

[Front cover]

Diary. {76}

1902 Jun 12 – Dec 14

[Front endpaper]

[Blank page]

[Page I]

[Blank page]

[Page II]

[Blank Page]

[Page 1]

Samoa.
1902.

1902 June 12, Thursday.

After arriving yesterday evening and already having had the visit of Mr. Lammert with whom I had a bottle, early up this morning and with him after breakfast set out for the first inspection tour. He has selected several places and it is a matter of choosing the best of them. We first go west along the main street of the village through Matafele and Songi to the Mulinuu Peninsula. The first point for the observatory is the area where the peninsula is narrowest. The palace of the last king, Malietoa Laupepa, now inhabited by judge Doctor Schulz, and the somewhat neglected German soldier's grave, are followed by an open space that is quite suitable for setting up the huts. The Anglo-American grave follows soon, and the flagpole. Then begins the village of Mulinuu and palm trees and bananas. One concern is that traffic to this village is via the place, the route could perhaps be relocated but this would leave a heavily trafficked road immediately adjacent to the observation site. The following Samoan village lies in 2 rows along the peninsula, the path formed by an avenue of palm trees lies in the middle, all lawns in front of the houses, behind them a thicket of bananas, towered over by palm trees. It's a 10-minute walk, among the houses on the left is the house of Mataafa, which has solid woven walls, and the somewhat larger meeting house, in which we saw a Samoan woman weaving. Inspecting an ordinary but empty dwelling house on the right-hand side, we were invited for a sip of kava (ava) by a countryman¹ from the neighbouring house. We are happy to follow. Lammert has already learned a few Samoan chunks in the 4 3 weeks he has been here and thus knows at least the most necessary words of greeting. On his advice, I only take a very small sip of kava, a bowl of which stands already ready. There are only 3 men present. We soon go further and reach the northern tip of the peninsula at the last huts. There the bananas stop and you have a clear view of the sea between the palm trees. At [...]²

¹ [cannot be clearly resolved]

² [cannot be clearly resolved]

<u>white</u>	<u>red</u>	<u>blue.</u>
<u>Things, terms</u> (except	<u>Places etc.</u>	<u>People.</u>
geographical etc.)		
Merct & abstract	<u>Squares, houses</u>	
Appearances,	<u>geographic names</u>	
actions,		

In the post I found a letter from Doctor Stolze, according to which he intends to regularly send me paper for the magnetic recorders; further from the bureau cards and letters, nothing else except a copy Connaissance des temps from publishers with invoice and some magazines, as well as, an "Astr. Ges. Stirnkatalog"³ by Engelmann.

Silver bromide paper. ⁴	Mulinuu,	Lammert
Connaissance des temps	Postamt	Stolze
		Schultz
		Malietoa
Stirnkatalog der A.G. ⁵		Engelmann
	Tiafau	

Observatory Square

		Mataafa
	Fono house	
Flatten.		
Kava		Lammert

Lemuta

³ Astronomische Gesellschaft Stirnkatalog [Star Catalogue of the Astronomical Society]

⁴ [paper for recorders]

⁵ Astronomische Gesellschaft [Star Catalogue of the Astronomical Society]

a distance of 2 kilometres, this peninsula is protected by the reef from the direct effects of the sea and the water on the beach is very calm. This is the second point picked by Mr. Lammert. I had always had it in mind and had been encouraged by Doctor Kramer in Kiel, since it is so far removed from the ferrous basalt soil of the island massif. No traffic is to be feared here either, since the peninsula, which is somewhat extended to the east and south, is still not inhabited. On my return, I make my inaugural visit to the governor, still in my grey traveling clothes – although I had already picked up my luggage from the customs office in the morning, the hotel porter picked them up in 2 cartloads without customs being required – but I hadn't unpacked anything yet. A black police soldier fetches the servant. In a larger room with a round central table – the boardroom of the governorate – I wait a few moments for the deputy governor Doctor Schnee, who is sitting in an open adjoining back room. – He welcomes me and promises his cooperation in case of any difficulties. Initially, he intends to take over the expenses for the construction from the government treasury, subject to a later transfer to the funds of the "Gesellschaft der Wissenschaften"⁶. While I have breakfast in the morning with Doctor Penzl, a Hungarian lawyer, who is staying next to me in the Central-Hotel, I have lunch with the officials in the same room; Doctor Penzl now has to dine downstairs with the other guests. Land surveyor Haidlein, whom Doctor Solf told me he had the best knowledge of the island, as well as postal manager Traub eat with us. A few days later, the judge, who is on a business trip, and the customs officer Schmolck, who is temporarily keeping his predecessor Reinhard company, who is staying at the Hotel "International" and has already left in vain, join. The steamer Kawau had not been able to overcome the high seas and had returned with him to Apia, where he had already said goodbye. In the afternoon we inspected the other two sites for the observation park located near Apia. First, Mr. Lammert took me to the district of

⁶ [Society of Sciences]

	Reef	
		Krämer, Doctor Augustin
Basalt		
	Baggage Customs office Matafele Governorate	Doctor Schnee Fitafta
Observatory, construction, costs	Governorate treasury	
Breakfast Lunch.	Central-Hotel	Doctor Penzl Officials dining table. Doctor Solf Haidlen Traub
	Hotel International.	Schmolck Reinhard
Kawau Rough sea		

Matautu, which borders the bay on the east side, correspondingly Mulinuu is on the west. But there is no peninsula sticking out here, ~~the land~~ and the coast here continues eastwards from the tip. So there is a lot of traffic here, especially after the Vailele plantation. Near the top is the pilot station, consisting of a signal mast with a signal cannon and the pilot's house. Farther on there is an open space on the sea side of the road, and on the other side a still larger one, bordered by native houses. We come to the conclusion that, despite the traffic, the observatory could very well be located here. A view of the mountain peaks, which seems valuable for the survey of the island to be carried out by Mr. Lammert, is quite good here, as on Mulinuu, or can be reached with few palm sacrifices. However, I am dependent on the immediate {nearness}⁷ of the astronomical pillars at the observation huts, which can also be used by Mr. Lammert, because of the desirable help and possible substitution. 2 rusted cannon barrels lie on the square, probably a remnant from the war of 1899 or earlier. The earthquake hut would be good in their vicinity, and the two magnetic huts could be placed 30-40 m away in the direction of the native huts. The astronomical pillars would be well placed on the other side of the street, near the water. On the way back I inspect 2 empty houses in the neighbourhood; the nearer belongs to a native; his daughter, Miss Celessa, a teacher at the German school, is picked up by the neighbours who live across the street and shows it to us. Behind the house is a massive round small powder tower. The other house next to the shipbuilding yard has a shop with wall shelves very suitable for examining the instruments and it is a bit friendlier and better maintained. Mister Lammert then shows me his future official house, more inland to the south. It also has a fairly large courtyard or garden area surrounded by forest or plantings, only a small view of the nearby Váea mountain, also

⁷ [inserted]

Matautu
Mulinuu

Vailele
Pilot station

Surveying

Pillar

Cannons

Accommodation

Folau
Selessa

German School

Do.⁸

Powder tower
Shipbuilding Yard

Motootua

Vaea mountain

⁸ ditto

less suitable for magnetic observation because of the basaltic soil. There is enough space in the house so that I could still find accommodation there next to him if this point were suitable for the observation place. – Nearby is the newly renovated public bathing area on the Vaisingano river. We take a bath there around sunset after the end of these inspections, for which I buy bathing trunks and a towel in the next shop 10 minutes away.

