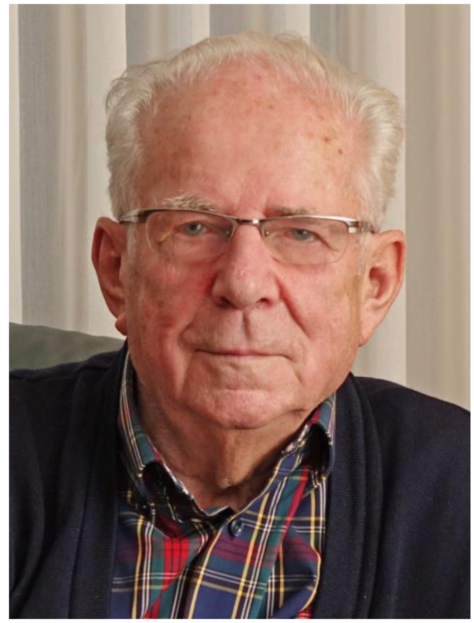
Egon Vielitz

1932 - 2021



Prepared by: E. Vielitz
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The Life of Dr. Egon Vielitz including a brief history of the Lohmann company and its role in poultry disease control in Europe

The early days. I was born on 1.10.1932 on a farm in Seebeck, a small village in Brandenburg province in Germany. My parents were farmers; my father had extensive fruit crops and vegetables, especially asparagus. My hometown is located at Vielitzsee, around 80 kilometers north from Berlin. Berlin was and is the German capital that I often visited with my parents and my sister. Before the 2nd World War my father had established a dairy where the milk was processed from the surrounding villages. My parents ran a business market in Oranienburg, a town where I later went to school on the northern outskirts of Berlin.

Growing up in the Hitler years. My grandfather had 5 sons who all had farms. He lived on the farm of my father, and took care of me much of the time. He lived to the age of 99 years. When Hitler came to power in 1933, my father had to close the dairy. Everything was centralized.

I started school in my village of Seebeck on 1.9.1939, on the day of the attack of Poland by the German army. The whole school consisted of only one class, in which children

aged 6 to 14 years were taught. Later during the war, I went to school in Oranienburg and therefore had to live with friends, my new foster parents. Just about every 4 weeks I could visit my parents at home. All the students had to do service in their spare time in the Hitler Youth. But besides paramilitary exercises we had fun doing many recreational activities.

Of the 5 sons of my grandfather three were nominal members of the Hitler (or Nazi) Party "NSDAP". My father and one of his brothers resisted the actions of the Nazi Party. My parents observed that in the mid-1930s more and more Jewish customers of their market business disappeared. It was said that they were interned or had emigrated.

I will not forget what one of my uncles, who was a member of the Nazi Party, told us during the war at a birthday party of my grandfather. My uncle lived in a neighboring village, where a young Pole was working as a forced laborer in agriculture. This Pole had fallen in love with a German girl who also returned his love. My uncle and other men of the village had threatened him with hanging if he did not break off his relationship with the girl. They had already picked out a tree for him. All the coffee table was horrified and also me. It was my uncle, the son of my beloved grandfather, who threatened here. And none of the others dared to protest. The young man did not abide by the instructions. Later, my uncle told proudly that they had actually hung the Pole. There was fascist racial hatred, which expressed itself in arbitrariness and lawlessness and ordinary people were taken in.

When the German troops invaded the Soviet Union on 22 June 1941, many Germans were enthusiastic about the great victories in the first half, but at the same time there was increased fear among the population: No one knew how it would turn out. The newspapers were now full of names of fallen soldiers. I saw in 1942 in Oranienburg, that in the winter the SS drove old people and children through the streets toward the Sachsenhausen concentration camp, which was situated right near Oranienburg. On the day of the “Waffen SS”, usually in May, all students had to line up there, and modern weapons were demonstrated to us. We did not realize that in the camp, a few 100 meters from us, inhuman conditions prevailed and many prisoners were killed, also many Soviet prisoners of war.

