

# The influence of German surveying on the development of New Guinea

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**Key words:** Germany, surveying, New Guinea

## SUMMARY

**This paper details the significance of German Surveying on the former German Protectorate of New Guinea. New Guinea was a German sphere of influence from 1884 to 1914 (World War 1). The influence of German surveyors continued on through the war and after. Eventually all the majority of Germans were repatriated back to Germany. The German missionaries, significant explorers and map makers in New Guinea in their own right, swore neutrality and continued there to this day.**

The primary source of information, research and photographs, maps etc are the two wonderful books, *MASTAMAK: the land surveyors of Papua New Guinea* and *Wings of Gold: how the aeroplane developed New Guinea*. These terrific books were written by James Sinclair born in Dubbo in 1928. He went to Papua New Guinea (PNG) in 1948 as a cadet patrol officer and retired in 1975 as the last expatriate district commissioner of Eastern Highlands District. Since leaving PNG, Sinclair has lived in Queensland, where he has devoted himself to a full-time career as a writer on PNG subjects. His first book, *Behind the Ranges*, was published in 1966, and told of his Morobe and Southern Highlands exploratory work.



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## 1. PUTTING NEW GUINEA ON EARLY EUROPEAN MAPS

For uncounted years before the start of the 16<sup>th</sup> century, the people of Europe obtained the gold, silks, precious stones, aromatic woods and, above all, the species that made their austere lives bearable, from the Far East, via a long and perilous overland route across the known world to seaports in the Mediterranean. One of the two greatest and most important events recorded in the history of mankind was the discovery by Portuguese navigators of a passage to the East Indies by the Cape of Good Hope, which opened a sea route around Africa to the New World, and the gold and species of the East. So began the series of European voyages that were to culminate in the discovery of New Guinea (although unknown and unrecorded Indonesian and Chinese seafarers undoubtedly arrived there first). The first European to sight the shores of New Guinea was probably the Portuguese navigator Antonio d'Abreu, in 1512. Another Portuguese, Jorge de Meneses, landed on the Vogelkop, West New Guinea, in 1526 while on voyage to the Moluccas. He encountered dark-skinned tribesmen with great mops of hair, and named this new land Ilhas dos Papuas, from the Malay term for fuzzy-haired men. Whether or not de Meneses was surprised to find the new land already inhabited was not recorded, but New Guinea has been settled for thousands of years, probably in successive waves of migration from South-East Asia through Indonesia. In any case, it is unlikely that de Meneses would have recognized the prior occupation of the fuzzy-haired men; Europeans then had scant regard for the rights of the people of the new lands they 'discovered'.

Soon after de Meneses's voyage a Spaniard, Alvaro de Saavedra, sailed for the Moluccas from Mexico across the Pacific and along the north coast of New Guinea, which he called, fancifully, Isla del Oro – Golden Isle. The myth of New Guinea as a fabled source of gold seems to have begun with the writings of Antonio Pigafetti, who had accompanied Ferdinand Magellan on the great voyage of 1519 to 1522 that resulted in the first circumnavigation of the world. Pigafetti wrote of one Raja Papua, king of the heathers of New Guinea, who as 'exceedingly rich in gold'. In 1537 the Spaniard Hernando de Grijalva was directed to sail to Peru and then attempt discovery of 'some islands to the westward' that were believed to 'abound in gold'. Grijalva was killed by his crew and his vessel wrecked on the north coast of New Guinea. Another Spanish writer claimed that New Guinea was 'a land of much gold, of which the natives make chains...and bracelets which the women wear on their necks and arms, and the men on the pommels of their swords...'. In 1545 the Spanish navigator Ynigo Ortiz de Retes, on a voyage from the Moluccas to Mexico, sailed along the north coast and named the island Neuva Guinea – New Guinea. This name appeared in print for the first time on Mercator's world map of 1569. It was the name by which New Guinea was thereafter generally known.

## 2. ESTABLISHING A GERMAN PROTECTORATE IN PNG, 1884-1885

As discussed in the previous chapter, the European exploration of the Pacific and East Indies had devolved from Spain and Portugal to become Dutch and then British spheres of influence. These are major stories within themselves but are not part of this paper. The Dutch whilst failing to discover the riches they sought, considered New Guinea as part of their Indies empire. To pre-empt the British the Dutch Governor of the Moluccas sent two small ships, *Triton* and *Iris*, to claim the western part of New Guinea to the 141<sup>st</sup> Meridian. This was done on 24<sup>th</sup> August 1828. Settlements were established but short lived due to fever, sickness, malaria and the hostility of the local Papuans. The Dutch did not relinquish any claims and it was eventually the Dutch missionaries commencing in 1855 that settled in Dutch New Guinea with any permanency.

Of note is that the most determined attempt to establish a settlement in New Guinea was made between 1879 and 1882 by a Frenchman, the Marquis de Rays. During these years, de Rays transported hundreds of colonists from Europe to a fever-ridden site on the south coast of New Ireland, which he called Port Breton. The experiment was a tragic failure, all but a handful of the colonists soon perishing. The marquis subsequently died in an asylum.