1902 June 13 Friday.

In the morning I and Mr. Lammert visit the surveyor, Herr Haidlen, in the government, where he takes care of the treasury business. He explains that the Matauta point is quite unsuitable. In the bad season, the sea often splashes right up to the pilot house, the surf there is not held back so strongly by the reefs. The coral reefs ~~on~~ around Mulinuu are also much further away, so there is never a risk of flooding or splashing even in strong seas. Also, the circular place in front of the Samoan houses in Matautu is often used by the Samoans for war games etc., it is the village square of Matautu. Haidlen definitely recommends Mulinuu, where the Samoans have no business either. We then go back to Mulinuu. Provided that some palm trees can be clipped, this place turns out to be quite suitable. On the way back we also ask about housing opportunities nearby and inspect 2 houses; one is a rear building at Rasmussen, ¼ or half-cast lady, but it's a bit small, only 2 rooms. The other is intended by Mr. Planter Schroeder for the use of his children, who are to go to school here, and the assistant to the Samoan newspaper lives in it as a friend of the family and protector of the children. One of the half-cast kids lets us in and entertains us until its protector arrives, but he doesn't want to hear about release. The retired medical officer, Doctor Schwesinger, also appears at the table. At this time, he vaccinates all the native children in the area. – In the afternoon I visit Doctor Funk, he shows some popular astronomical books and maps, agrees with Mulinuu and I then go to Mr. Riedel, the head of the local company branch. His wife, who is English, receives me, he is out, would be back at 5 from the Hauroto, which has been in port since yesterday morning and is scheduled to leave in the afternoon. She comes from

Accommodation

Bathing place
Vaisingano

Bathing trunks
Towel

Haidlen

Government
Treasury.
Flooding
Surf

Reef

Games of the natives

Village square

Mulinuu.

Palm trees

Rasmussen
Schröder

Mohr

vaccinate

Doctor Schwesinger

Doctor Funk

Riedel

Hauroto

Auckland and goes to Sydney. From the veranda of the Hotel International, where Wolfhagen and Lammert are staying, I immediately see a boat going ashore from the ship in the direction of the company, and I immediately go back. Herr Riedel stood with Mr. Hanssen, his general manager, in front of his garden door and I go in with him; he is very accommodating and I give him the bill of lading. He intends to make 2 rooms available to me in the near future as his wife is leaving Apia for rest {on Utumapu}⁹. But since it's only supposed to be for a few weeks, it's out of question for me. Then bathing again in the evening, as from now on every evening.

1902 June 14 Saturday. Woken up early in the morning by a thunderstorm that was noticeable here at this time of the year and consisted of a few strong bangs, I soon go out to look for an apartment near the now chosen place of Mulinuuu, especially a place where the instruments can be unpacked in peace and can be adjusted. The only one that is available in that area is a house that is still inhabited, but will probably be vacant by July 1st, it is in the Songi village or district close to Mulinuu, which I had heard about on the first two days, but whose owner, Baker Rathke, I had not yet caught. The inspection reveals a very suitable building, the shop in the front right is closed, in the front left a larger room, in the back 2 smaller ones, between them a hallway, from there you go into the cooking shed on the area with lawn there are 3 smaller houses, of which one the usual shower bath, one a shed, the third toilet. The front of the house has a veranda, which also extends to the left of the larger room. It is about 10 minutes to walk to the top of Mulinuu from there. I first go to the governor, who accepts the decision about the observation site and asks me to accompany him and Wolfhagen to Mataafa on Monday afternoon, which I gladly accept, since I have to introduce myself to the old chief. During a visit to the observatory I noticed that the tomb of the last king, Malietoa Laupepa, was there and I decide not to include this spot in the observatory, because otherwise, although Mr. Haidlen denies it, political involvement could not be ruled out, just like it, according to him, would be inevitable on Matautu, where just on this place, according to him, the last war broke out

⁹ [inserted]

Veranda

Hotel International

Wolfhagen
Lammert
Hanssen

Bill of lading

Utumapu.

Bathing

Thunderstorm

Accommodation

Songi

Rathke

Shop room
Room.
Veranda
Shed
Shower bath
Privy

Doctor Schnee
Wolfhagen
Mataafa

Politics.

Lemuta
~~King's tomb~~
Matautu

In the afternoon, I make a monthly contract with Mr. Rathke for 18 dollars, in which is always calculated despite the German currency, except that now 1 dollar is taken to be exactly 4 marks, which is a few pfennigs too few.

In any case, the monthly rent is 72 marks. I can get the now unused shop right away, and he also wants to get me a servant from his wife's relatives (Samoan).

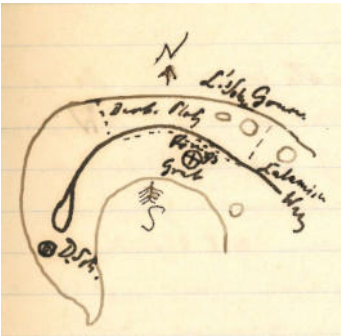
In Mulinuu I negotiate with the owner of the third last hut on the north side, Lalamisa, about the last two huts. I learn that they belonged to a chief who recently died and left the last one to Lalamisa's son, who lives abroad, and the second to last one to the governorate. He wants to write to his son on Monday whether I can borrow or buy the hut, in any case I may use it as soon as necessary. It is only small and not very well maintained; the governorate hut is better. Mr. Lammert serves as my interpreter during these negotiations. Mr. Haidlen was also present at the negotiations with the governor. I insisted that the dynamite shed planned at the end of the path on Mulinuu would not be used immediately, but possibly only after the observations had been completed. However, the governor rejected this delay, since in its current location in the middle of the heavily populated Matautu, in the courtyard of the Celestian house, it would pose too great a danger. He wants to store half of it in the petrol shed at the beginning of Mulinuu. The dynamite, by the way, will always be brought and fetched by water. It is indispensable for the road construction that is currently playing a major role in this area of the island.

Mr. Haidlen also claims that there is no other place {for him}¹⁰.

1902 June 15 Sunday. Woken by an earthquake 6 ½ o'clock, 2 shocks. It quakes every few days at this time, so plenty of material for later. I go to see the photographer Davis who lives opposite, English, has been here for a long time, intermittently. He is very friendly, grants me space and water in his darkroom so that I will probably develop there most of the time, especially now in the early days when there are still over 100 travel plates to develop. Later, Doctor Funk pays me a return visit, although my visit to him only had the character of informing me about the best place for the observatory. For the rest, I celebrate Sunday, read the numerous numbers of the "Astronomische Nachrichten"¹¹ and go bathing.

¹⁰ [inserted]

¹¹ [Astronomical News]



House rent
Dollar

Rathke

Shop

Mikaele

Rear building
Big house
inheritance

Lealamisa

Faipule

Interpreter

Lammert

Dynamite shed

Haidlen

Dynamite hazard

Petrol shed

Road construction

Earthquake

Develop

Davis, Photograph

Recordings

Funk

Bathing

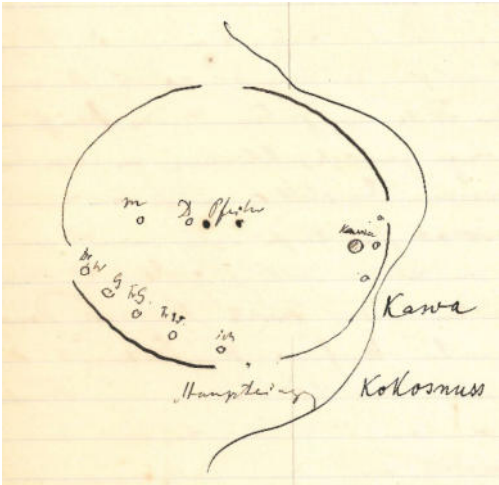
Astronomische
Nachrichten¹²

¹² [Astronomical News]

