Appendixes to Part III

III;1 About German Weather Service structure during WW II

My earliest acquaintance with the German Weather Service was in 1929. As freshman studying geophysics at Königsberg U. I decided to learn about the 'drudgery' facing the meteorologist of the day at the international airport of my hometown. But ten years later there had been radical changes after Hitler (1935) formally denounced the clauses of the treaty of Versailles concerning Germany's disarmament. Under a German Air Ministry the German Airforce, 'GAF', was created. My friend Werner Schwerdtfeger had been originally employed by the civilian Center for Air Safety. He served as forecaster, 1931/34 in Berlin and 1935/36 in charge of the aerological station in Koenigsberg. In 1936 the civilian*"Reichsamt für Wetterdienst"* and GAF weather service, 'WS', were created. Schwerdtfeger was assigned to the first of several weather reconnaissance squadrons. With airplanes mostly of the type Heinckel 111 their flights ranged during the next eight years over the North Atlantic from the Azores, to Greenland, to Spitsbergen, to Novaya Semlya. Our doctor-father, Prof. Ludwig Weickmann served 1937 for one year as president of the *"Reichsamt für Wetterdienst"* in Berlin; 1940-1944 he served as Chiefmeteorologist [rank of colonel] of Airfleet V in Norway.

Let me restrict myself to the administrative structures of GAF-WD that affected my wartime service. It lasted from August 1939 to August 1944. Actually I felt, that during all these 5 years, I remained a 'semi-civilian Meteorology Professor', even as Prisoner of War in 'custody' of the USA Armed Forces, from August 1944 to November 1945. Namely, career as well as drafted GAF-Meteorologists had to satisfy definite requirements which I have never satisfied. These included: Military service and a rank of at least a NCO, or a commission in the WW I or II army; successful completion of a course at one of newly created WD-Schools for either forecasters, or rawinsonde meteorologists, or weather reconnaissance flight personal. Physicists or geophysicists, also students of natural science, born 1910 or later were drafted to be trained in one of these WD-schools.

WD Personnel were uniformed officials with military ranks. In German lingo they were *"Wehrmacts Beamte"*, i.e., 'armed forces officials', distinct from but corresponding to military *"Wehrmachts Offiziere"*. Titles of Senior Officials and their corresponding ranks were: Regierungsrat or Reg.rat ≈ Major; Ober Reg.rat ≈ Lnt Colonel; Director or Ministerialrat ≈ Colonel; Ministerial Director≈ General-major. Second grade officials were Inspector or Insp. ≈ Lieutenant; Ober Insp. ≈ Captain; Amtmann ≈ Major. A third category of RWD Personnel were de-and-encoders with ranks of corporal and sergeant. Epaulettes were the same as for military personnel. Different GAF branches had lapel pads which showed the rank insignia on grounds of different colors. It was green for WD, yellow for Flying units, red for Flak, brown for Signal corps, and blue for Medics.

Senior grades of WD Personnel had University degrees; in 1939 most were veterans of WWI. Subsequent training before appointment included one year's military service, flying experience, and a probationary period of 6 months at a RWD station. In1937, and repeated in 1940, appeals for volunteers for long term service in the GWD was made through the GAF. Training arrangements included WD-schools --at Berlin-Tempelhof, Vienna, and Prague, specialized for forecasters, flight reconnaissance meteorologists, technicians, and de-and-encoders. Candidates for meteorologists had to be no older than 30 years and at least completed highschool education; most were university students or post-graduates in physical sciences. In service they were commonly referred to as Young Meteorologists.

