Sports Physiologist and German Navy Flight Surgeon Alfred Koch (1907-2013)

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Alfred Koch was born 23. June 1907 and died on 18th August 2013, both in the Westphalian University town of Muenster, Germany. In between his life was more restless and memorable. Dr. Koch was both member of the German Society of Aersospace Medicine (DGLRM) and Past President of the German Society of Sports Medicine (DSAeB). Refering to the History and Archives Committeee Meeting of AsMA on 23rd May 2023 in New Orelans, LA the author prepared the following short notice on life and work of Dr. Koch, as requested by Committee´s head Walter W. Dalitsch III.

Alfred Koch, a German Pilot Physician, was specialist in interal medicine, sport medicine and aviation medicine. Born 23. June 1907 in Muenster, Westphalia just one decade after Strughold from nearby Westtuennen, Koch studied as „Struggie“ from 1926 medicine in Muenster. Already in 1928 he finished his sports teacher education with specialisation in track and field, soccer and ice-hockey but could not live on this. Therefore Koch joined German Navy as a medical officer cadet in 1929. He started his military training at Stralsund´s *Dänholm*. Following his medical training he served at the Navy hospitals of Wilhelmshaven and Kiel as an „*Unterarzt*“ (equivalent to a Navy sergeant). His sports medicine specialiszation was favourable to be elected for a secret military flight training in 1931. Koch had to go through a tough aeromedical examination by Dr. Ernst Koschel (1875-1961), the than Medical Director oft he German Airline Lufthansa (8).

The military flight training followed 1932 at the NAVY airfield in Rostock-Warnemuende (Hohe Duene), nearby worlds first jet Heinkel He 178 was flight-tested (27th August 1939 in Rostock-Marienehe). ECGs of airman under influence of low pressure and their oxygen saturation above 4.000 m (13.000 ft) flight level were examined here by him. Beside his flight training he underwent a specialist training as a naval surgeon (8, 9). A specialist training in internal medicine and aviation medicie followed in 1933 in Hamburg under the performance-physiologist Hugo W. Knipping (1895-1984) in close cooperation with Ludolph Brauer (1865-1951), who ran Germanys first Institute for Aviation Medicine in Hamburg since 1927 (3).

This scientific education enabeled Koch to run a special medical examination center (*Sonderuntersuchungsstelle*) for NAVY flight personell in Kiel-Wiek in 1934/5, before serving as a flight surgeon at the Navy Test Center (*Seeflugzeug-Erprobungsstelle*) in Luebeck-Travemuende 1935-37 (Fig. A) (9).

In 1935 Koch was transfered to the German Air Force (*Luftwaffe*) and was attending the First International Conference on Aeromedical Evacuation in Budapest/Hungary. As the deputy of the President of the German Red Cross Dr. Koch met french, british and italian colleagues at this occasion (8).

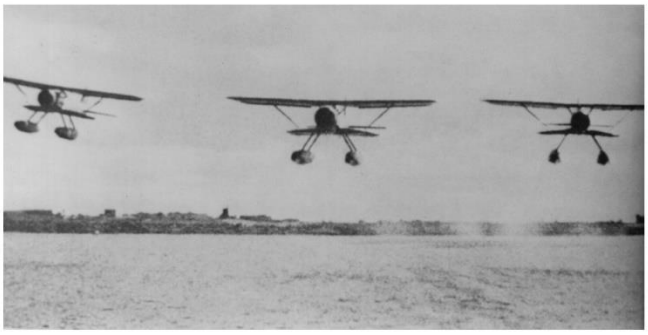


Fig. A : Sea-Plane formation at Navy Test Center Travemuende at the Baltic Sea (picture privided by A. Koch 2012)

One year later, *in* 1936 Koch was engaged as an practicioner in sports medicine at the Olympic games in Berlin, where he treated the afro-american track and field ace Jesse Owens (1913-1980), who won four gold medals in sprint and long-jump. Koch attended just before the long jump event though he worked most time at the olympic village, just 10 miles west of the stadium next to the Doeberitz military training area. Around 3.600 male athletes with their support staff lived here, while female athletes were housed close to the stadium. Five German doctors and 25 paramedics were on duty for this propagandistacally highly exposed event. There were modern equipped rooms for examinations and small surgical interventions. With the exception of the American team, all participating nations also brought their own medical staff. Therefore Jesse Owenes, the winner of the olympic long jump (8.06 m/26.4 ft), came to consult Koch for a painful otitis. After a symptomatic treatment Owens won another two of four gold medals (1, 9).