Trade between the newly established colonies in Australia and Asia had steadily increased. More ships began to use the twisting, dangerous passes through the northern end of the Great Barrier Reef into Torres Strait, creating an urgent need for the passes to be precisely charted and marked. British naval captains now made a series of remarkable surveying voyages that produced the best maps and charts of the New Guinea coastline that had yet appeared. The British commenced a series of Royal Naval exploration and mapping expeditions commencing in April 1842. Further voyages were made in 1847, 1850, 1872, 1873 and 1874, continuing into the northern coastal areas in 1874. Inland exploration was undertaken up the mighty Fly River (flowing to the south) in 1876.

The scene was being rapidly set for the final partition of New Guinea. A fresh factor, Germany was introducing itself into the New Guinea landscape. Thus far, the Germans had played no significant part in the discovery and exploration of New Guinea, but during the 1870s and 1880s German commercial firms began to site trading stations in New Guinea. Agents of J.C. Godeffroy & Sohn reached the Bismarck Archipelago from the Carolines in 1872, and were permanently stationed on the Duke of York Islands from 1876. Hensheim and Company moved into the archipelago from Polynesia in 1875, Eduard Hensheim settled on the island of Matupi, off the Gazelle Peninsula, in 1879. Thomas Farrell and Emma Forsayth ('Queen Emma') came in from Samoa. In 1882, Farrell and Forsayth, together with Richard Parkinson, began to buy land from the native owners along the shores of Blanche Bay, and establish plantations.

The Australian colonies were acutely alarmed at the increasing presence of Germans in a region so close to home. It was a time in history when Germany was bent on colonial expansion as a part of her imperial destiny. The colonies feared they would be cut off from

the mother country, at the mercy of Germany if there was war, and they urged the British government to annex at least the eastern part of New Guinea, before Germany did. Events now moved swiftly. Britain reluctantly agreed to act. German newspapers were advocating the annexation of eastern New Guinea. In May 1884, a prominent financier, Adolf von Hansemann, and a syndicate of German bankers formed the Neuguinea Compagnie with the knowledge and blessing of the German chancellor, Count Otto von Bismarck, and with secrecy and speed an expedition was fitted out under Dr Otto Finsch, ornithologist and explorer. His task was to select land for plantation development on the north-east coast of New Guinea and establish trading posts. In August 1884, the German ambassador in London met with the British Foreign Secretary to discuss the interests of their respective countries in the Pacific. There was no mention of the Neuguinea Compagnie. Three days after the meeting, Prime Minister Gladstone announced that a protectorate would be established by Great Britain over most of New Guinea east of the Dutch border. Meanwhile the Neuguinea Compagnie expedition left Sydney for New Guinea in the steamer *Samoa*. On 19<sup>th</sup> August, Chancellor Bismarck ordered the establishment of a German protectorate in the New Britain Archipelago and north-eastern New Guinea. No public announcement was made. When Germany was officially informed of the British decision to establish a protectorate, she objected. Germany had legitimate commercial interests in northern New Guinea. Great Britain, having been manoeuvred into taking an action she really did not favour, readily agreed to limit her protectorate to the south-eastern coastline. The trusting British had been fooled. Unknown to them, a German warship, *Elisabeth*, was already en route from Africa to New Britain.

To the pained surprise of the British government, however, Germany was even then establishing her own protectorate over northern New Guinea. On 3 November the captain of the German warship *Elisabeth* had annexed New Britain, and went on to raise the flag at different points on the mainland. The first intimation of the German action was contained in a telegram from Commodore Erskine to the Admiralty in London on 17 December 1884. The Australian colonies raised a howl of protest at the German action. 'The exasperation here is boundless,' said a telegram from the Victorian government to their agent-general in London:

*We protest in the name of the present and the future of Australia if England does not yet save us from the danger and disgrace, as far at least as New Guinea is concerned the bitterness of feeling towards her will not die out in this generation.*

But it was too late. Britain did attempt to extend the boundaries of British New Guinea as far as the Huon Gulf, but without success. In April 1885, Britain and Germany agreed that the common boundary would be the 8<sup>th</sup> parallel as far as the meridian of 147°E, and on to the Dutch border. The partition of New Guinea was complete.

### **3. SURVEYING IN GERMAN NEW GUINEA 1885-1914**

German colonial rule in New Guinea lasted for a period of thirty years, For the first fifteen years the colony was administered under imperial charters by a private company, in the manner of the old British and Dutch East India companies, but with far less success. From 1899 to 1914, the Imperial Government administered German New Guinea through a governor, who was assisted after 1904 by a nominated Government Council, its members

representing the wide variety of European interests in the colony. The boundaries of German New Guinea changed several times during the German era. The colony began as the north-eastern portion of the New Guinea mainland - Kaiser Wilhelmsland - and the islands of the Bismarck Archipelago. The northern section of the Solomon Islands was added in 1886, but in 1900 the border between German New Guinea and the British Solomon Islands was shifted under the provisions of the Samoa Agreement, leaving only Buka, Bougainville and a few smaller islands as part of the German colony.