Preface :Aug.39: Drafted into GAFWS {German Ait Force Weather Service} at regional AF Command in Koenigsberg -- Aug./Sep.39 Meteorologist (without certification) at not yet active airfield -- Oct.39/May 43: At ZWG = *"Zentrale Wetterdienst Gruppe"* at GAF Supreme Command (Wildpark, near Potsdam); non-synoptic work and non-routine tasks with German Academy of Aeronautics also with K.L. inspecting health resorts at Schwarzort and Druskiniki -- May 41: End of ZWG briefings for R. Hess' flight to Scotland -- Jun./Sep.43 at Peenemünde-West to advise Col Wachtel, Flak Regiment 155, in charge of V1-development; 'Bornholm Experiment' using novel type of rawinsonde. Sep.43/Aug.44: NE France, billeted in private homes near Doullens and in Amiens -- Apr. 44: Col. Wachtel becomes Col. Wolf -- Jun.16,44: Begin of V1 operation -- Aug.3, 44: Stopped by USArmy 'highway patrol' in Brittany while on travel duty to rawinsonde at Rennes -- Aug.44:As 'PoW' from Omaha Beach to Southampton; then interrogation camp near London and 'tea hour' with Group Captn Stagg; then Kilmarnock via Island & Gander to Interogation Camp at Alexandria VA -- Aug./Oct.44: ; two trips to Washington DC one 'sightseeing', one for dinner at Cosmos Club with old friend H. Landsberg -- Oct.44: By rail to 'Non-Nazi PoW Camp' Ruston, LA -- Mar.45: Compound 'Spokesman' -- Sep./Oct.45: 'Re-education Camp' Ft. Getty. RI -- Oct.45:'Victory Ship' Boston to Le Havre, France --Nov.45: By rail to Darmstadt -- Dec.45: Short reunion with family in Plauen --. Epilogue: Jan1./Sep.46:Frankkfur; Sep46/Aug.47: Bad Kissingen

The German Airforce drafted you in August of 1939 while you were *"Observator"* and director of the Geophysics Station of Koenigsberg U. What was the wartime structure of the German Weather Bureau?

I was drafted 3 weeks before Hitler ordered the attack on Poland (Sep.1) and England and France declared war on Germany (Sep.3). The German Weather Service [GWS] had radically changed ince 1929 when, as freshman student, I had volunteered to get acquainted with the 'technical drudgery' facing the 'meteorologist of the day' at Königsberg's international airport. After I left Königsberg (1929) I gave up any contact with the GWS, devoting my studies to physical meteorology and geophysics. In 1935, universal compulsory military service was restored; I was registered but not called to military duty until August 1939. In 1935 the weather service of the German airfore [GAFWD] was established as part of an Air Ministry. I may summarize in Appendix III;1 what I learned as draftee about its structure.

Assuming that not all meteorological activities were with the airforce, how was it decided who was going to which military branch.

Definite prerequisites had been established for career meteorologists as well as draftees. Most likely, that for the German Air Force [GAF] differed from ones for Army and Navy, but all of them required previous military service (if not as WWI veteran, than with the newly established Armed Forces) and training at military schools. In 1939, I did not satisfy any of such requirement. On the other hand, I had some 'extracurricular credit points' for the GAF, like the 'balloon experiments' (1932/35, with W. Schwerdtfeger, and 1935/38 with students of Leipzig U.) investigating atmospheric exchange processes on the small scale and airmass modification on the mesoscale. Moreover, since Fall of 1938, my monograph "Atmosphaerische Turbulenz" had been published, a first of such texts in meteorology.

So, what was your first assignment ?

I was ordered by mail in early August of 1939 to come to the office of the senior GAF-Meteorologist for *"Luftgau Ostpreussen"*, in Königsberg. There, I met Dr. Baumann [.rank of Lnt. Colonel] who tried honestly to find something right for me. I was not certified as forecaster and not eligible to wear a military uniform other than that of a 'recruit', or private. To avoid embarassment Dr. Baumann assigned me as a civilian meteorologist tentatively to an airfield near Labiau (about 45 km NW of Königsberg) where hangars were under construction and the grassy field not yet useable for aircraft landings. Signal-Corps personal were ready and weather instruments were handled by two ceryfied GAFWS-Inspectors, draftees as regional landschool-masters. They wore GAFWS-uniforms (rank of 1st Lnt) because both, like the Airfield Commander, GAF-Cptn and real officer, had served in WWI and were certified after attending training courses 1936-38 in GAF-Reserve units. Thus, weather reports could be coded/decoded and maps prepared essentially as trainings exercise.

Had you known Dr. Baumann before?