1902 June 16 Monday. Work begins early on Mulinuu under the direction of the road master Stünzner. Several holes are dug up to 1 ½ metres, where water appears. The soil is uniformly humid sand, fairly loose, half black, half white-grained, and the same on the beach itself. Together with Mr. Lammert, I first mark out the earthquake hut and 3 meridian pillars, the middle one for the passage instrument, the other two for universal instruments. The magnetic huts are to continue westwards. In the afternoon, I prepare to visit Mataafa and go to the Hotel International at about 4 o'clock, where I await one of the governorate's carriages with Doctor Wolfhagen and his wife. The carriage has only one horse and one axle. We drive a short distance to meet the governor, soon he arrives with his wife in the better governor's carriage with 2 horses and 2 axles, after the greeting and after I have been introduced to the governor's wife, the convoy starts moving, governor and wife in front, we strangers follow. The governor drives the well-known, only way to Mulinuu and turns off at Mataafa's house onto the grassed verge that stretches about 50 metres wide in front of the huts, a few policemen stand there at a respectful distance, Mataafa comes out and greets us by shaking hands after we have dismounted. We enter his simply built house and sit down immediately on the left against the wall in the prescribed high seating, Doctor Wolfhagen on the left, then Governor and Governess, Mrs Wolfhagen, me. Mataafa sits opposite us on the left, the interpreter next to him at the central pillar. In the hut, apart from pictures, there are only mats; on the far right is a kava bowl with many feet. An elderly Samoan woman, who is supposed to be one of Mataafa's daughters, sits next to it with an assistant Samoan woman who first hands everyone an open coconut for refreshment, on her other side squats a secretary. After the refreshment, the conversation begins, with everyone exchanging compliments {with}¹³ Mataafa, Doctor Wolfhagen begins and so on; as I am about to speak, people are already clapping their hands, as the kava has been finished in the meantime, without anything unsavoury being seen, only the squeezing or sifting with the hands had been noticed. The secretary now gives a short speech and Madam Governor gets first, then the others according to rank and dignity, Mataafa after me. With that, the ceremony is over and some conversation follows, during which I give him Solf's greeting. The governor himself interprets my words and Mataafa's reply that he will do his utmost to support my difficult investigations. After the governor had discussed other business matters with him without an interpreter, he

¹³ [inserted]

Groundwater	Stünzner
Plant of the absolute seismic hut Pillar	Lammert
Carriage	Hotel International
Carriage	Wolfhagen
	Schnee
	Ms Schnee



Kava
Coconut

Fita Leoleo
Mataafa

Aueluma

Kava sequence

Interpreter

Solf

everyone receives a banana, and Mrs. Doctor Wolfhagen receives a tapa, a colourfully painted plant fabric that can be used as a tablecloth. She holds it over her head at Mrs. governor's request, expressing acceptance and satisfaction. The visit, which lasted almost an hour, is done. The journey home is extended into a drive inside, until dusk, with the women having changed {the place}¹⁴ so that I meet Mrs. Governor, who is from Australia.

On the whole it corresponds to the area of Apia, but of course we didn't get out of the flat terrain, here and there one could still see houses and native huts. After saying goodbye and having dinner, I went to bed early, but was then immediately woken up¹⁵ by a cannon shot, which must have indicated the arrival of the Manapouri with the cargo, which was due at that time. So I was able to go to sleep for good in the expectation of getting the things tomorrow.

1902 June 17 Tuesday. So out at sunrise and I went down the road to look for a boat. At the company I ~~found~~ saw Mr Rasmussen standing at the customs shed, and went to him. He made the not very pleasant announcement that because of the abundance of goods that the ship had had to take with it, a lot had been left behind, and of my 74 colli only 44 had come along. He put the rowing boat lying at the company's pier at my disposal and rowed by two black boys, steered by a third, my boat reached the steamer lying in the middle of the bay in about 10 minutes. The news was confirmed in full; the company's ~~authorised signatory~~², Mr. {probably Ernst}¹⁶ Hansen, supervised the unloading; he already had $\frac{3}{4}$ of my cargo out, it had come in a special lighter so that it did not have to pass through customs first. At the same time, this should make it possible to transport it to Songi and Mulinuu as required, for which purpose I had indicated to the company the numbers to be landed at each of the two places; to Songi the boxes with the instruments, to Mulinuu the hut packages and the heavy seismic parts, which can be set up on the spot without further ado. After I have thus confirmed what has happened despite assurances to the contrary from the Lloyd in Bremen and the inspector in Sydney, I go ashore again. I greet Lammert and Wolfhagens. The things are landed at 3 o'clock in the afternoon.

¹⁴ [inserted]

¹⁵ [transcription uncertain]

¹⁶ [inserted]

Banana
Siapo
Expression of thanks

Drive

Cannon shot
Manapouri

Rasmussen

Freight shipment

Rowing trip

Black boys

Lighter

Customs office

Songi
Mulinnu

Lammert
Wolfhagen

at first in Songi. It already turns out here that it's only the hut packages that are missing, so I can already do the unpacking and adjusting of the instruments in these weeks until the other things arrive. So most of the stuff is landed in Songi, with the Samoans working diligent, the lighter can't quite reach the shore, they take away the most unpleasant basalt and coral rocks so as not to hurt their bare feet.

On the veranda and in the shop the boxes come and find good space. I photograph some of it. Then the lighter goes out to Mulinuu, where the heavy seismic equipment and the few hut loads are landed. The Reitemeier box is particularly heavy, also one of the 3 ½ centner pieces with 7 seismic pendulum sectors falls into the water, and is gradually rolled up. Everything is placed under and next to the two Samoan houses.

Landing
Unpacking
Adjustment

Songi

Samoan

Foot sensitivity

Photographs

Mulinuu

Seismograph

[Page 20]

[Blank page]

[Page 21]

[Prior to this page, three pages appear to have been removed from the book]

[Blank page]

1902 June 27 Friday. In the morning I went to Songi and instructed Michael to give further samples of his sense of cleanliness and order, then towards Mulinuu; on the way I first met Stünzner on horseback, galloping as always; he made his report, then Mr. Lammert, whom I induce to turn back with me.

We inspect the pillars; the ~~one~~ southern one is noticeably tilted to the ~~north~~ south, which a plumb bob fetched from Schafhausen, who is working at the dynamite shed, determines to be 3 cm; the ~~horizontal direction~~ position of this pillar is also one or two cm out of the connecting line of the other two meridian pillars, but both of these are still at the limit of what is permissible, and in any case could only be changed with great difficulty.

I then determine 3 more points for pedestals, which should not or not significantly protrude from the earth, but should only serve for the fixed installation of the tripod of the naval observatory with the telescope of the Berlin observatory or for other occasional observations.

Near the western edge of the district, one will dominate the west and north-west horizons and most of the whole sky;

near the northern edge, the second will dominate the north and north-east horizons, and near the grave of Malietoa, one will dominate the south-east and south horizons. After the coconut breakfast that comes naturally,

I go back to Songi to wind up the clock and on to the governor; on the way I receive the passport sent here, dated 19 April, valid for 2 years, so I can probably still use it for the return journey. I report to the governor, whom I had not spoken to since the evening of the 16th, on the progress of the work. He agrees that the iron bridge for a river to the west of Apia and out to Vaitele, which arrived with the last Union steamer, should not be tackled until after the completion of my huts, which are expected with the next Union steamer, or that at least the effectiveness of Schafhausen, who is well versed in carpentry, should not be impaired and absorbed by the bridge construction to the detriment of the huts.

Furthermore, provided that it is not used for the storage of inflammable things, he has no objection to the old prison on Mulinuu being left to me for the storage of the instrument cases and also the kites to be expected later.