Germany was a late addition to the ranks of Western colonial powers, and she did not possess the fund of experience and the sophisticated administrative machinery required for the governance of far-flung colonies that countries like Britain and France had painstakingly acquired over the centuries. German colonial activities were mainly centred in Africa, and few colonial officers were available for service in the faraway Pacific. Chancellor Bismarck no doubt saw the offer by the bankers and traders who formed the Neuguinea Compagnie to run the new colony as an acceptable solution to the problem. Initial German interest in New Guinea had been primarily commercial, and so it remained throughout the rule of the Neuguinea Compagnie and the Imperial Government. The Neuguinea Compagnie was a business enterprise, its aim to make money. The terms of its charter granted the Compagnie the exclusive right to acquire land, and many other rights and privileges, but in return the Compagnie was required to establish, finance and maintain the apparatus of government (apart from foreign relations and the administration of justice, which remained in imperial hands). Money was the driving force. When the Imperial Government took over the running of the colony in 1899, its overriding objective was rapid economic development, based on a German- controlled plantation economy.

The result was that almost all the development that took place during the thirty years of German rule was along the coastlines of the mainland and the islands. The plantations and all of the main towns and settlements were located either on the coast or within sight of it, or on rivers leading to the coast. Most of the interior remained unknown. Those expeditions that did penetrate the inland were mostly led by scientists, or by Lutheran missionaries. Few government patrols were sent out on purely exploratory journeys. No German surveyor had the extended opportunities of exploring and mapping unknown country. With very few exceptions, the surveyors of German New Guinea did their work on the coast, surveying plantations, trading posts, mission stations, towns and roads. The emphasis of this paper is on the work of the surveyors, the scientific expeditions that carried out a great deal of surveying and mapping, and the ships of the Imperial Navy, which carried out a lot of hydrographic work.

### **3.1 Hydrographic surveying**

It is perhaps surprising that comparatively little hydrographical work was done during the thirty years of German rule. Generally, only the immediate vicinities of the major stations and trading points on the mainland and in the islands, and the principal sea routes were accurately surveyed. More attention was paid to the major rivers than to the coastline. Only two survey ships were stationed in German New Guinea waters during this entire period.

### 3.2 The great balloon scheme

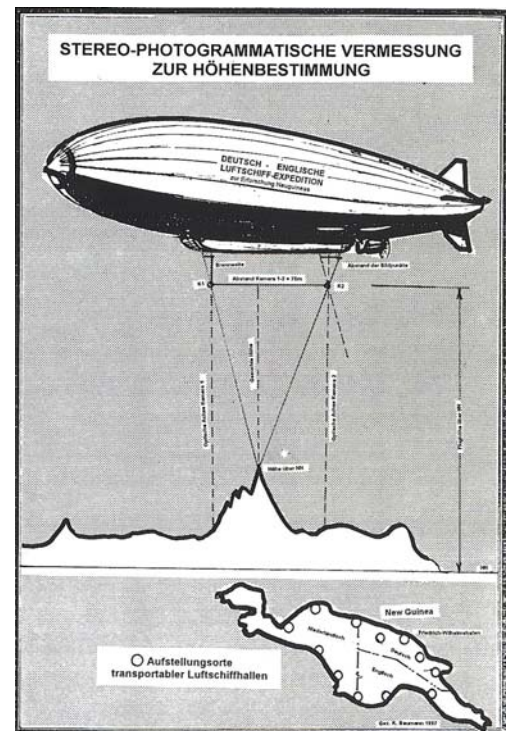
Perhaps the most extraordinary potential development in surveying in German New Guinea took place in the years immediately preceding World War I. In April 1911, Dr Wegener, director of the Meteorological Observatory in Apia, called at Sydney, Australia, in the vessel *Apia*. He announced that he was on his way to German New Guinea, to make preliminary arrangements for a series of journeys by balloon across the mainland, the purpose of which was to make aerial surveys. 'He hopes to be able to start on his air voyage next year or at the latest 1913,' said a newspaper report:

*The balloon will have no motor, but it is hoped to drift across the island in the month of August in front of the south-east trade winds. Dr Wegener... is an old hand at ballooning. He flew some years ago from Basle across half Europe and the English Channel to London, and later from Lake Leitsiz right away to Leicester.*

*The idea of crossing New Guinea by balloon is not a new one, Dr Wegener said yesterday. It was suggested by two German professors some time ago, and by other people, but they never put it into practice. The balloon will be a balloon proper, and not an airship like the Zeppelin. It will be round, and there will be no motor. The trade winds will be motor enough. . .*

In 1911, aviation was in its infancy. The first heavier-than-air powered flight had been made by Orville Wright on 17 December 1903. But lighter-than-air craft had been flying for a very long time. The first flight of a hydrogen-filled balloon took place in December 1783. The first really successful balloon took to the air 100 years later, in 1884. Thereafter balloon development was rapid. The early balloons were not powered, and were at the mercy of prevailing winds. The era of the fully steerable hydrogen-filled airship, or dirigible, with a rigid or semirigid metal or wooden frame covered with fabric and powered by motor, began when Count Ferdinand von Zeppelin introduced the first of his famous Zeppelin craft. The first flight of a Zeppelin airship took place on 2 July 1900.

Nevertheless, Dr Wegener's proposal was surely audacious. He planned to use a non-rigid, unpowered balloon in a series of flights before the winds across the virtually unexplored New Guinea mainland, across Dutch, German and British territory. The longest planned flight would be of 800 kilometres, from the Gulf of Papua in a north-westerly direction, and would take an estimated three days and three nights to complete. Expedition leader Paul Graetz pointed out that 'all lands and seas on this earth have been surveyed, except for large parts of New Guinea and which are still unknown', Millions of marks had been expended on protracted land expeditions such as the Sepik River explorations.