Kochs deployment to Rostock-Warnemuende ended in early 1937. For further aeromedical scientificial training he was not commended back Hamburg, where Ludolph Brauer (1865-1951) was removed for political reasons (Harsch, 2006) but to Duesseldorf, where Braueres assistant Dr. Hugo W. Knipping headed a major Hospital (*Staedtische Krankenanstalten*) (8).

Knipping invented the spiroergometry and was studying hypoxia effects already in the altitude chamberes in Hammburg-Eppendorf Knipping´s test-device was able to establish oxygen deficiency environments in a closed system, by oxygen depletion by not adding O_2 while exhaling (3). For physical exercise a handused ergometer was installed. Koch could add a altitute chamber to the Duesseldorf Test center due to his Luftwaffes engagement. Externsive laboratory axams were undergone to study lactacidosis under anerobic conditions. Koch followed Knipping to close by University city of Cologne, where he recieved his Ph.D. (*Dr. med. habil.*) in 1939 and lectured medical students about Aviation Medicine. Koch´s field of scientific interest in Cologne was obviously in the research of spirometry and ergometry under oxygen deficiency. Beside this he performed first laparascopic exams on Tb-patients with a cystocope adding air and photographing the findings (8).

In WWII Koch served as an Luftwaffes flight surgeon in the theatres of east and west front (Sevres/France 1939/40; Kishinev/Moldavia 1940/41 and Charkiw/Ukraine; 1942 Wien/Austria; 1942/3 Belgrad/Yugoslavia and Tirana/Albania; 1943/5 Halle/Germany). At the east-front he was involved in Air Med Evac Missions also to Stalingrad. On the 7th october 1941 he was wounded by a bullet (penetration wound oft he left arm) and initially treated in a Role 2 Air Force Hospital (*Luftwaffenlazarett*) on Crimea. As a copilot he also survived a bombing of his Red-Cross MedEvac Junkers Ju 52 in 1942 and was beeing treated in a field hospital in Charkiw. Thereafter he headed Luftwaffes hospitals in Hungary in 1943 and the year after in Halle/Germany (8, 9). In the final stage of war (November 1944) he was appointed as a Nazi-CO (*NS-Fuehrungsoffizier, NSFO*) at the Martin-

Luther-University in Halle. Though not a Nazi-Partymember he didn´t refuse to cooperate and became months later an US prisoner of war at Bad Hersfeld as a Luftwaffe´s Colonel (Fig. **B**) (9, 11). Asked in 2010 about this political appointment he stated: "That's what I was appointed to do – I've never been in the party" (10). However the NSFO´s were implemented part-timely to politicaly influence the military units in the last phase of WWII.

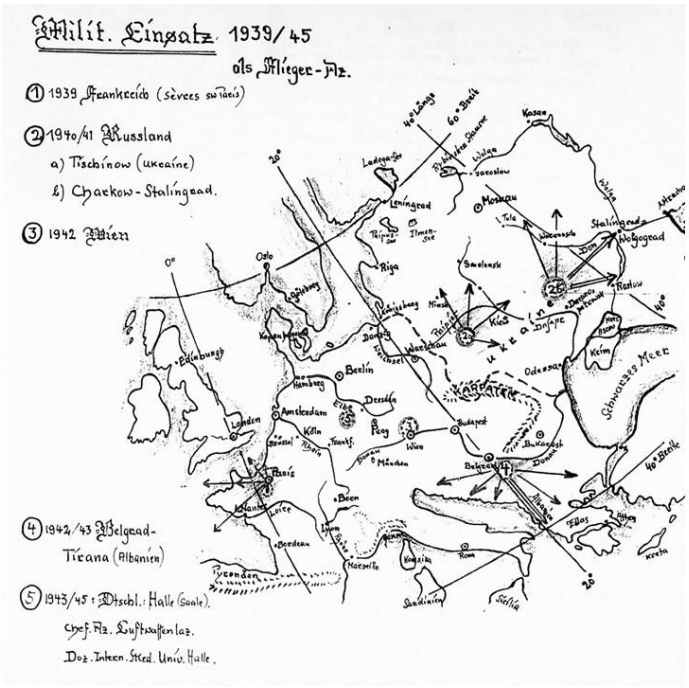
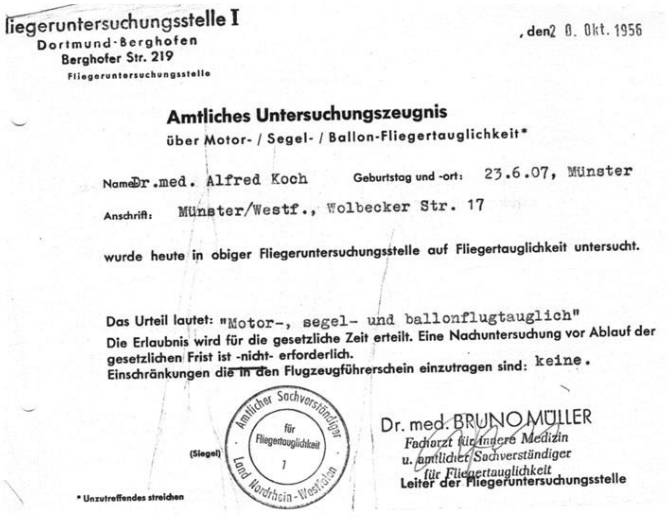