For the kite ascents, I designate the place between the English-American grave monument and the tall flagpole

	Songi	Mikaele
Cleaning		Stünzner
		Lammert
Pillar		Schaaffhausen
Pedestal		
Clock winding		
Passport		Doctor Schnee
`/	Fuluasou Bridge	
		Schaaffhausen
Boxes	Prison, old	
Kites		

as the best place, he inquires whether the road leading over it needs to be closed off, which I say is unnecessary. He tells me, which I had not yet heard, that a Samoan hut owner had complained about his inclusion in the barbed-wire district, but I reassure the governor that the only {Samoan}¹⁷ hut included was not inhabited and that the owner's father and the owner's father had given his consent; the name Nale leads me to the conclusion that it is probably the last hut on the left side when one comes from Songi, and that hut has not been included at all. The governor wants to give me his interpreter occasionally to clear things up once and for all. But immediately afterwards, at the table, I hear from Mr. Haidlen that the matter has long since been settled, as the complainant has indeed soon realised his concerns to be unfounded. After the table, on my way to Songi, I go to see baker Ratke, who wants to buy some plates and such for me at the pastor's auction tomorrow. Michael is supposed to drive me around on Sunday in Mr. Rathke's carriage to finally make the necessary visits. In the meantime he has cleaned the windows and freed some of the tools from rust. He continues this in the afternoon and fixes the two wall lamps bought from the company in the shop and on the veranda. Going to Mulinuu again, I make some small changes in the position of the 3 pedestals so one can see from one to the other, including as many of the other pillars as possible. Only the palm trees are in the way and I want to spare them as much as possible. In view of the tripod legs, I decide to have the ~~pill~~ pedestals made triangular instead of the previously indicated 4-cornered; they would have a side length of 1 metre and a depth of 40 cm in the ground. Since there is a lack of lime, they will be built with cement, but coral stone will be used exclusively (no basalt). Cement is also to be used for the 3 collimator pillars around the absolute house, since they project 15^m, this will probably not do any harm; but for greater balance, another pillar is also to be built on the north side, i.e. 4 symmetrically arranged. Each one will be 60, 45, 30 cm thick in 3 sections, each section is to be 60 cm high, the lowest one will be completely buried. In the afternoon I find the dynamite

¹⁷ [inserted]

PS: As I learn much later, Nale was
was probably concerned about
this because he already lives
beyond the space made available
by the government for the
development of representative
homes, i.e. on land that the
imperial government had actually
reserved for itself.

Interpreter

Auction

Visits

Lamps

Pedestal

Palms

Pedestal

Lime
Cement
Corals

Pillar

Nøale

Haidlen
Nale

Rathke
Holzhausen

Songi

Mulinuu

shed more advanced, as the bottom layer of the side walls is already being tamped down. For this purpose, boards are built up as a mould. Iron rods are already inserted vertically into the tamped wall material (cement and sand {1:8}¹⁸) and connected by cross bands. Stünzner rides back to Apia to testify in court against his thieving housekeeper. After ordering a desk attachment for the counter from the Chinese on the way, which caused difficulties as we don't understand each other's mother tongue and can only communicate on boards and in English, I take a bath and go to Doctor Funk after dinner at his request. I get to know his native wife briefly and we take a look at Jupiter and Saturn with his two telescopes from the veranda. He wants all kinds of astronomical and meteorological instructions.

1902 June 28. Saturday. Rain in the morning. To Songi, where I instruct Michael to clean the two rearmost stalls, shower bath and privy. I do some purchases at the company, spirit, turpentine oil, hemp rope, clothes hooks, ties, of which no less than ½ dozen are delivered in a box. Then I prepare the concept for a report to the Royal Society of Sciences, but it becomes too long, as I am only about half finished by noon. Before noon I go out to Mulinuu, where today {almost}¹⁹ only the dynamite shed is being worked on, some Samoans are still busy with the foundations for the 4 collimator pillars around the absolute magnetic house. Mr. Stünzner shows me a backbone vertebra they dug up at the western one. Flat stones (coral) standing around proved that it was an old warrior's grave; the vertebra is supposed to have formed the upper end of the spine, Mr. Stünzner concluded that the head was cut off, which is what the Samoans used to do with their enemies. Perhaps I will have the rest of the grave uncovered occasionally. The bone (with the stones tied around it) was about ½ metre deep, so probably an older grave. – Just in time for the pilot's shot, which is fired every Saturday at noon, I arrive back in Songi, {wind up and}²⁰ compare the two ship's chronometers and Lammert's etc. pocket chronometers. In the afternoon, Rathke shows me the things he bought, partly on my behalf, at the auction where this morning the remaining belongings of the pastor, who is returning to Germany after a short period of activity, were sold.

¹⁸ [written above the line]

¹⁹ [inserted]

²⁰ [inserted]

	Dynamite house	
		Stünzner
Theft		
Desk attachment		Chinese
		Doctor Funk
		Senitima
Rain	Songi	
Cleaning		
Purchasing	Company	Company
Spirit		
Turpentine oil		
Cordage		
Hook		
Ties	Dynamite shed house	
Society of Sciences	Göttingen	
Pillars		
Bone find		Stünzner
Head cutting		
Midday shot		
Clock winding		
		Lammert
Auction		Rathke
		Holzhausen

Porcelain and glassware. Then, without using this morning's concept, I write a first report of only 4 quarto pages to the "Königliche Gesellschaft der Wissenschaften"²¹ and an equally long accompanying letter to Privy Councillor

Wagner. There is not enough time for anything else, as the post will go out tomorrow. I have ordered the Rathke carriage for tomorrow morning to make inaugural visits. Michael will drive me. In the afternoon he fixes the shower with the help of the purchased string.

2 pairs of white shoes are both too tight, he brings them back to the company, in the evening I buy a larger pair at Zuckschwerdt & Voigt for 6.50.

The Chinese man in whose workshop I then flee because of the rain first charges 7 dollars, later $6\frac{1}{2} = 26$ M. for the desk attachment. Mr. Lammert joins us and we go for a bath, in the rain in the water, very nice. The pastor is there for the last time, he is very happy with his sales, some of them have reached or exceeded his purchase prices. In the evening I write some postcards to Germany. Michael appears and explains that he does not want to appear tomorrow until after church, which is at 8 and seems to finish at 9.

1902 June 29 Sunday. At 9 $\frac{1}{2}$ Michael picks me up with the Rathke carriage, we drive along the main road next to the "Central-Hotel", past many Samoans coming out of the church, turn right (westwards). Mr. Traub meets me, I wanted to visit him and explain this to him. To Doctor Schwesinger, who is building a larger property with a nice half-cast wife and does not yet know whether he wants to stay here or not. He tells me that he feels all earthquakes very precisely in his small, shifted house, agrees with his wife about their line of movement, but disagrees about the direction. – Then I drive back, asked to come back, Michael wants to continue in the west-eastern direction, but the horse doesn't want to, it also has its own personal views, it doesn't want to pass banana leaves and the like that lie on the way, even before bridges Michael often has to jump off and lead it over. So we turn back to the main road, I stop at Mr. Schmolck's, who is sitting in his pyjamas in his office in the customs house, then to the company, where I hand in two maps for Mr. and Mrs. Riedel, and pay the employees a collective visit, which two of them receive in the common living room. Then to Doctor Funk, whom I have already met and whose wife is ill, then to Doctor Schulz, who lives in the royal palace of Malietoa Laupepa. He shows me mats that are often given to him, and kava bowls. Then back and to the governor, who is not at home, his wife can't receive me either because of the German hour. Then to the English and American

²¹ [Royal Society of Sciences]

Tableware	Göttingen	Wagner
Post office		
Visits		
Shower bath		
Shoes		Zuckschwerdt & Voigt
Rain		
Desk attachment		Chinese
Bathing		Lammert
Rain		Holzhausen.
Auction		
Post office		
Church		Mikaele.
Church	Central-Hotel	Rathke
Visits		Traub
		Schwesinger
Earthquake		
Horse		
Banana leaves		
Bridges		
Mats		Schmolck
Tanoa ²²		Riedel
		Company
		Casino
		Funk
		Senitima
		Doctor Schulz
		Doctor Schnee

²² [kava bowl]

consulate in Matautu. The English {Trooth}²³ was on his property inland, the American sitting with his secretary and his daughter, who together formed one person, in the working room and had just dealt with the mail that went out today; his name is Heimroth and he is German, his daughter was also educated in Hanover, his son is a physical chemist, has a travel scholarship from the American university and wants to go to Germany, probably Göttingen. Around one o'clock I arrived at the table in the Central-Hotel. In the afternoon I wrote to Mama²⁴, then was picked up by Doctor Funk and two gentlemen from the company, we first go to the Apia Hotel, where 4 "Doctor Funks" were drunk, soda with anisette, as the Father explained, sucked from straws, a gentleman from the company, Lorenz I think, paid for everyone, but I go to the buffet and pay extra for mine so as not to get caught up in this payment spree. An awful phonograph plays, then it's off to the bath, where Doctor Funk and his brown protégés open a big lemon bombardment in the water. On my return, I meet a young planter, Spemann, a relative of the publisher's bookseller in Stuttgart, with Doctor Penzl on the veranda. After dinner, I show Doctor Funk and Mr. Lorenz, who is also there, some celestial objects in Funk's telescope.