Much cheaper, and speedier, results could be obtained by photomechanical means from the air. Two special cameras sited 70 metres apart would be installed on the airship that would be employed. Vertical and oblique photographs would be taken by both cameras simultaneously, so that maps could later be produced at any desired scale. Aerial surveys would be much superior to land surveys using theodolites and other conventional surveying instruments.

There appears to be no technical reason why this remarkable project could not have succeeded (leaving aside the political question of obtaining the agreement and financial support of the governments involved). The concentration of talent and experience behind the planning was formidable. Had the project succeeded, it would have transformed the profession of surveying in New Guinea. But it was not to be. In August 1914, World War I broke out. Germany was at war with Britain and the Netherlands. Zeppelin dirigibles dropped bombs on British cities during the war. Airships would never be employed to survey the wilds of New Guinea.

#### **4. GERMAN SURVEYORS IN NEW GUINEA 1914-1920**

On 6 August 1914, residents of the Protectorate were notified by proclamation that a state of war existed between Germany, and England, France and Russia. German New Guinea was militarily in a hopeless position, far from the home country and virtually unarmed apart from a specialised police unit called the Expeditionary Troop, which had been formed in 1911 under the command of an experienced soldier. Its strength varied between 100 and 125 picked men, selected from the various out- station native police detachments. The troop was an elite body, its brief to engage in exploratory activity, and to be used where necessary for 'military' (that is, punitive expedition) purposes, but it was equipped only with Mauser magazine rifles, and would obviously be no match for trained, well-armed European soldiers.

That an attack would be launched on the Protectorate was undoubted. During the years of peace, the Germans had erected powerful wireless stations at strategic points in the Pacific: Yap, Nauru, Samoa, and at Bitapaka, in German New Guinea. Two fast, heavily gunned German armoured cruisers, *Scharnhorst* and *Gneisenau*, were in the Pacific with supporting warships when war was declared. Their movements could be controlled through the radio stations. The powerful German cruisers out- classed anything the British could bring against them. The British government sent an urgent cable to the Australian government. If it felt able to 'seize German wireless stations at New Guinea, Yap and Nauru', this would be regarded as a 'great and urgent imperial service'. In those days the links between the colonies and the motherland were close, and emotional. Without hesitation, the Australian government hastily formed a special force to carry out the wishes of the British government. Australia had from the first feared the German presence in New Guinea. Here was a grand opportunity to get rid of the Germans, and at the same time perform a vital service for the mother country. The Naval and Military Expeditionary Force of 1550 men. The force was embarked on the armed merchant cruiser HMAS *Berrima*, which sailed under naval escort for German New Guinea on 18 August 1914. A week before, a party from the Australian destroyers *Warrego*, *Yarra* and *Parramatta* had landed at Kokopo and cut the telephone line

to Rabaul. They then withdrew, leaving behind them a letter to the German authorities demanding that the Bitapaka radio station cease operation immediately.

The tiny German force could not hope to prevail against such an opponent, but they well knew the importance of Bitapaka to Germany, and were determined to defend it as best they could. It was hopeless from the start. Two parties of naval reservists were sent in from the Australian destroyers to capture the radio station. One encountered no opposition, but the other was ambushed by a German force of eight whites and some sixty native police troopers. In the brief fight that followed, the Germans were routed with a loss of thirty policemen and one white officer killed. Two Australian officers and four seamen were killed - the first Australian casualties of World War I. That was the first, and the last, armed resistance by the Germans. Terms of capitulation were drawn up and accepted on 17 September. Australia was now in military occupation of German New Guinea. For the next seven years, a succession of military officers would run the territory as Administrators. World War I was to unleash such worldwide hatred and bitterness that the face of war would be changed forever. War had once had its elements of chivalry, but World War I changed that irrevocably. But at this its beginning in PNG, it was still possible for mortal foes to be merciful.

#### **5. OBERLEUTNANT SURVEYOR AND EXPEDITION LEADER IN GERMAN NEW GUINEA 1914-1919: HERMAN DETZNER**

The saga of the journeys of Hermann Detzner is one of the most remarkable in the annals of New Guinea exploration. Hermann Detzner was a military surveyor. Born in Speyer, Austria, he was thirty-two years old when World War I broke out, with a decade of service behind him, including a period in the Cameroons, where he had been associated with British officers as a member of joint British-German exploring and survey expeditions from 1907 to 1909, and in 1912-13. He arrived in Rabaul on 18 January 1914. He was of medium height and slight of build, but he was tough and wiry - and exceptionally determined. *Leutnant* Detzner's commission was to lead an expedition to verify the work of the 1909 Anglo- German Boundary Commission. Papuan gold prospectors were known to



be crossing into German territory, which from the German point of view made it essential that the accuracy of the border be finally and definitely established. The expedition commenced in Feb 1914. Detzner's careful work revealed slight inaccuracies in the 1909 survey. An assessment of his work made at Rabaul said that Detzner was working

*with great persistence, circumspection, and good success. .. Apparently the English surveyed borderline deviates from the 8th degree south parallel to the south, i.e., it has been surveyed to our advantage..*



By the end of March, Detzner had concluded that the border corridor was already showing a deviation of more than 650 metres to the south of the 80S parallel. Detzner, of course, remained ignorant of the war clouds gathering in Europe. He was deep in the bush, heart and soul bound up in his surveying. The constant rains failed to dampen his spirit, although many carriers suffered from colds and chills, and from foot injuries. Five carriers had to be discharged, and returned to Morobe as second in command. Konrad was off duty, sick with malaria, from 25 to 29 March. The expedition maintained good relations with the native tribes it encountered. Detzner found that the further west they travelled, the more the deviation of the border increased.

