph Garutto, Michael Strong, Jiri Safar, Carlos Mora, Mauro Ceroni and Pedro Piccardo. We still, 20 years after my departure from the lab, correspond, and with some of them I became a close friend.

Carleton was notorious for his disregard of authorities and rules. In that he was similar to his early tutor, Linus Pauling, the double Nobel prize winner (he was really “weird”, Carleton once said to me). Gajdusek adopted more than 50 kids (Figs. 6, 7) from Micronesia, Papua New Guinea, the Trobriands and other remote places. After leaving the NIH in 1996, he lived in Amsterdam, with frequent visits to Paris, China and Tromso, where he eventually finished his long journey.

He was one of the best and most unique friends I ever had. I think that the world will be smaller and poorer without him. I can only say as King Lear said at the end of a play:

“No, no life?”

Why should a dog, a horse, a rat have life, And thou no breath at all? O, thou wilt come no more, Never, never, never.”

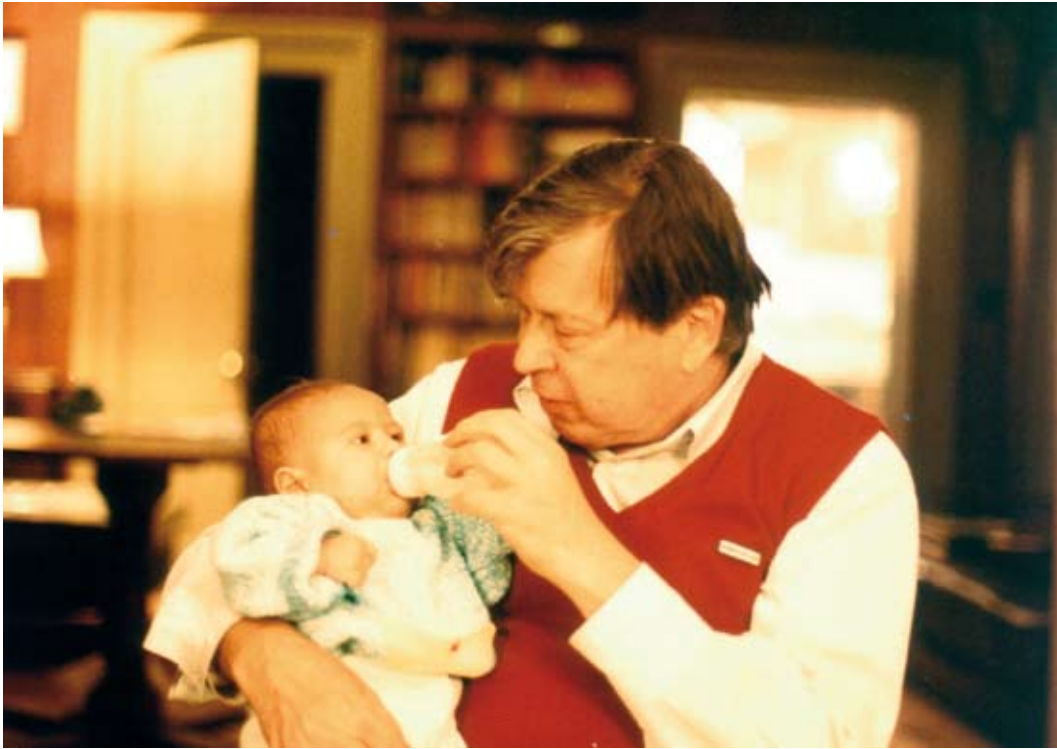


Fig. 6. Gajdusek with Ilang Ilang, a daughter of Dr. Don Guiroy, Prospect Hill house, Frederick, MD



Fig. 7. A group of us in Yonkers, New York. From left: Jason, Gideon, Gajdusek, Edwine, Akowi, myself, Daniel and Cessario, 1995

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