The Allied bombing of German cities increased dramatically in 1943/44: The British Royal Air Force flew night raids, while the American Air Force flew attacks during the day.

In April 1944, Oranienburg was bombed heavily. It should have been 600 American bombers that attacked around noon in three waves. However, they missed their target, the Heinkel aircraft factory, but destroyed the small town almost completely. Many of my schoolmates were killed in the basement of the school building. This I had not entered, because I, like always, ran to my foster parents, who lived just 1 km from the school, when warning of air raids started. There, together with neighbors we all crowded into a homemade bunker, where we sought shelter in the air raid. We survived just barely. After the attack, which lasted about an hour, I left the bunker and saw an unexploded dud

bomb 10 meters from the bunker stuck in the soil. This bomb exploded in the following night and destroyed the bunker and the neighbors' house completely.

So my school time in Oranienburg was over. The following 1 ½ years, I attended a high school in the neighboring town of my home village.

On April 30th 1945, the Red Army reached our village. The Russians went from house to house and took all our wrist watches and other valuables. They raped women especially on the night of May 1 with cries of, "woman come!" My mother had hidden about 20 girls including my sister under the floor of our farmhouse. They lived there for about 2 weeks until conditions had settled down. We had about 60 refugees from the eastern part of Germany at the farm, including the family of an SS-man. My father asked him on the eve of the Russian feeder to leave the court, because there were rumors that the Russians would burn down the court if SS-men were identified. Because also his family would have been affected, the SS man left our farm in the same evening. All our dairy cattle and horses were driven by the Russians towards the east. Those were bad weeks. We did not know what still would lay ahead of us.

I remember one night in June 1945 that a Cossack unit of the Red Army tried to steal the last horse in the village. Some Cossacks on horseback pulled on one side of the horse and the united peasantry on the other. Finally the horse stayed with his owner.

This complete uncertainty lasted about 2 ½ months, then peace and order returned. Today I understand the encroachments of the Soviet soldiers, when I think that they moved thousands of kilometers through their land devastated by German troops. The saying of the ancient Romans "*Vae Victis* - Woe to the vanquished", found its confirmation.

My post-war education years. My father had got it into his head to let me study - so I had to go to a secondary school. The selection was not great, and so I came to a boarding school in Templin - Uckermark, "das Joachimsthalsche Gymnasium". Greek and Latin were the main subjects. In addition, Russian was a third language, because we lived in the Soviet occupation zone. My only English to that point was 1 ½ years during the war in Oranienburg.

Templin is located about 80 kilometers north of Berlin in a large forest with many lakes. It was an ideal place to study. After the 3rd Reich in which all boys and girls had to be in the Hitler Youth, now I was asked to join the FDJ (Free German Youth), the communist youth organization: A change from brown to red. During the last two years that I was at school (1949 - 51) we had been systematically taught in history the dogmas of Marxism / Leninism. As a young man of 16 years, I was enthusiastic: To all people equally a bright future was promised. Soon, however, I had to realize that this social model failed in reality and the reason is, people are not altruistic, but selfish. Despite a general supply shortage, the members of the "Socialist Unity Party" were favored heavily in the German Democratic Republic, as the Soviet zone was called from 1949.

In the summer of 1951 I finished school with the Abitur. Since as a farmer's son I wanted

to study agriculture, I started a 3-year internship as a prerequisite for Agricultural Studies.

In the summer of 1952, the communist authorities increased pressure on farmers to join the agricultural cooperatives. Flimsy reasons were sought to expropriate the farmers. For my father, who suffered greatly from asthma, a hint of a childhood friend was enough. His friend who was mayor and now belonged to the Communist Party said that my father's farm was destined for collectivization due to its good earnings situation.