At the outbreak of war, Detzner and his party were somewhere in the vicinity of Mount Chapman, at a base camp which he described as being set with forget-me-nots, alpine roses and violets. They set off from this mountain camp in a north-westerly direction along the Papuan border, skirting Mount Lawson, crossing the Tiveri River into the land of the fierce, bark-cloaked bowmen called Kukukuku by the people of the coast. It was now the beginning of October. Detzner claimed in the book he wrote after the war (the translated title is *Four Years among Cannibals, from 1914 until the Armistice under the German Flag in the Unexplored Interior of New Guinea*, published in Berlin in 1921) to have marched on to a point beyond Mount Joseph, from which he could see thickly populated valleys away to the north.

Second in command, Konrad had earlier left to collect fresh supplies being carried up from Morobe, and Detzner decided to return and tell his companion of his findings. Then a messenger arrived from Konrad, carrying a note that had been found in the hand of a dead carrier, who had been left at one of the expedition's camps with a few policemen and sick carriers, and had died of pneumonia. It read:

*To the officer in charge of the German forces. I have to inform you that war has been declared between Great Britain and Germany on August 4, 14. In order to avoid unnecessary loss of lives I advise you to come in as soon as possible to the Nepa camp at the Lakekamu goldfield which you will reach after five day's march and to surrender there with all your men. You will be treated as an officer and a gentleman. Two native policemen and carriers I took along as prisoners of war.*

This was the first word Detzner had received of the outbreak of war. The news undoubtedly came as a severe shock to the German surveyor. In his book, he lamented,

*For three and a half months the Fatherland has been engaged in war - a war of life and death, it was immediately clear to me - with its hated rival, England - while I had been wandering aimlessly in the interior of an island on the other side of the earth!*

Detzner firmly rejected the idea of surrender. As a patriotic German, he would carry the flag. In his book he says that he decided to attack Nepa, but after two days abandoned his intention, deciding instead to join the German forces.

The expedition set off along the Langimar-Watut divide, and travelled by raft down the Watut to its junction with the Markham River, and on to the Lutheran Mission station at Gabmadzung (near the Nadzab International Airport of today). Detzner and Konrad now learned that Morobe Station was apparently still in German hands. They continued on to the Lutheran station at Burgberg (Lae), where the mission schooner *Bavaria* was made available for their trip to Morobe. The schooner foundered, but as Detzner later wrote a friendly chief loaned the party a big seagoing canoe. By the time they reached the Lutheran station at Malalo, most of the native police had deserted. Both Banik and Konrad were at Malalo, and were suffering from malaria. They decided to stay there. On 26 February, they were captured by an Australian patrol after a short struggle, and were interned in Australia. Detzner and Klink carried on. They made for Singaua Plantation, east of Burgberg (Lae), where the manager, Hans Andexer, made them welcome. Detzner and Klink soon heard of the capture of Banik and Konrad. They knew the Australians would be out looking for them. Several parties had, indeed, been sent out in February, without result. At this stage, Detzner and Klink were still presumed to be in the interior. Detzner realised that Singaua was no longer a safe refuge. He set off along remote mountain tracks to try to reach the Lutheran Mission station at Finschhafen. He was just in time - soon after his departure, a patrol led by Captain Nelson searched the plantation. On 10 March 1915, Klink was captured and Detzner arrived at Finschhafen.

So there was Detzner, on his own against the Australians. All but the most stubborn of men would have accepted the inevitable and surrendered, but the surveyor had decided that death would be preferable. He climbed to Sattelberg, the Lutheran mountain station overlooking Finschhafen, with a few loyal police and carriers. The veteran missionary and explorer Christian Keyyser was in charge. Keyyser felt it his Christian duty to do what he could for the brave surveyor, but he was bound by the strict order of his superior. It was a terrible dilemma for Keyyser, but then the local villagers offered to provide Detzner with food and shelter. Detzner agreed to remain quietly at his camp, and not to take aggressive action against Australian forces. Keyyser vowed he would keep inviolate the secret of Detzner's whereabouts, and there is little doubt that he kept in contact with and quietly assisted Detzner. There Detzner stayed throughout the long war. He periodically moved to other locations, singing patriotic songs as he carried aloft the imperial flag, but always returning to his Sattelberg base.