1902 June 30, Monday. Waiula and wife fetch the laundry early. At 9 am the judge Doctor Schultz picks me up for the journey to Hugo Schmidt. We continue as far as Schwesinger, as yesterday, then turn left in a northerly direction, soon the road becomes worse, the carriage bumps hard, even on good road. Then we turn right again down to a stream. There we get off, he ties up his horse and we climb over the stream on a good stone path. On the other side Schmidt's plantation. Coffee, cocoa etc. Soon at the house. He receives us very kindly, we sit on his front porch for a while; then Schultz goes with a Mr. Schanz, who lives with Mr. Schmidt and knows Bubendey, to his own nearby property, which he wants to have fenced in the next few days. While this is going on, Schmidt and I talk alone. He talks about his wife, who is in Germany with his son, about his brother, who has now been transferred to Liegnitz, and the wife, about his efforts on the road and the ford, about Doctor Solf and Doctor Schnee, the sad working conditions, etc. – Soon the other two return and we sit down to breakfast, where I get an extra omelette, which the cook has made quite well. Immediately after dinner we leave and are at Niedringhaus at half past twelve where the table is already set for lunch; this is of course eaten without much appetite on my part

²³ [inserted]

²⁴ [Mom]

Trood
Heimrod

Central-Hotel

Doctor Funk

Apia Hotel.

Doctor Funk

Drinking habits

Bathing

Spemann
Penzl

Doctor Funk
Vaiula
Doctor Schultz
Schmidt, Hugo

Fuluasou
Ford
Tuanaimoto

Real estate

Schanz
Bubendey

Schmidt, [...] ²⁵

Breakfast

Niedringhaus

²⁵ [unrecognisable through ink blot]

After the table, out to Songi, where there is not much to do, Michael has no time all day because of a Siva²⁶, which he has to celebrate in the afternoon after a morning service, and for which a small native troop with 2 taupous passed in front of the hotel, I have already given him early leave in the morning. I study some things in the books, then go to Mulinuu. In front of Mataafa's house there are 4 empty boxes on the corner where the road to the old prison leaves. I hear that people want to put them inside in the evening. I order the large passenger box that is there to be taken out to the observatory square, so that perhaps instruments etc. can be locked up in it from time to time. There is little work on the pillars today, they are working on the dynamite shed, and have now taken boards twice as thick (2"), as the previously rammed wall pieces had all become thicker in the middle than at the ends of the {form}²⁷ boards. In Songi, Mr. Dahms tells me that he will probably move out tomorrow, so the flat will probably be ready soon. After bathing and dinner, I am driven away by the "Deutscher Verein Concordia"²⁸, go to Lammert's at the International, where there is circus music, then back, put my change machine into operation downstairs by sticking strips of cardboard behind it, so that now no more than the width of a cassette can be pressed down from the hanger, and at the same time, after the end of the board meeting, Mr. Partsch appears at my place, introduces himself to me, wants to invite me, but, just as yesterday, the same thing with Mr. Kenzen²⁹ at the Apia Hotel is gratefully declined. Partsch talks a lot, against Rose, for Solf. Not to bed until after 11 o'clock.

1902 July 1 Tuesday. In the morning I developed the great plates of Pango Pango and of Mulinuu. Development too thin. Developed too sparsely in the end despite potassium bromide, although the negatives were completely black when viewed against the red window. Salary fetched from Haidlen and worker's wages instructed, which Stünzner certified. It must be better accounted for later, he is building the dynamite house with the same workers at the same time. Afternoon Mulinuu. The collimator pillars N and S are finished Stünzner with torn shirt works the pillars himself, the people bring water, cement, corals in turn, so it is finished in a few minutes. In Songi, cleaned the windows of the living rooms, unpacked some things. In the evening to bed immediately after dinner.

1902 July 2 Wednesday. Out early, packed up with Michael and sent him to Songi with the things, then developed 2 dozen small plates, from Pango-Pango and from unloading the cargo in Songi. Turned out well, but 5 6 of each not usable, as 5 did not come at all, due to the messiness of the exchange mechanism, 1 each unusable, much glass broken and double

²⁶ [Samoan dance]

²⁷ [inserted]

²⁸ [German Association Concordia]

²⁹ [transcription uncertain]

Siva

Mikaele

Boxes

Prison, old

Dynamite house

Dahms

Circus
Photographic apparatus

Hotel International

Concordia
Lammert

Partsch
Rose Leg. Rat.
Doctor Solf

Development

Salary
Workers' wages

Haidlen
Stünzner

Dynamite house

Pillars

Cleaning
Unpacking

Development

exposed. Inspected the unpacking in Songi, which he has taken care of in the meantime. The chronometers were wound up and compared, as from Saturday on every day. The ring of the Stuttgart chronometer has finally been well repaired by Mr. Hammrell. In the afternoon, packed for the upcoming 3-day excursion, bought 2 bottles of red wine and 1 Angostura bitters from the company, as well as a pair of lace-up rubber shoes. Then the photographic things and personal luggage brought with Michael in Rathke's small, newly painted black boat, whose water is first drained by Michael, from the Hotel International to the unmanned O'le³⁰ Aeto, then set ashore from there and for bathing. Asked Mr. Lammert to represent me definitively at the chronometers for the following 3 days, also handed him my pocket watch and 10 M (bill for the repair of the photographic apparatus 6 M, screw on the chronometer 4 M.); then handed Mr. Niedringhaus 5 hundred-mark notes in addition to the 100-20 (for the Kawau) = 80 M. received earlier, for which he gives me a receipt for 580 M. His monthly bill was contestable, firstly because it says cigars, while I never smoke cigars, secondly, after June 23rd there are no more drinks on it, while I didn't have a dry meal at his place afterwards either. After dinner I buy biscuits with Mr. Traub at Meredith's in 3 forms of 1 M each, furthermore I go with 1 dozen eggs and ½ pound of cheese from Niedringhaus to Doctor Funk, where I take his aneroid (belonging to the naval observatory), for the tour, and at 9 o'clock compare it with his reading, the 2 Samoan boys bring it to me in my new flat, which I thus finally move into. Then I write the last two daily reports and go to bed in a storm and some lightning.