So we left our home on 28th February 1953, and fled across to West Berlin, where we had relatives, to West Germany. Since we had to leave everything behind, my parents were poor suddenly. My mother never overcame this trauma. For me the escape was a good decision because I had learned that I as a son of a wealthy farmer in the "workers 'and farmers' state" I would not be permitted to study. In West Berlin, in April 1953, I began the study of veterinary medicine, because my desire to study agriculture was not realized due to insufficient work experience on any farm, which was a prerequisite for studying agriculture in Germany.

Having completed my pre-clinical training at the Free University of Berlin, I then transferred my studies to the University of Veterinary Medicine (Tierärztliche Hochschule) in Hannover in the summer of 1955. This university was at those days considered the "Mecca" of veterinary medical education. In 1958, I ended my study with the state exam, approbated to a vet and received my doctorate in 1959 with a thesis in pharmacology.

My entry to poultry medicine. After one year residency in the Department of Internal Medicine in Hannover, I heard that the company Lohmann in Cuxhaven was looking for veterinarians for the care of poultry farms. So in May 1959 I started my work in the field of poultry medicine, a journey that was to last 40 years.

My knowledge of chicken diseases was limited at that time to pullorum disease, coccidiosis and Marek's Disease. But Heinz Lohmann inspired me, in that he recognized in the late 50s that American chicken breeds yielded more meat and laid double the number of eggs in comparison with the European races. When American chickens were imported to Germany they showed the same performance in Europe. Mr. Lohmann made license agreements with Heisdorf Nelson for layers and Nicols for meat-type chickens. That was a major breakthrough for the company and Heinz Lohmann was henceforth regarded as a pioneer of the German poultry industry.

A poultry disease chronology. In the following paragraphs, I relate a number of important events in the history of poultry diseases in Europe and elsewhere, focusing on the role played by Lohmann in each of the stories. The events are given roughly in chronological order, starting with the 1960s and proceeding to the late 1990s (when I retired) and beyond. Although not specifically stated, I was intimately involved with, and was the prime mover, for most of the described advances.

The 1960s. In 1960 severe outbreaks of Newcastle disease occurred in Germany. I worked as a veterinarian on the farms. Wheelbarrow fashion, we removed the dead animals from the rearing houses. Only poorly efficacious inactivated vaccine for individual bird application was available at those days. Heinz Lohmann was so desperate that he wanted to stop the further expansion of poultry farms and wanted to completely give up. He said: "No chickens, no plague". In those weeks the news reached us of a live Newcastle virus vaccine in the United States. It was the Hitchner B1 vaccine that could be administered by mass application in the drinking water. We managed to convince the Behringwerke to engage in the mass production of Newcastle Disease vaccine, with which we then vaccinated all the Lohmann flocks. Thus, the disease came to a standstill in the shortest time. This event had convinced Heinz Lohmann and us of the importance of immunoprophylaxis and, in particular, the importance of live vaccines in chickens.

In the following years I did numerous study visits in the United States. My friendships with Dr. Donald Zander (Heisdorf-Nelson) and Prof. Roy Luginbuhl (Univ. Connecticut), who were both our consultants, proved to be extremely valuable for me. Roy organized for me training courses in American poultry centers, such as Blacksburg, Virginia (with Dr. Bernie Gross), Athens, Georgia (with Dr. Malcolm Reid) and Davis, California (with Dr. Henry Adler).

1961 we also had the first case of epidemic tremor disease in broilers. The animals showed paralysis and tremors. Fortunately Dr. Donald Zander from H & N in Seattle was visiting Cuxhaven. To him, the disease was well known: it was avian encephalomyelitis (AE), also called epidemic tremor, a viral infection transferred from the mother birds to the off-spring. Mr. Lohmann’s order was to compensate the farmers for all losses. This measure had the message: “Lohmann does not leave us alone” which proved to be wonderful advertising!

Dr. Zander also showed us how we can protect the parents from viral shedding of AE virus during lay. We took the brains of symptomatic chickens, homogenized them and administered the homogenate to the parent animals via the drinking water during rearing. So Lohmann’s first vaccine was born!