In his book, Detzner claimed to have made three attempts to reach neutral Netherlands New Guinea, two by land and one by sea. The principal attempt was made in 1916, along the southern slopes of the Bismarck Range towards what he called the Hagen Mountains. Before turning back (many of his carriers were sick or exhausted, and he was suffering from ulcers and rheumatism), Detzner estimated that he had reached a point west of the 145th meridian, which would have unquestionably given him the honour of being the first white man to see the valleys of the Highlands. He wrote:

*The Hagen Mountains were there before us, and the Sepik depression was 200 kilometres away, a distance now too great for us to cover. But I found consolation in the thought that I had penetrated into regions that no white man had ever visited . . . I would like to establish the fact that instead of encountering uninhabitable mountain wildernesses in this region, I have discovered a rich agricultural district of wide-open valleys, inhabited by natives of a Semitic type, which may be taken to represent the original Papuan stock.*

Detzner's descriptions of the terrain are extremely vague, coming from a professional surveyor. (Detzner mentions leaving his survey equipment at Morobe when he escaped - it is probable he had few, if any, instruments with him.) Detzner names few villages or streams. He states that the valleys he discovered were thinly populated, whereas they contain large populations, by New Guinea standards. He states that the highest point in the central range was 3600 metres, a miscalculation of more than 1200 metres. Detzner wrote of an attempt to break through to Netherlands New Guinea, by sea, after his return from the Hagen Mountains. He left the mouth of the Quoma River (west of Sio Island) on 4 May 1917, in two canoes manned by a score of native paddlers, and travelled by night. They got as far as Erima Harbour, and there found HMAS *Una* - the former SMS *Komet*, which had been taken over by the Australians - barring their path. So Detzner and his men gave up the attempt, and returned to the Sattelberg camp by land. He later learned that patrols sent out from Madang had permission to shoot him on sight. For the rest of the war, Detzner stayed in the Sattelberg district, studying the way of life of the people of the Huon Peninsula and observing the flora and fauna. He does not appear to have ever contemplated surrender. He did make one more attempt to break out, but this was abandoned when he suffered a severe internal haemorrhage, and had to be carried back. It took him a long time to recover his health.

On 11 November 1918, a small Neuguinea Compagnie vessel arrived at Finschhafen, bearing the momentous news of the end of World War I. An excited mission worker brought the news to Detzner - the Big Fight was finished. A letter from Christian Keyyser confirmed the news. On 21 November, Detzner wrote to District Officer Nelson, offering to surrender. On 9 December a small sailing ship appeared, on board the deputy district officer from Morobe, Captain M.J. Dillane and a detachment of native police. Meticulous to the last, Hermann Detzner came down to Finschhafen in full-dress uniform, complete with sword and sun helmet, and formally surrendered. He was treated with respect - even his enemies could appreciate the dimensions of his achievement, which bore (on a much smaller scale) comparison with the wartime exploits of the great German commander von Lettow-Vorbeck in German East Africa. Detzner was taken to Morobe - the place where his incredible odyssey had begun - and held there until 22 December 1918, when he was embarked on the steamship *Sumatra*, arriving in Rabaul on 5 January 1919. He was hospitably received by the then Administrator, Brigadier General G.J. Johnston, who at first permitted him to retain and wear his imperial uniform. On 31 January Detzner received the following order: 'You are requested to embark immediately on board SS *Melissa* for Australia, which leaves at 11.30 am'.

Detzner was interned at Liverpool before returning to Germany. He wrote his book, and on its publication in 1921 became a celebrity. At first, his claims of geographical discoveries in the interior of New Guinea were accepted at face value, and he was awarded the prestigious *Nachtigal Medal* by the German Geographical Society. But as time went by and new evidence was unearthed, it began to appear that much of what Detzner had written was fiction. Some of the most bitter criticism came from Lutheran missionaries like the reverends Otto Thiele and Christian Keyyser, the latter a genuine explorer. It has been suggested that Detzner claimed the credit for work done by the Lutherans, and that he drew on the published accounts of the earlier explorers.

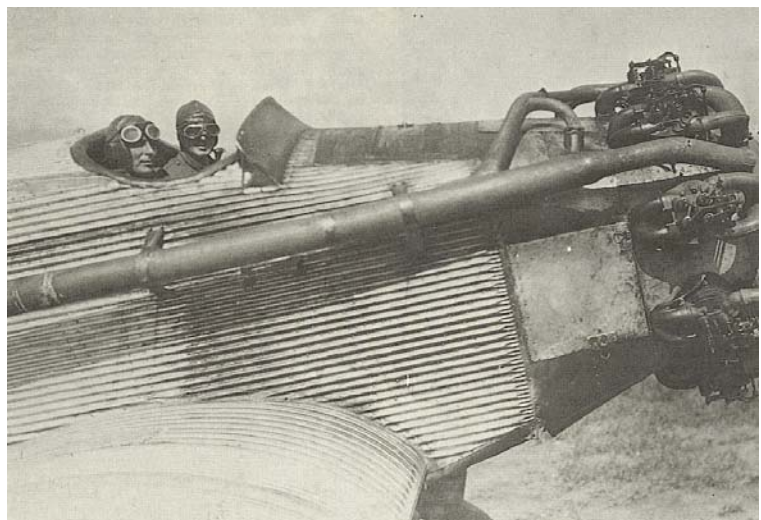
In 1932, Detzner finally settled the question. He published a statement which read, in part:

*I wish to state that my book, Vier jahre unter Kannibalen, contains a number of misrepresentations regarding my journeys in New Guinea. The book in question is a scientific report in part only; it is primarily a fictional account of my experiences in New Guinea and owes its origin to the unusual circumstances prevailing in Germany at the time of my return. Some of the journeys I had actually undertaken are not described at all; on the other hand it contains passages that do not correspond with the facts. Thus in 1914, during my attempt to cross Kaiser Wilhelmsland from east to west I did not reach Mount Joseph. The described break-through attempts did not take place...*

Why did Detzner resort to lies to embellish his wonderful story? The unadorned truth would have been enough to establish him as one of the great figures in New Guinea history. For four years this young surveyor had remained at large, a fugitive in enemy territory. Although it is true that few organised attempts were made to hunt him down, it is impossible not to admire his sheer elan, his courage and tenacity. And there are enough facts mixed in with his fiction to ensure that the name of Detzner will never be forgotten.