Not personally. But I remembered that he as career GAF-Meteorologist had been

Meteorologist had been sent temporarily to South Greenland in 1937 for weather briefings of Commander Balbo of the Italian AF. Mussolini wanted to demonstrate his air power by sending Commander Balbo with a squadron of warplanes from Iceland via Greenland to Canada and return. Dr. Baumann, with diplomatic tact, kept the temperamental Balbo grounded at Iceland until the weather was perfect and the flight demonstration could be successfully completed. May I add that Dr Baumann's diplomacy helped to maintain reasonably smooth relationship between German and French Climatologists 1942-44 as GAFWD-Liaison officer at Lyon in unoccupied France. Not unexpectedly, when I saw Dr. Baumann the last time at a visit with former WD colleagues at Bonn-Köln Airport (in 1972) he was the director of *"Geophysikalisher Beratungsdiest der Deutschen Luftwaffe"* and served in this capacity for NATO.

You distinguish between real officers and military personal of the rank of officers. I had read that before. Please, explain the difference.

Briefly: 'Real GAF-Officers' are trained for operating military equipment as commanders of military units, such as pilots or wing commanders. 'Armed Forces Personnel with the Rank of Officers' were specialists schooled in sciences or techniques with military appications. Shoulder pieces or epulettes indicating rank on the blue AF-uniforms were the same; different were the colors of rectangular lapel-pads: Bright-yellow for the flying force, dark-red for anti-aircraft units, brown for the signal corps, dark-green for weather service, light-blue for medical personal, etc. Another difference was that ancaptain of the flying force wore three silver wings on the yellow pad; a weather official of captain's rank wore three silvere triangles on the dark-green pad. The really important 'generic' diference seemed to be that WS-personnel were, in german lingo, "Wehrmachts Beamte" , i.e. government officials satisfying career requirements similar to those of civilian employees and quite distinct from those for "Wehrmachts Offiziere". Senior grades of WS personnel had University degrees; titles and corresponding ranks are listed in Appendix III.1.

Let's return to your first assignment at the auxiliary airfield near Königsberg. Was at the WD-station still the drudgery that you experienced ten years earlier?

Definitely to a lesser degree as far as weathermap preparation and synoptic analysis was concerned. All information was available in well prepared and continuously updated form from regional GAFWS Centers. The main occupation for my two 'landschoolmasters' was the routine of hourly observations. After the war began all communication had to be transmitted by secret code. This implied an enormous new 'drudgery' to be born by the attached Signal Corps personnel.

How did you feel as civilian among the uniformed people?

I was accepted as a specialist at his appropriated position. I could not help noticing that most of the uniformed officers had problems. The Airfield Commander, a Captain of the Reserve, in civilian life an agriculturist running a sizable estate in the region, knew well to get rid of moles and voles to prepare the airfield. As commanding officier he seemed to suffer mentally from having to act as procecutor/judge, at the lowest court martial level, by the responsibility of having to punish rank and file for unexpectedly frequent cases of 'AWOL', drunkenness, and fistfights. The medical doctor, a junior grade, appeared to consider the female nurses of the hospital in Labiau as his harem. In charge of the Signal Corps Detachment was 1rst Lnt. N. of the Reserve, in civilian life running a fishery at one of the large Masurian Lakes. His skin between nose and left ear was a system of ugly deep scars. During WWI he had served with a captive balloon unit as artillery observer at the German Front in France. He had had several escapes but in 1918 his luck ran out. Once again, his balloon was shot afire by enemy aircraft. After he had opened his parachute, the enemy pilot returned, flew by as closely as possible, and with a 'develish grin in his face' aimed his machine gun at the helpless victim's head and pulled the trigger. Medics took him to a field hospital where he was taken care of as good as possible. Now, two decades later, again in uniform, his surface injuries had healed but mental injuries lingered on. Lnt. N. had only one desire to shoot into that face that was unforgettably impressed in his memory.

Was there another draftee of officer's rank in cicilian garb?