In 1962 I became director of the Lohmann Veterinary Laboratory. My team consisted of Dr. Helga Landgraf and another two veterinarians. The same year, I met my future wife Karin who I married in 1963. From our marriage two children and 4 grandchildren were born.

My further personal development as a veterinarian and my career in poultry medicine were intimately bound up with the development of the company Lohmann. Therefore, the description of my life is also a historical overview of the company's development. I will describe in detail below the history of poultry production in Germany and the emergence of new avian diseases in Europe (IB, ILT, Reo, CAV, ALV-J and salmonella), along with their diagnosis and immunoprophylaxis.

In the early 60s, many new broiler and layer farms arose in the country. It was self-explanatory at those days, that the chicken farmers wanted to use the same drugs that ‘we‘ used in Cuxhaven. This way over the next two years 1962-63 a brisk trade with veterinary drugs developed. The sales volume exceeded one million DM, so after a while this trade could not be accomplished anymore from the Veterinary Laboratory. Therefore I suggested to Mr. Lohmann on 11th July 1963 that the company establish a separate department, a veterinary service and drug company, called TAD (Tierarzneidienst). TAD was officially founded in 1968 as an independent company.

Mr. Lohmann also had the idea to build a health service operating from Cuxhaven. There were 10 veterinarians employed and each of them was assigned a laboratory mini-bus. It was not long until it was discovered that according to the veterinarians’ Regulations such a central veterinary service by company veterinarians was not allowed. Each chicken farmer had to have his own local veterinarian. So the Lohmann colleagues who were now employed were forced to set up their own veterinary practices. Lohmann provided them with good credit for the establishment of their own practices.

Along with intensifying the poultry housing, more and more cases of infectious bronchitis occurred. This culminated in the performance of vaccination trials in the years 1963-64 and the discovery that different antigen variants of the bronchitis virus were involved in the outbreaks. The vaccines H120 and H52 were introduced which resulted in a cross-protection against the German field strains (published by Vielitz, Landgraf and Kirsch in 1967).

German veterinarians generally had not much knowledge of chicken diseases, and so there was a general desire that veterinarians should be trained in Cuxhaven. This happened in the years 1963-64. We had groups of 6 - 8 colleagues who carried out a crash course in the diagnostics of poultry diseases in the veterinary laboratory. In addition sometimes Mr Lohmann (according to his principle "come and see") invited many guests. Often after a farm visit with the veterinarian trainees and guests, the Isle of Helgoland was visited. In the evenings the guests were invited for a dinner with sole and champagne in the beach hotel in Duhnen. At that time the company ’Pomps” (Baby food) belonged to the Lohmann group, so that Mr. Lohmann invited hundreds of midwives. Of course, all senior staff had to participate in the dinner in the evening. This happened 2 or 3 times a week, often extended by a party in the hotel bar "The blue monkey” in Hotel Dölle downtown Cuxhaven. I remember that we sometimes drove straight from there to Großenhain farm for vaccinating the extensively held breeding birds. Often we had to catch the hens from the trees.

It soon became clear to me that an on-going exchange of information between poultry veterinarians beyond Germany is needed. Thus, the Lohmann veterinarians met with Belgian and French colleagues of the Lohmann group regularly since 1963. From these beginnings in 1965, the "Poultry Veterinary Study Group in the EU" (PVSG EU) was established. Today this study group includes about 80 poultry veterinary specialists from all EU countries, Switzerland and Norway, who meet twice a year in each case in another country. Here I have to mention the following colleagues: From Italy, Antonio Zanella,

from Spain, Ricardo Alleson, from France, Willemart, Verger and Gaudry, from Belgium, Bruynooghe, Verdruye and Dereutere, and from Germany, Schulze, Landgraf and Löhren.