## 6. JUNKERS AIRCRAFT INTO NEW GUINEA

This is the story of the development of the remote but fabulously rich gold fields in the rugged mountains of the New Guinea Mandated Territories, one of the world's last frontiers, with German Junkers aircraft. No country owes more to the aeroplane than does New Guinea, that great mountain-spined island hooked across the northern thrust of the Australian continent, a cloud-girt land that lay for so long unknown while the navigators and explorers of the West filled in the other blank spaces on the terrestrial

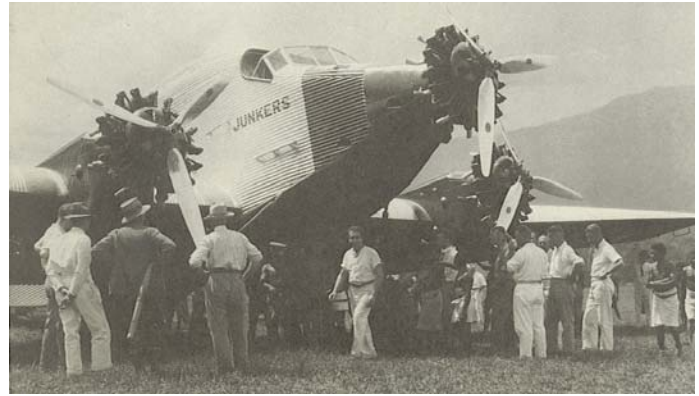


globe. No country owes more to the brave men who pioneered the use of the aeroplane in this hard land. A golden thread runs through these pages, for in New Guinea the story of gold and the aeroplane are intertwined. The story begins not long after World War One and stopped with the furious onslaught of the victorious forces of Imperial Japan on New Guinea during World War Two. This marked the end of a truly unique era in the history of world aviation. For a time span of but 20 years, from 1922 to 1942 a massive airlift occurred that in those days of pre-WW2 aircraft matching the later famous airlift into Berlin.

The first aircraft which dominated this massive airlift in the late 1920s was the Junkers W34 (pictured above). The emphasis here is upon the part played by the German Junkers aeroplanes in the exploration and development of what is today Papua New Guinea.

The first Junkers W34, VH-UGZ, was bought disassembled in big crates to New Guinea and made its test flight on 10<sup>th</sup> April 1928. This aircraft could carry two passengers and a ton of freight in the cargo compartment. In the first 19 days of operation the W34 No 1 earned gross revenue of £2,649 with field costs of £360. The second W34 was ordered on the 8<sup>th</sup> June 1928 and arrived in December. By then No 1 W34 had carried 500 passengers and 300 tons of freight. Guinea Airways eventually purchased five of these simple, rugged and honest Junkers machines unmatched at the time by any other manufacturer.

**Road/Rail or Air?** The concept of building a road or railway into these rugged remote regions was floated again and again to access the enormously rich alluvial gold deposits that had been proven. However the significant amount of funding required for this road/rail could never be possible in the Mandated Colony of NG with its miniscule budget. Nor could the mining companies tolerate the several years of waiting for the road or railways to be built into these rugged remote highlands of New



Guinea. To overcome this, the mining company, Guinea Gold, chose to commence their own aviation transport company. To shift in the enormous tonnage of freight and personnel to mine the gold required the construction on site of several 1500+ ton dredges with the heaviest part scaling over 3 tons. In 1927 the world's most successful air transport company Guinea Airways was commenced. The only aircraft available in the world possible to shift in the tonnages required was the recently developed Junkers G31. Three were purchased to complement the five W34 Junkers that Guinea Airways already had operational. The first two G31s were called Peter and Paul, the third simply G31. These G31s were absolutely vital to the dredge program. They could be loaded or unloaded in 15 minutes through a large open hatch on the roof with the gantry crane above the aircraft. The G31 was an already proven aircraft with German State airline Lufthansa. Designed for passengers, the G31 could readily be changed to a freighter configuration. The recommendation was for "tri motored metal planes that could safely carry dredge parts weighing up to 3.5 tons loaded in 15 mins through the hatch." The rest is history. It is difficult for us today to appreciate the financial significance of the Junkers airlift into New Guinea in the depression years of the 1930s. Pictured above is the Junkers G31 VH-UOU *Paul* after first flight in New Guinea, April 1931

Footnote: Linke & Linke Surveys was involved in two identical aviation projects into PNG in the 1990s. The first was surveying for design and construction of a high altitude runway, roads and facilities to handle the C130 Hercules Aircraft. These Hercules carried all the freight and personnel required to develop the Kutubu Petroleum Project into a non-road accessible area of the rugged highlands of PNG. The second project was to develop the world's largest gold deposits on the remote PNG island of Lihir. In this instance, freight arrived by ocean vessels, but a sea level airstrip was required for personnel transport using the nimble Stol aircraft the Twin Otters.