Yes, the airfield engineer, in charge of supervising the construction of hangars and the facitilies for aircraft supply and repair. He had worked for many years in various foreign countries. Once, returning from weekend leave in Königsberg to Labiau by rail we shared the train compartment. Both of us were not in a happy mood. Military actions had come to a stand-still. Warshaw had surrendered, and on Sept. 28, Stalin and Hitler had arranged to partition Poland between Germany and Russia. I began to muse, recalling that on Sept. 30, exactly one year ago, I had been measuring solar radiation at the Belgian shore of Lake Tanganyica; then came the days of the 'Munich Agreement' between Chamberlain, Daladier, Hittler, and Mussolini ending an acute European crisis, unfortunately on the expense of Czechoslovakia. In Belgish Congo, I noticed, that local officials seemed to accept these events as securing the peace. I continued my wistful musing by adding that, had peace been secured, I should be exactly today at the international IUGG-conference in Washington, DC. In June of 1938 the German Geophys. Soc. had me, as director of the Geophys. Station of U. of Königsberg, appointed as official delegate to report on our activities in terrestrial magnetism. I had submitted an abstract to Washington, DC, (where it still is documented). In July 39 I had received confirmation that I would travel with HAPAG's flagship 'Bremen' across the Atlantic in September, but in Aug. 39, the trip was canceled. I finished my musing saying that international IUGG meetings come every three years and that I hope that peace shall be restored in 1942 so that I can attend the next international conference whereever it may be. Then my companion said something which I can never forget, even though I cannot recall his name. He called the 1914-18 war the 'Little World War' and what Hitler started in 1939 the 'Great World War' and did not expect peace even in six years. I asked what he meant. Mr. X. replied that he would not open his mind to anybody in uniform, but believed he could trust me as one who too had seen the world. He pointed out that Great Britain and France had declared war on Germany because Hitler invaded Poland on Sep. 1 from the west but failed to declare war on Russia when Stalin invaded Poland on Sep. 17 from the east. He predicted that Hitler will break the Moscow agreement after succeeding to

eliminate France militarily. That will bring the USA into the war after Roosevelt has completed his armaments whereupon Germany will be alone facing a gigantic power potential in a really 'Great World War' less on land or sea, but in the air.

Oh, it seems that your first wartime job brought you really strange and mixed emotions

Yes, but it was indeed a strange war period between Sept. 38 and May 39. Poland had capitulated. All was quiet at the western front. French papers referred to it as *"une drole de guerre"* and doubted if *"mourir pour Danzig"* was really worthwhile.

We know, that did not last. What came next for you?

Dr. Baumann called me back to his office at Königsberg. Luckily for my family life it was only 10 minutes walk from our flat. I learned later, that Dr. Baumann's arrangements for my further GAFWD-education were proposed by Dr. Daubert (meteorologist of the rank of Lnt. Col.) from the personnel office of *"Chef Wetterdienst"* . This included (1) two weeks of military training in Danzig, after which I had to wear GAF uniform with special insignia of a *"Regierungsrast auf Kriegsdauer"* = 'rank of major for the duration of the war'; (2) some 'flight training' as weather-observer aboard military Heinckel planes in the courier service between *"Luftgau Kommando"* cities. On one such flight, from Königsberg to Poznam-Posen and back, Dr. Baumann had asked me to look up Prof Letzmann and gave me his residence address in Poznam. Prof. L., of german-baltic ancestry, had tought meteorology at U. of Tartu in Estonia. I had met Prof. L. at the 1935 meeting of the German Meteorological Society in Hamburg where he gave a talk on the general circulation. Forced to leave Tartu in 1939 when Russia annexed Estonia as result of the Stalin-Hitler Pact, he had been 'assigned asylum' in Poznam. There, I met him as an utterly embittered person, at odds with the political powers who transplanted him against his will from his homeland to Poznam, into a flat from which a Polish family had been emitted. This was my first experience of the brutality with which Hitler's SS-Organisation executed national-sozialistic policies. Prof. Letzmann's hope was to find 'real asylum' in Sweden, since Tartu U. had been founded in 1635

when Estonia was a Swedish Province. I could only wish him good success. Dr. Baumann shared with me this hope. For the rest of Winter and Spring I lived as quasi-civilian bureaucrat shuffling papers and reading instructions at Dr. Baumann's office.

Did this permit you to maintain your connection with the University?

Not as much as I had wished, but on the other hand, the few months of my stay at Königsberg's Albertina had been too short for establishing lasting connections. Prof. André of the Geology Dep. had resumed responsibility for maintaining the Geophysical Station. Prof. Errulat had taken (1937) his geophysical Ph.D. candidates to Hamburg U. As Prof. Errulat's temporary successor, my friend W. Schwerdtfeger had left for me two Ph.D. candidates with thesis work in atmospheric dynamics. One finished and passed the oral before I was drafted. The other finished a few months later. My last U-business was to exam a candidate in Astronomy with Meteorology as the minor. I may anticipate that in May of 1943 my connection with Königsberg's Albertina was ended by appointment as 'associate professor' at U. of Graz. However, I remained within the clutches of the GAFWD.