Our consultant, the virologist Prof. Dr. Roy Luginbuhl of the University of Connecticut in the USA, had already established SPF flocks in the US that were free of certain vertically transmissible infectious agents. We also tried it in small, isolated farms. However, these were without air filtration. The result was that the hens although they remained clinically healthy, manifested many latent infections. After 1 ½ years it became clear, that this was not the way to go.

Then the proposal came from Roy to build new houses with air filtration: "filtered air positive pressure" (FAPP). So new chicken houses were built in Großenhain where previously free range poultry management was carried out. With the use of FAPP houses, the first larger flocks actually remained free from all specified infections. Using this technology, a commercial company was established to supply SPF chickens. The name of this particular animal husbandry became "VALO", from **Va**ccine **Lo**hmann.

In 1966 we built the first isolation units for experimental work with transmissible avian pathogens. This was later extended to another house with Isolation cabinets.

In southern Europe in the course of the 60's a new form of Marek's disease occurred. So far we knew only the classical form, the so called "Range Paralysis". Now the animals developed visceral tumors and suffered heavy losses. Especially in Spain, mortality rates of up to 50% occurred.

I remember many trips to Spain where the farmers were blaming us. HNL "Heisdorf Nelson Lohmann" the name of our breed was renamed soon to HML "Heisdorf Marek Lohmann". In response, the company Lohmann intensified resistance breeding against Marek's Disease.

An infection that caused great losses especially in broilers was Mycoplasmosis - Mycoplasma gallisepticum (MG). This infection is transmitted by the transovarian route, so the offspring developed airsacculitis in the first few weeks. The subsequent *E. coli* infections caused heavy losses. The eradication of MG infection became a global target in poultry farming. So it also was with us. All farms were set to "all in all out" housing. That meant the farms were cleared of chickens, extremely thoroughly cleaned and disinfected and then new birds were placed again. To remove the mycoplasmas from the hatching eggs, tylosin was injected on the 9th day of incubation. This enabled us to eradicate the 1968/69 MG infections from our broiler breeders. The layer breeders were infected with tylosin-resistant MG. These Mycoplasma were nonpathogenic, but the animals became serologically positive. The eradication in layer breeders succeeded later by the in ovo injection of Baytril.

In 1967, the first Gumboro disease cases occurred in Germany in white layers, which, however, were characterized by low mortality rates. Only later, in the 80s, did losses of

up to 70% caused by vv-IBDV field strains occurred in layers. This was published by Helga Landgraf and me in 1967.

The 1970s. Despite programs to select for resistance to Marek's disease, based on challenge tests that we carried out in Spain, the tumorous form of Marek's disease was increasing. In England and the USA there were intensive studies on the discovery of the agent, and so Dr. Peter Biggs succeeded in 1969 to prove that a herpes virus was the causative agent of this disease. In 1970 I was in the United States once again and also visited the Regional Poultry Research Laboratory in East Lansing where Dr. Richard Witter worked. He told me he had a turkey herpesvirus (HVT) isolated, which obviously protected against Marek's disease. I asked him for the virus and took it to Cuxhaven after I had instructed the staff by phone, to seed chicken embryo fibroblast cultures for propagation of this herpesvirus. All these measures went well, and so in 1971 we vaccinated large flocks in Spain. The result was astonishing: There were no significant Marek's losses anymore. The same year the customers, who meanwhile were used to losses of up to 50%, suddenly had too many pullets. The consequence was a drop in the price for chickens.

In the Netherlands, Dr. Rispens used an apathogenic Marek herpesvirus isolated from the Central Veterinary Institute in Rotterdam as a vaccine virus, which he called the CVI 988 strain. I asked Dr. Rispens to let me have the virus for use in the field, and so he did. This friendly colleague unfortunately died a year later at the age of 46 from cancer. Since we were satisfied with the effectiveness of the turkey herpes virus, the Rispens strain was only a safety guard for future periods, which would prove to be necessary very soon. For months Lohmann was the only company in Central Europe, which offered a vaccine against Marek's disease. I published this together with Landgraf in 1971. Through the sales of the HVT vaccine the company Lohmann made a lot of money, which enabled the construction of a new veterinary laboratory. This happened in the year 1971/72 in Cuxhaven.