## 7. GERMAN SURVEYORS WITHIN PNG AFTER WORLD WAR 2

The work of surveyors in the Pacific War is a major story within itself. The Japanese bombed Pearl Harbour on December 7<sup>th</sup> 1941 then marched through Asia taking Singapore and capturing the Dutch Colonies (later to become Indonesia).

After losing a major sea battle in the Coral Sea (east of PNG and north of Australia) to the United States, the Japanese attempted to invade Australia overland via PNG, entering New Guinea through the northern Mandated Territory that had previously been the German area of influence. The Australians fought the Japanese in a bloody war of attrition on the new famous (in Australia) Kokoda Track from New Guinea to Papua. Whilst this savage battle was being fought in the Highlands, a major land/air battle was fought on the eastern tip of PNG at Milne Bay. This battle was fought to deny Japan a base in the area, the Japanese in reality had over extended themselves. The Australian victory at Milne Bay was the first defeat of World War II suffered by the Japanese. The second defeat suffered by the Japanese was being driven back over the mountains in PNG by the Australians and eventually right out of New Guinea. From here the might of the US overwhelmed the rest of the war. After the Pacific war, the two territories were combined to form Papua New Guinea. Many areas had been ravaged and extensive survey work was required throughout the Territory. A critical area was the survey of the international boundary between PNG and what in 1963 became the Indonesian province of Irian Jaya or west Iran, the former Netherlands New Guinea. These topics are all covered in James Sinclair's excellent reference, Mastamak.

German surveyors were eagerly sought in Australasia after the devastation of World War 2. Many were willing and able to exit the unhappiness of Europe in the 1950s and 1960s. Several senior surveyors were recruited for the massive Snowy Hydro Electric Power Scheme to be built in the South East Australian Alps using the very significant snow melts that fed the famous Snowy River. This water was then redirected into the dry inland of Australia for irrigation. Similarly, several German surveyors were recruited into PNG to assist in the massive amounts of survey works needed there after World War 2. One remained teaching surveying to nationals at PNG University. Another died and is buried at Bougainville (Refer Mastermak).

Another worthy German survey reference is this photo of an original German survey pillar established in the days of the German Protectorate. This survey pillar at Kieta was utilised as a datum point for the aerial mapping of Bougainville. This photograph says it all, the new high tech survey based on the old survey monument established by German surveyors. The Bougainville Mine development one of the world's great copper and gold ore deposits was based on this German established survey data.



Unfortunately in 1989, Bougainville Island went through a massive upheaval in a local revolution led by Francis Ona. This revolution closed down the mine causing severe hardships, medical/malaria mayhem etc. The mine had provided PNG with some 20% of export income plus developed a strong vibrant local economy, medical and educational services and employment and income for local workers.

This was all lost and the company and government ultimately walked away. The revolutionary leader Francis Ona, a local national had been trained within Australia by another leading Australian mining company as a survey worker plus he evidently knew a lot about and stole explosives from the Bougainville Mine. The effects of this very ferocious revolution are still being felt in Bougainville and throughout PNG. Francis Ona died on July 24<sup>th</sup> 2005, a reconciliation and rebuilding process has commenced but has a long way to go. The mine is still not operational 17 years later.

## 8. CONCLUSION

Full independence for Papua New Guinea from Australia occurred on 16<sup>th</sup> September 1975. At that stage indigenous surveyors had taken over all the top positions in the survey divisions of government. Many nationals were increasingly active in private surveying practices. I wish to thank the organizers of this FIG conference here in Munich plus all the people who have worked hard to put on yet another History of Surveying seminar especially our illustrious mentor and convenor, Prof Jan de Graeve. In closing I wish to again place on record my heartfelt thanks to the author of *Mastamak* and *Wings of gold*, James Sinclair District Officer PNG 1948-1975. Also the books' sponsor, PNG surveyor extraordinaire Fred Pratt, plus the Survey Association of Papua New Guinea.

**The ability to read a theodolite, measure a line, produce a map, or use this information scientifically and authoritatively is a wonderful skill to have or develop. To utilise these skills in the rugged, undeveloped areas of Papua New Guinea whilst being a tough assignment has created a worthy band of PNG surveyors. Surveying and surveyors themselves have impacted significantly on PNG since the 16<sup>th</sup> Century.**

## REFERENCES

- Sinclair, J., 2001, *Mastamak: the land surveyors of Papua New Guinea*, Hindmarsh, South Australia, Crawford House Publishing.
- Sinclair, J., 1978, *Wings of gold: how the aeroplane developed New Guinea*, Bathurst, New South Wales, Pacific Publications,

## BIOGRAPHICAL NOTES

Robert Linke studied and trained for surveying in Melbourne, Australia. Robert then moved around Australia to gain a wide spectrum of experience in heavy construction surveying. In the 1970s Robert, with his brother Peter, commenced a survey practice. This practice has undertaken a variety of precision surveying within Australia and throughout the Asia Pacific region. Linke & Linke Surveys has received Excellence in Surveying Awards for some of these projects. Linke & Linke Surveys was involved in the surveying for the design, construction and certification surveys of the new Hong Kong airport. Linke & Linke Surveys has been involved in several large scale survey projects within PNG. Robert is also a founding member of the Mapping & Surveying History Association in Australia. He has spoken at several FIG History events on the early surveying and mapping of the Australasian region.



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