1902 July 3 Thursday. Did not find much sleep in the unaccustomed and rather hard bed. Got up early ¾ 5 o'clock, packed the last things. Carried the luggage away myself, on the way Michael meets me on the bicycle, and then takes it on to the boat, which soon brings Schultz and Traub and me to the Aeto. At 7 am we steam or "chug" away. Not long after we passed the reef, the seasickness begins. According to nautical superstition, a priest travelling with us is to blame for the choppy seas. The small gasoline engine works hard but with only a few knots

³⁰ [or: O'he]

of success, so that we only anchor off Falifá around 11 a.m. The Kopa schooner Elfrieda lies there. A Samoan boat appears, takes us ashore, the bailiff who was travelling with us stays on board. The boat has quite a lot of water, and a Samoan finally sticks a finger in the hole, as more and more water is coming in despite the scooping. The last couple of steps we shod whites are carried ashore by the Samoans; also later back and also more often in the future. We go to the clean village and into the main house, where there is a serious hearing of a judicial nature. Then we continue through the plantations and along the water to another village, where some graves are photographed, next to it in a house a short hearing and soon back to the first village, where the hospitality takes place. Banana leaves form the sideboard and dining table. Whole suckling pigs are quickly cut up, chicken, taro, palusami are the main ingredients. Kava had been served earlier. The posts are decorated simply but tastefully with palm leaves, the central beams more elaborately with other greenery and flowers, tendrils of greenery also stretch from there to the outer posts, a kind of altar with bouquets stands by our – decorated – seats; we lie in front of it. I take photos of the chiefs, the foremost one is the chief officer of the district, the 3rd one the main speaker. Soon we say goodbye, the return to the ship as before, the beautiful waterfall is too far to visit, but I photograph it from the embarkation point. The next place which also should be visited, Fangaloa, is left untouched because the hour is too advanced, we continue eastwards for several hours in increasing swell and repeated bouts of seasickness for me. The mountains are quite picturesque, the sun doesn't show at all, only clouds and haze. At times I sit on a small ship's chair in the narrow passage next to the cabin, always bracing myself with all fours to prevent myself from falling over, then again I stand there balancing myself, then on the captain's advice I lie down on the bed behind the masses of luggage in the governor's berth, but soon I have to hurry out because the seasickness comes on for the third time since noon, and because of the slipperiness of the deck I quickly take off my stockings. In between, I quickly take 2 more pictures.

	Falefá	
Elfrieda Boat		Lösche
Leak Landing		
{phot. ³¹) ³² shots. Graves Kava Hospitality Banana leaves Suckling pig Chickens Taro Palusami Embellishment	Faleapunga	
phot. ³³ shot		
W. do. ³⁴	Waterfall	
	Fangaloa	
Sea disturbance Seasickness		
		Captain Frölich
Seasickness ph. ³⁵ shot		

³¹ photographic

³² [inserted]

³³ photographic

³⁴ ditto

³⁵ photographic

So we finally drive around the two picturesque small islands of the east coast to Aleipata and with Aeto's boat further south to the village of Vailoa, where we first stop at the local magistrate's, but after the formal handover of the clay pipes still to be collected from Aeto for the journey, we go to the representative of Moors, Mr. Baierlein, who gives us a friendly welcome with his half-cast wife. We are given dinner, to which we contribute some wine and the like. Then we return to the judge to a somewhat forced but, thanks to a hunchback who steps in as a clown, quite comical siva and go to bed at Mr. Baierlein's at half past ten, i.e. only Mr. Traub and I, the two court officials, stay with our colleague in the Samoan house.

1902 July 4 Friday. Up early the next morning, shower bath, then after breakfast some more shots, 2 on large plates, on which above all a somewhat melancholy-looking Samoan girl, discovered by Doctor Schultz and sitting next to his camp the previous evening and involuntarily given a bag of ginger cakes by me, was counterfeited, appearing beautifully adorned with a friend. "Misi moa" = "Mister Moors" is written above the house. We soon left it for a beautiful walk along the south coast. We cut off a piece of the coconut palm-covered peninsula that juts out towards Nuutele Island, which I photographed, then walked along the beach, soon under the first trees on the mostly narrow, flat coastal fringe that surrounds the steeply rising, primeval forest-covered interior, soon we entered a little into the interior on a shorter, up-and-down path, sometimes along a quiet village, usually occupied by one or even several churches. Le Pa is the first community, one village of which is called Vaiugalu, where we had breakfast 10 ½-11 ½ in an at first empty house, later occupied by 2 Samoan teachers who knew no German nor English and a kava girl.

Passing the small rocky island of Nuufunga, we came to caves in the district of Lotofanga, which have a connection with the sea; we can only see the two holes open at the top, about 30-40 m deep, which cannot be reached from above. The Samoans are supposed to be able to enter from the sea by swimming and diving. A wide

Boat

Aleipata
Vailoa

Clay pipes

Moors
Bayerlein

Siva

Shower bath
Pictures

Schultz

Picture

Nuutele

March

Le Pa

Nuufunga
Lotofanga
Caves

estuary is crossed in a canoe, each time carrying only one European and the ferryman. There were no longer any plates in the Kodak, the large apparatus was no longer with us with the Samoan sent ahead, so this interesting scene could not be immortalised. In Salani, after a short rest, we boarded a large Samoan boat. The Aeto could not be reached, it was out and the surf prevented the connection. So we continued past Falealili inside the reef until we reached the Aeto at Nuusafee. In the meantime, it had become late and the chief, who had steered us to the Aeto with his umbrella stretched out against the wind – he claimed to be a bit ill – brought us back to shore with his crew to Siumui; he also stayed there with us for the night. We met 3 Apians there, Mr. Pemüller, Schröder and Schlötelborg. All 6 of us bathed, the bailiff had stayed on board, then came dinner and a Siva, which seemed a bit livelier than the night before, for there were many girls there, taking turns 2-3 at a time. Then four large mosquito nets were stretched out in the house, Doctor Schultz got one, Mr Traub and I one, the three Apians the third, in the fourth either the servants or someone else slept, perhaps the hosts. The mats, which are spread out directly on gravel, are a bit hard to lie on, but I slept for a few hours altogether. Before the {evening} meal I had already changed my 12 plates; for this purpose a Samoan had led me into the pitch-dark church completely in the dark, where I performed the difficult work on a table in the middle, perhaps the altar.

1902 July 5 Saturday. Early at 5 o'clock everything gets up, and soon we go on board, the friendly chief still drives us over in his boat, Doctor Schultz with the boat of the Aeto has more trouble, breaks his rudder, gets an oar from us. Then came an hour filled with fierce struggle and, for me, victory against seasickness on the Aeto to Siamu. I stayed in the same place on top of the bridge. Mr. Schröder and Mr. Schlötelborg were badly affected. One of them was still screaming for bread, but I had nothing. The three of us and the bailiff then went ashore after an anchorage had been found with difficulty. We were passed by a Malaaga {tour}³⁶ boat with Samoans, which had set some sails and had overtaken us shortly after we left Nuusafee. Ashore court hearing or the like and some breakfast. I put

³⁶ [inserted]

	Canoe	Estuary	
	Aeto	Salami	
	Boat	Falealili	
We soon lost the rudder, a Samoan jumped into the water, went ashore with it and ran after us along the coast until we picked him up again half an hour later.	Surf	Nuusafee	
	Bathing		Peemüller
	Siva		Schröder II
			Schloetelborg
	Sleep		
	Mats		
	Plate change		
	Church		
	Boat		
	Aeto		Doctor Schultz
	Seasickness		
			Schröder
			Schlöeteborg
	Anchorage		
	Malanga boat	Siumu	
		Nuusafee	

on my hiking boots and gaiters. Then we set off, first with a local policeman = Leo-Leo as porter, as our two Apians Leo-Leo and Doctor Schultz's "Boy" first had to eat properly. – After we had had almost no ascent at all from 10 to 11 a.m., we climbed more steeply, always on a very narrow path through bush jungle; many roots made walking difficult, but at least allowed us to get through the many damp spots almost dry. The ground was loamy and in many places we sank in up to our ankles, but by jumping quickly we avoided sinking deeper. We only had a view near Vailima, even during the descent that followed later. Here, in the dense jungle on the south side, there was only one spot not far from the ridge where a side valley appeared for a moment on the left, I took a picture. Before that, at 12 o'clock, the two Leo Leos {and the little one}³⁷ caught up with us at a large jungle tree with mighty aerial roots, a small part of which I photographed with Doctor Schultz and Mr. Traub, and we said goodbye to the Leo-Leo from the south coast. Every half hour I read the altitude barometer that Doctor Funk had lent me, which came from the naval observatory. The optical square and the bearing compass borrowed from Mr. Stünzner were not used at all because of the lack of views. Just reading the barometer took me about half a minute each time and I had to increase my speed to catch up with the restless Doctor Schultz and the others. The bailiff had gone back to the Aeto, so that Mr. Traub again completed the 3-leaf tropical clover. Red wine was taken at the few short rest stops, I also had a bottle of Angostura with me. Finally we arrived at the Samoan house Tiari, where the ridge was almost reached. Here the wife and two daughters of the owner, who lives on Mulinuu, were sitting in a banana etc. plantation. There was essi, otherwise only meaty food brought along, Mr. Traub still had bread. – The red wine was emptied, as there was now the prospect of returning home soon. The stay was shortened to half an hour, and it took us exactly 2 hours from 3 to 5 to reach the carriages waiting for us at Vailima, which just wanted to hitch up and go home according