In 1970 the Lohmann Company was reconstructed. It emerged as LTZ (Animal Breeding), LTE (Animal Feed), TAD (Animal Drugs) and LAB (Construction of animal house equipment) which were independent limited liability companies. That was about the last accomplishment of Heinz Lohmann, who fell ill in the following years from dementia. He died in 1975 in mental derangement.

Beginning in 1972, we expanded the production of vaccines. For better propagation of the Marek's virus in cell culture, we now used roller bottles and extended the freeze-drying facility.

In 1976, in Holland, a new disease called Egg-drop syndrome (EDS) occurred, the cause of which was a Duck adenovirus. This virus was introduced through contamination of the duck fibroblast cultures used in the Marek's vaccine production in the Netherlands. The Lohmann vaccine remained free from it because our vaccine was prepared in primary SPF chicken embryo fibroblast cultures.

In southern Europe and North Africa in 1975/76 despite HVT vaccination the first cases of Marek's Disease were recognized. Especially in Egypt this resulted in great losses. It was striking that the bird shipments from Holland did not develop the disease. Why? These birds had been vaccinated with the Rispens strain CVI 988 in the Dutch hatcheries. We quickly switched from HVT to the Rispens vaccine and thus solved the problem. In the early 80s we performed vaccination trials with CVI 988 in Germany, which then led to the approval of the vaccine in 1985.

In the late 1970's Prof. Becht and his research student Mrs. Cursiefen from the University of Giessen described a mutant of the virulent Gumboro strain Cu-1. The Cu-1M virus was a mini-plaque variant and as such was non-pathogenic but very invasive. In 1978 we developed a live Gumboro vaccine using this virus strain Cu-1M.

The 1980s. In 1980/81 infectious laryngotracheitis (ILT) occurred in Germany. We then developed an ILT vaccine grown in embryonated eggs. This vaccine proved to be extremely effective, but possessed a certain residual pathogenicity. This was probably the reason for the good efficacy. The residual pathogenicity only came up when the vaccine was administered via the drinking water. The same virus individually administered by eye drop, caused no losses. Both routes of applications became approved however.

In Bavaria a new disease in broilers occurred in 1982. The diagnosis was gangrenous dermatitis. It was noticeable that the offspring of young parent flocks were affected (as published by Bülow et. al., in 1983). It soon became clear that there was vertical spread going on. The parent birds became infected in the beginning of the egg production period when contact with staff and equipment from hatcheries increased. In the rearing period, however, these flocks typically remained seronegative because they were very well isolated. So it was obvious that the suspected pathogen should be administered to the animals during rearing in order to develop a protective immunity before the egg laying period started. The seroconversion of the parents would result in transfer of protective antibodies to the off-spring, and at the same time stop the horizontal and vertical spread of field virus.

The causative agent was unknown to us. We suspected a virus. So we transferred litter of older flocks whose progeny already showed this disease to young flocks. This of course contradicted the general rules of hygiene, but solved the problem.

We then started a research program. Together with the Free University of Berlin and Prof. von Bülow we worked intensively on the viral culture, and he was able to identify and propagate in cell culture the chicken anemia virus (CAV). We discovered that even our SPF-flocks were also infected and possessed maternal antibodies. Thus, transmission of the disease (3rd Koch's postulate) to SPF animals could not succeed. By working with Dr. von Bülow, we finally were able to build CAV-free SPF-flocks. These were the first flocks worldwide to possess the status "CAV-free". In the further course of our project we were able to reproduce the chicken anemia virus in SPF embryos and eventually produced a vaccine. We called the vaccine "Thymovac" because the chicken anemia virus

atrophied the thymus besides affecting the bone marrow. This vaccine was licensed in Germany in 1990 and was the first live CAV chicken vaccine worldwide.