Figure B: Overwiev of Deployment Thetares as a Flight Surgeon in WWII (1939-1945). Handwritten sketch by A. Koch, provided to the author 2012.

After WWII his acedemic carreer came back to his roots in Muenster, Westphalia. He was appointed to the Clemens Hospital in 1946 and served as a clinical director until 1971. Thereafter he was busy heading a Rehabilitation center in Bad Kissingen until 2002. He was Co-editor oft he Journal of Sports Medicine and Physical Fitness and founding member oft he German German Sports Medicine Association on 14th October 1952 (*Deutsche Sporttaerztebund*) and ist elected President 1953-7. In 1965 he organized the 1. Int. World College of Sports Medicine by the Fédération Internationale de Médicine du Sport (FIMS) in Munich and Garmisch (5, 6, 7, 8).

Dr. Koch kept in touch with colleagues oft he former and new German Luftwaffe and was motivated by Dr. Heinz S. Fuchs (1917-2008) at age 90 to write a biographical work entiteles „My Life Acrobatics“. General Fuchs was than past-president of DGLRM (1975-7) and AsMA´s past vice-president (1969-70) (3, 4, 8).

At age 100 he still copiloted a private plane and gave the author a hard time, visiting him four years later with a car and not „as expected“ for a flight surgeon with an airplane. He was indeed looking forward to get „stick-time“ in my company owned 50 year old Piper PA 28 200R 9 (Koch 2012). Koch was continuing flying after WWII, as documented by a medical from Dr. Bruno Mueller (1912-1997) from Dortmund, a DGLRM past President and associate of Heinz von Diringshofen (1900-1967) (Fig. **C)**. All of them were long time members of the German Society for Aviation and Space Medicine (DGLRM), an affiliated association of AsMA (3, 4).



liegeruntersuchungsstelle I
Dortmund-Berghofen
Berghofer Str. 219
Fliegeruntersuchungsstelle

, den 2 0. Okt. 1956

Amtliches Untersuchungszeugnis
über Motor- / Segel- / Ballon-Fliegertauglichkeit*

Name: Dr.med. Alfred Koch Geburtstag und -ort: 23.6.07, Münster

Anschrift: Münster/Westf., Wolbecker Str. 17

wurde heute in obiger Fliegeruntersuchungsstelle auf Fliegertauglichkeit untersucht.

Das Urteil lautet: "Motor-, segel- und ballonflugtauglich"
Die Erlaubnis wird für die gesetzliche Zeit erteilt. Eine Nachuntersuchung vor Ablauf der gesetzlichen Frist ist -nicht- erforderlich.
Einschränkungen die in den Flugzeugführerschein einzutragen sind: keine.

(Siegel) Amtlicher Sachverständiger für Fliegertauglichkeit 7 Land Nordrhein-Westfalen

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Leiter der Fliegeruntersuchungsstelle

* Unzutreffendes streichen

Fig. C. Medical by B. Mueller in 1956. Documents provided By A. Koch in 2012.

Koch was an enthusiastic golf player. Aged 105 he still was kind of active in this sport: „The correct breathing technique is most important for top performance in this sport“. Beside golf he was daily swimming and cycling at his home just next tot he University Hospital of Muenster. Here he presented me his biographical book on his „Life Acrobatic“ - which coud have been also entiteled „Life Aerobatics“ - and gratefully received a study on the German Air Med Evac Organization in WWII, published by the me in 2005 (Fig **D**). One year later Prof. Koch died after an orthopedic surgery. Dr. Koch married in 1934 and had four children (8).



Fig. D: Oral Interview on 21th April 2012 in Muenster, Westphalia.

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