³⁷ [inserted]

Clothing

Leo Leo
Servant

Marsh

Jungle

View

Vailima
Safata

Perspective
Picture
Aoa

Schultz
Traub

Aneroid
Bearing compass
View
↓

Doctor Funk
Stünzner

Lösche

Rest
Refreshment

Tiavi

Essi

Suatele

Traub

Carriage

Vailima

to the instructions. The descent was quick and ahead of the Samoan companions, but we were there at exactly 5 o'clock, a few minutes later we would not have met the carriages. The path had been cleared for 1, or below, several years And was more comfortable than the ascent, although as a road it would not yet be stone-free enough, but as a bridle path it was quite good. Doctor Schultz dropped me off at the baths, where, after a refreshing river bath, I put on the clean suit found on Mr Traub's carriage and then soon went to dinner with Mr Lammert, fetching my house key from Rathke.

1902 July 6 Sunday. As my Samoan does not arrive until 10 o'clock because of the Catholic service and I have nothing edible in the new house, I go to Niedringhaus, where coffee time is already over, so that I only get Jeltinger with seltzer water and cheese bread, which I have on the veranda with the Captain of the Aeto, who turns out to be the grandson of the well-known lawyer Frölich in Schleswig, and Doctor Penzl. Then I had my hair cut at Mr. Stopfkuchen's for 1 M 50 Pf. Then for breakfast to Doctor Funk, who invited me in writing beforehand, before that I did the final reading, later again at 2 o'clock, after a short attempt to sleep in his comfortable annex. At breakfast there were nice local vegetarian dishes, also asparagus, etc. Then he showed me his garden with all kinds of plants and animal places, also a Samoan house where his wife lives, and some half or full Samoan children who stay there. He even had a grave faa Samoa there. Soon after 4 o'clock he picks me up again for a bath, his little 11-year-old "niece" also bathes with us in the Vaisingano; then home, dressed in a black dinner jacket and went to the governor. Soon, still in Songi, Doctor Schultz catches up with me in his carriage, and I can cover the long and unlit distance with him comfortably and safely, arriving on time – 7 o'clock. We were 6 bachelors there, except for the Schnee couple, I was allowed to sit on the right side of Frau Doctor Schnee. She wants to sell me the carriage she brought from San Francisco, which is supposed to be good. Over a beer, after a long and good meal, he tells me all about Herbertshöhe³⁸, where he used to be. Accordingly, the natives there attacked them without any mistake by the invading Europeans, as Consul Hoppenstedt

³⁸ [Kokopo]

Marsh

Path

Bathing

Traub
Lammert
Rathke
Mikaele

Central-Hotel

Breakfast

Frölich
Penzl
Stopfkuchen
Funk

Breakfast
Reading

Garden

Family
Grave
Bathing

Marie Ertel

Doctor Schnee
Doctor Schultz

Society
Carriage

Herbertshöhe

Hoppenstedt

had meant. He cited a large number of cases he had examined himself from his judicial practice. I went home again with Doctor Schultz.

1902 July 7 Monday. Went to work a little earlier, got coffee at Niedringhaus. Then 3 hours, as in the future until all the plates still to be developed are done, 2 dozen developed at Davis, the one from the Malaaga, turned out reasonably well. Also the two in large format to some extent. Then quickly to Songi to wind up the clock and back to Niedringhaus for dinner; in the afternoon I describe the Malaaga pictures and went shopping at the company, wall lamps, patent leather shoes pp.³⁹ In the evening, Waiula comes with a boy and brings me mats, of which I buy the largest one, which goes through the entire living room, for 40 instead of 80 marks. It is decorated with woollen threads, but not finished. At 1 o'clock in the night 2 shocks, earthquake wakes me up.

1903⁴⁰ July 8. Tuesday. Developed early, developer somewhat staggering old, silver veil, yellow veil. Exactly 2 dozen. Afterwards 2nd breakfast, the first had consisted of bananas and coconut at 7, the first meal prepared and served up by Michael. Purchased the cocoa and live sugar from the neighbour, half-cast. Then I wrote and went to table, afterwards fetched the American box from the writing room behind the post office with Mr. Willmann's permission who showed me the bill of lading, sender Schneider Bros.⁴¹ New York 265 Greene Street. Mickael also fetches me the older plates and fizz from Davis. With Mr. Lammert I unpack it in the afternoon, the instruments seem to be in good condition. We then go for a swim.

1903⁴² July 9 Wednesday. Early 1st breakfast as yesterday. Then developed Auckland and Colombos (the morning plates). Some have large black spots when the plates are taken out of the cardboard boxes. These spots become crystal clear when developed. Puzzling, perhaps sweat dripped on in the cupboard when changing, otherwise plate faults. No 2nd breakfast today, as Michael wants to attend a wedding of an adopted daughter of the bishop with a Samoan in the morning. In addition, the Chinese carpenter is coming to improve the fittings on the desk attachment delivered yesterday. On Mulinuu there is still nothing significantly new to see, Schafhausen is working on the planks for the steps. The dynamite shed is finished in the same way up to the roof. After the table, Michael brings the newly painted little Ratke boat, which also has sails.

³⁹ perge, perge [lat. = continue, proceed]

⁴⁰ [obviously a mistake by Tetens, meaning 1902]

⁴¹ brothers

⁴² [obviously a mistake by Tetens, meaning 1902]

Development

Schultz

Purchase
Mats

Company.
Vaiula

Earthquake
Development

Breakfast

Mikaele

Meteorograph

Willmans
Schneider Bros.⁴³

Lammert

Development

Wedding

Desk attachment

Chinese
Schaaffhausen

Podiums

Dynamite house

Boat

⁴³ brothers

It is anchored in front of the house 20 steps from the beach. Then, together with Mr. Lammert, we put together the weather house of Rathke on the veranda. We seem to have swapped the lower cross beams, but this only makes new holes necessary for the two lower door bolts, otherwise everything fits quite well. The Chinese carpenter's helper appears and attaches 2 battens to the counter so that the desk stands firmly. It is made with the given clear dimension as the outer dimension, so that it cannot overlap the counter, as I had intended. At his request, I give him the 7 dollars = 28 M for his master. Afterwards bathing dinner and home, where two gentlemen from the company invite me to a bowling evening, which they are holding today, as they do every fortnight, in the German Beer Hall. Doctor Funk had asked me to go, as he was seeing me today. I decline, as I want to bring these lines of 3 days up to date and am tired; also want to develop again tomorrow morning.

1902 July 10 Thursday. Early at night a cannon shot wakes me up, the Manapouri is coming from Auckland. She lies in front of my flat, I inspect her with the Hamburg telescope. At ½ 7 in the morning she is already in the inner bay. I develop 7-10 2 dozen plates, from Switzerland from the fast train mostly unsuccessful, going too fast and of course blurring the close things flying by. Then 1 dozen from Genoa to Naples, some Bremen acquaintances on board the Oldenburg, quite tolerably. Afterwards breakfast and to Mulinuu where there is not much to see. Then for lunch and after inaugurating the shower bath, which is equipped with brass wire but still lacking in valves, and comparing the watches. After table a handsome Taupou comes out at Davis', followed by large crowd, Mr. Davis has spoilt 2 large plates on her as she has moved the face a little both times, he scratches the face in question on the two plates in annoyance as he shows it to me. I fetch my photographic equipment to Mulinuu, using Rathke's boat as a sailboat. Michael carries me all 4 times where the water has to be crossed. The way back is slower, as the wind is against me, and I have to steer on the reef twice. Somewhat sorted the plates developed so far. Bath late. Dinner. Home.