The epidemiology of chicken anemia virus was thus similar to that of AE and adenovirus infection: The infection took place during egg production. The virus was transmitted transovarially, followed by disease of the chicks in the first weeks of life. In the case of adenovirus I saw serious cases - up to 40% losses - in Kuwait. The chicks were hatched from imported Dutch hatching eggs, which had carried the adenovirus.

From 1985, for the first time we could differentiate the different serotypes of infectious bronchitis virus using a serotype specific SN-tests. The development of this test was part of the doctoral thesis of Dr. Voss at the Free University Berlin. The test allowed the serological differentiation of IB virus variant infections. Dr. Voss became head of the veterinary laboratory after my retirement in 1997.

After years of intensive screening of eggs from layer breeders, in 1985 we were able to eliminate avian leucosis infection by selection and elimination of the infected birds. A special challenge was the infection of broiler breeders with ALV-J. It took us again testing of thousands of eggs for leucosis antigen until we were able to clean the stock.

In 1987, the family Wesjohann in Rechterfeld acquired the company Lohmann. In 1998, the companies of the Wesjohann group were divided and placed under the umbrellas of two holdings named after the two Wesjohann sons. The Paul-Heinz Wesjohann (PHW) group included hatchery South and Weser-Ems and TAD, which had meanwhile been renamed to LAH including the Lohmann Animal Nutrition (LTE). In addition under the brand name Wiesenhof broilers have been reared, slaughtered and sold. The EW-Group (Erich Wesjohann Group) concentrated on poultry breeding i.e. Hy-Line USA and Lohmann Tierzucht (LTZ) in Cuxhaven, both layer breeder companies, and broiler breeding with Aviagen in Scotland.

In March 1988 my long-time colleague Dr. Helga Landgraf died at the age of 59 years. Many of the above developments, we had developed and published jointly, for example in 1967, the first appearance of Gumboro disease in Germany.

In the summer of 1988 a highly pathogenic form of the infectious bursal disease appeared in Germany. The isolated IBDV-strain was called K357/88. Layer chicks had losses of up to 70%, the broilers about half of it. We then developed a more invasive vaccine. In the presence of maternal antibodies against IBDV this vaccine developed IBD-immunity earlier than the Cu-1M-based vaccine. The vaccine was licensed in Germany in 1990 under the name “Gumboro vac forte”.

On the 9th of November 1989, during a PVSG-EU meeting in Madrid I heard that in Berlin Germans from the West and the East were sitting on the Berlin Wall, celebrating its opening. Months of heavy but peaceful demonstrations in Eastern Germany had preceded this historic event. The East German police were without any instructions on how to handle this situation. Fortunately there was no shooting. The irritation came from

an announcement by a member of the central committee of the communist party "Günther Schabowski" who said during a press conference, that applications for passing the borders can be made (which was not self-explanatory before). After a British reporter had asked from when this would be valid Schabowski said, "Immediately". This then started the movement of thousands of Eastern Germans to the wall. The pressure of the crowd became so strong that the East German officers finally opened the lifting gates.

The 1990s. After the reunification of Germany in 1990, I got back my father's farm, which had been expropriated in 1953 by the communists. The German unification seems to me even today like a miracle.

Early 90s virulent Salmonella (*Salmonella typhimurium* and *Salmonella enteridis* phage type 4) were diagnosed in our breeding farms. We urgently needed to remedy the situation. The animals were slaughtered but the infections were widespread. Fortunately, we learned that in the former GDR (German Democratic Republic) Salmonella vaccines had been used successfully. The use of such vaccines became possible by cooperation with Prof. Linde from Leipzig. The attenuation principle developed by Linde was the so called "metabolic drift mutation" (as published by Vielitz in 1993). The vaccine strains induced a cell-mediated immunity which reduced the susceptibility of animals to infection and excretion of Salmonella from the field. Simultaneously we carried out heat treatment of the feed in all breeding farms and tightened the hygiene requirements. In this way it was possible within two years to eliminate the infection, so that finally the breeding animals did not need to be vaccinated anymore. In Germany, Salmonella vaccination against SE and ST became obligatory for all commercial layers from 1994.