Were you in May 1943 still occupied at Königsberg?

No. The 'phony stage' of the war included the occupation of Denmark and Norway in April; the invasion of France ended it in June with the occupation of Paris by the German Army. At the end of June of 1940 I was transferred to the 'ZWG'="*Zentrale Wetterdienst Gruppe*", attached, together with 'Chef WD'="*Chef Wetterdienst*" , to the Supreme Command of GAF. This was housed in a complex of office buildings, messhalls, even sporting facilities, located a mile west of Potsdam at Wildpark, an extended forest area stretching to the river Havel, near Werder. The director of ZWG was Dr. Diesing (rank of Col.), an experienced veteran with meteorological service before, during, and after WW I. Using a method based on statistics of specific meteorological conditions tending to occur on or near a specific calender date, Dr. Diesing had submitted to the *"Ober Kommando der Wehrmacht"* an evaluation of weather conditions from Spring through Summeer in Northern

France. His conclusion had been that a week of stable weather was most likely to occur around May 15. Actually, German Forces began to invade Belgium and Holland on May 10, 1940, and Northern France a few days later; all activities were favored by dry weather. Dr. Diesing was promoted to the rank of colonel and received from Hitler a golden watch with the date of 15 May 1940 engraved.

What was your assignment at ZWG?

Dr. Diesing was known previously to me only from annual meetings of the German Meteorological society. Acknowledging that I was not certified to work as forecaster in the Synoptics Division of ZWG, Dr. Diesing informed me that I would join my old friend H. Philipps in a small ZWG-division with the main task to analyse - and prepare for dissemination to military units - extended-range weather forecasts. Also, we had to prepare regularly a quarterly pocket-book edition listing for every date moon-rise-and-set as a function of latitude; also, we would have to compose occasionally leaflets and handbills on regional climate particularities for AF-units operating in foreign countries. This had been arranged by *"Chef WD"* , AF-General Spang, whose military career had begun in WW I as fighter pilot. His and Dr. Daubert's offices were next door to Philipps' and mine which resulted in frequent contacts.

Please, explain the term 'extended-range forecast'.

According to Franz Baur (1950, for reference see Appendix III 6) 'extended-range forecasting' embraces atmospheric predictions involving any time period beyond 48 hours. Twice weekly, we at ZWG received five-day predictions from Baur's Institut near Frankfurt/Main, referred to as medium-range forcasts for Central Europe. These were supplemented by a set of 4 five-day sequences of weathermaps for the same month, selected from a 40-year supply of historical daily weather maps. Each set began with a situation on day 1 estimated to be most closely similar to that of actual day 1. At the begin of each season Baur predicted the general character of the next season. Most significant were of course predictions of winter severity.

What method was Baur using for long-range forecasting ?

Mainly statistics. When I was a student at U. of Frankfurt 1929/30, the "Institut for Langfristige Wettervorhersage" at Homburg near Frankfurt had just been established by the German government with Franz Baur as director. While at Prof. Linke's Insitut of Meteorology and Geophysics I attended Prof. Baur's lectures on methods of long-range weather forecsting. As a busy man he offered this course biweekly in two class hours. Baur had gotten his degree in statistics as candidate by the later famous economist Von Mises at Berlin U. Baur was neither a meteorologists nor climatologist, but his lectures were worthwhile especially concerning application of correlation statistics in geophysics. His course content corresponded rather closely to his publication (20 years later) in the 'Compendium of Meteorology'.

My memory about Baur is that he was known for using sunspots as predictors.

Not in Germany. Baur was always critical about cosmic influences on*"Grosswetter"* and especially critical already in his lectures (1929) about a claim by british climatologists that there is a highly significant correlation between annual sunspot numbers and the waterlevel of Lake Victoria. The correlation coefficient between these two timeseries was indeed +0.87 from 1899-1924, but dropped to +0.07 from 1925-43 ('Compendium', p. 814). However, nearly two centuries of statistical data on the severity of winter strength in East Europe proved likewise to be inconclusive. Of the first three winters during WW II, the first two were severe, the third near normal. Based on the fact that never before three out of four auccessive winters had been severe in East Europe, Baur argued that the fourth winter would not be severe. Actually, it was most severe.