Retirement. Upon reaching my 65th birthday in 1997, I retired from the active work of the company Lohmann. However since then I have been working for the PHW and EW-groups as a freelancer. Due to the general emergence of antigenic variants of all kinds of pathogens and the increase in antibiotic resistance within animal production, the use of autogenous vaccines has become increasingly important. Therefore, the EW-group founded in 2010 the company Vaxxinova, which is currently producing autogenous vaccines for global use. The history of autogenous vaccine production is however older, starting in the 80s. Reovirus mutants appeared, which we amplified and inactivated for use in breeders to broaden the protection. Likewise, we started the production of E. coli inactivated vaccines. Today also Pasteurella and Erysipelothrix vaccines are used especially for the free range rearing of hens.

Since 2005, I am an honorary life member of WVPA (World Veterinary Poultry Association) and also of the PVSG (Poultry Veterinary Study Group in the EU).

Personal Thoughts and Reflections. My first marriage ended in divorce in 1983, and I married my second wife Waltraut in 1992. However she has been suffering from dementia since 2008 and now lives in a nursing home. Since 2010, thank God, I am no longer alone. I found a loving partner, Brigitte Othmar, who has a lot in common with me. She is a biologist (microbiology and molecular biology) and also works for the

company Vaxxinova. Together we published about the practice of vaccination against Marek's disease in Europe in 2014.

My professional career has been filled with many satisfying moments. I am especially proud to have contributed to the detection of CAV, the cleaning of our SPF-flocks from this infectious agent and the development of a live CAV vaccine, the first in the world. I'm also particularly honored by the words that Erich Wesjohann said to me, when he opened his new business center in Visbeck (Northern Germany). He said "Without you, this all would not have been possible".

When I retired, Louis van der Heide was also our guest and gave a presentation on our common achievements. He said" Egon is the only man I know who is happy, when a new chicken disease appears."

Mr. Lohmann played an important role in my life and career. He was very generous to me. I was able to decide what was important at that time and I could publish my results of my research. Mr. Lohmann trusted me in any respect. Therefore I could make decisions independently within my field of work. I was very much impressed by his spirit to handle the business. He was a very pragmatic man and always tried to confirm what was promised.

Mr. Lohmann was also a quite complicated character, but veterinarians, especially me, were very much favored by him, because he knew that we were the foundation of his business. He used to make a lot of jokes, especially in the presence of women: Jokes that sometime were not very clean. Mr. Lohmann was not a Nazi, but after the II. World war he sometimes entered a conference room with the words: "Heil Hitler". I'm not sure why he did this, but I guess it was to shock and to wake up the audience. That was typical for him. A strength of the Lohmann business was that we worked on the farms as well as in the lab and therefore gained a lot of credit by our customers.

This biography documents over 60 years of my service to the poultry industry. They have been good years, yielding scientific accomplishments as well as many personal friendships. It also documents the evolution of the Lohmann companies into the forefront of the poultry health field, a process in which I played a key role. Finally, this also provides a chronology of poultry disease problems in Europe, many of which have been solved or controlled by Lohmann with the help of distinguished colleagues from around the world. This is a story of being in the right place at the right time and having the unique opportunity to conduct independent research in a corporate setting. I have been truly blessed.

Biography solicited by the Committee on the History of Avian Medicine, American Association of Avian Pathologists.

Additional biographical materials may be available from the AAAP Historical Archives located at Iowa State University. Contact information is as follows:

Special Collections Dept. & University Archives

403 Parks Library
Iowa State University
Ames, IA 50011-2140
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