1902 July 11 Friday. Early 6 ½ to Mulinuu, where I made various photographic exposures. The pillars are finished only the steps and the cladding are not yet. Mr. Stünzner apologises because of his alcoholism caused yesterday by the

Weather hut

Lammert

Desk attachment

Payment
Rules

Company

Manapouri

Development

Shower bath

Taupou

Davis, photographer

photographic apparatus
Boat

Reef

Photographic shots
Pillars

Stünzner

celebration of the first child of his friend the captain of Aeto, Frölich. He says goodbye, the construction of the huts is done by Schaffhausen, as the bridge is now next, after the dynamite house is so far finished. Then 2nd breakfast and 2 dozen plates, departure from Genoa and Babelmandeb⁴⁴ developed. Doctor Funk asks me to deputise for him from Tuesday onwards in cases where Captain Frölich is prevented. He sends me a roasted breadfruit and a leaf with faiai, which is tried as the third breakfast. At the table, I hand over to Doctor Schultz, who is very busy today due to a lawsuit Doctor Penzl against Hugo Schmidt (and Mr. Schanz), who I meet, 3 prints each of the two large Malaaga recordings in Aleipata, Mr Davis copied and printed them for 3M. In the afternoon, together with Mr. Lammert, I carefully treated the Hergesell travel barometer⁴⁵ by pouring in some mercury that Ernst König had given me, all the air was out, had made 7 ½ now. I hung it up in the instrument room (=store, shop) next to the eastern door. Then we fix up the 3 recorders of the meteorological institute, only 1 glass pane for the hygrograph and some oil for all 3 is needed. Then bathing etc. Michael made an artistic dining table in the cookhouse today and bought white paint and putty from the firm.

1902 July 12 Saturday. In the morning 2 dozen plates developed at Davis, after I had added fresh pictures early in the morning on Mulinuu with both machines, which will be done tomorrow. The developed plates show the albatrosses pp and iridescent clouds⁴⁶, unfortunately without colours, as well as the last ones from the entry into Sydney. On the plate with the room steward there is another picture with the lake and the steamer, otherwise some of them are quite good, the birds almost all moved too much. Michael paints the weather hut. Doctor Schultz drives up and hands me a beautiful long-haired blanket, not yet completely bleached, which he just wanted to get for me, but won't take any money for it; later, Mr. Fröhlich appears, makes a return visit, then the two Barons Grote arrive, bring the 200 M that I had lent to Köster, who was travelling with me, as a deposit for entering Samoa on the last day in Sydney. He did not have the receipt for the passport and only got it yesterday from the returning Manapouri, or from the customs office here. Grotes will soon be moving inside to a planting site that is in the process of being started, where Köster and their mentor Henniger are already working. In the afternoon I unpacked and assembled

⁴⁴ [Bab-el-Mandeb, strait between the Red Sea and the Gulf of Aden.]

⁴⁵ [developed by Hugo Hergesell, German meteorologist and geophysicist.]

⁴⁶ [meteorological phenomenon whereby clouds glow pearly when optically close to the sun.]

Birth	Fuluasou	Frölich
	Dynamite house	Schaaffhausen
Development		
Breadfruit		Funk
Faiai		
		Penzl
		Schmidt (Hugo)
		Schultz
		Lammert
Mercury-		
-travel barometer		
Shop room		
Meteorological		
recording instruments		
		Mikaele
Cooking house		
Colour, putty.		Company
Development		
Photographic shots		
Weather hut		
Je Sina		Schultz
		Frölich
Refund		Barons Grote
Immigrant bail		Köster
	Afiamalu	Lammert
		Henniger

the Berlin telescope with Mr. Lammert. The magnification is 20-30, while that of the Hamburg telescope is only about 10x. – In the evening, some adjustments are made at Doctor Funk's with his higher magnification telescope. Doctor Schultz and Traub are there.

1902 July 13 Sunday. In the morning the last dozen plates – from the Suez Canal – as well as yesterday's photographs of Mulinuū are developed. The 1 year old Traub 9x12 plates used for this have metallic and yellow haze. {Mr. Traub visits me and brings me the book on Samoan tattooing.}⁴⁷ After

table I rested a little and looked through the dispatch box because of the customs declaration.

1902 July 14 Monday. Early I did laundry, Vaiula's wife is now to wash it at the usual permanent rate of 1 dollar = 4 M a week, to which must be added 1 ½ M for soap and starch, which she charges in advance – so it will be considerably cheaper than at the previous rate of 3 M a dozen, e.g. last week 3 ½ dozen = 10 ½ marks. In the afternoon going to the bath the man sought to raise the price a little more, but of course in vain, he wanted 5 dollars = 20 M a month. – Then in the morning, as the steamer Hauroto was arriving to bring the rest of my things, I wrote details of the imported things to the customs administration and sent Michael with them, while I went out to Mulinuū; where the 3 podiums are now set up, around the astronomical pillars. Then 2nd breakfast and soon after I notice 1 lighter going out to Mulinuū. With the telescope I recognise the word Sydney on 2 boxes in it and so I think this lighter is for the observation huts. So I have the boat made ready and soon sail after with Michael. The wind is quite strong, I get quite wet just getting in. Outside, the lighter is not to be seen at the landing place, I call Schaffhausen to ask him whether the lighter has gone on perhaps to the places of the magnetic huts, in doing so I leave the wheel out of consideration for a moment and suddenly the boat flips on its side. I hold on to the edge of the boat and sit on it, Michael is grounded and slowly pushes it onto the shore, which is helped by a few Samoans who happen to be driving along, one of whom also swims after the drifting rudder, etc. Schaffhausen hands me a letter for me, although addressed to Songi, where I was before, has nevertheless been taken out, in which Schmolck replies that he wants declarations on both ship's cargoes before today's things can be handed over to me. In the meantime it has become late, I go back to Songi to change, the boat remains outside on the beach for the time being, I find my papers and the pocket watch – with black cover – soaked, the latter has also stopped. Then I wind up the precision watches and go to Niedringhaus for dinner, 1 hour late, where

⁴⁷ [inserted on the right-hand side]

	Telescopes	Funk
x	Telescopes Development	Traub
*Mr. Traub visits me and brings me the book on Samoan tattooing.	Customs declaration Laundry	Vaiula
		Vaiula
	Hauroto Customs declaration Freight shipment Podiums Lighter.	Mikaele
	Boat	
		Schaaffhausen
	Capsize	
		Samoan
	Customs declaration	Schmolck
	Pocket watch	

I could only eat a little. Then to customs, picked up a new form for today's consignment, to the company, where I was already directed in the morning by Mr. Rasmussen to the glass artist who was repairing a coloured church window, in order to have him cut me a pane received from Doctor Funk as a replacement for the broken psychro-metrograph glass. There, the freight bill was stamped as paid on the bill of lading and then I wrote the declaration in Songi, went back to the customs office and took care of everything, now the things can be taken out to Mulinuu without having to go to the customs office first, as had happened with the first consignment without any problems. In the afternoon, towards evening, the two lighter in which my goods were loaded separately were pushed out to Mulinuu. A man known to Mr. Lammert sits near my flat in the evening and reports that he will be in Mulinuu at 6 o'clock the next morning with 8 men to unload; then I bathe in the Vaisingano and tell Mr. Schaffhausen to order 4 men for tomorrow morning to help with the unloading, which Mr. Lammert has already told him, who was on Mulinuu in the afternoon. Then supper, wrote something and had a visitor, but went to bed early, after I had also spoken to Doctor Funk about readings, report for the Samoan newspaper (every 2nd Thursday morning) and rain gauge, also light signals from Lanutoo etc. –

1902 July 15 Tuesday. Up early 5 a.m., Michael also arrives soon and I eat some fruit, go out before 6, soon after 6 Schaffhausen appears, but the 4 people from Tamasese have gone on strike, instead of them he gains 3 others later. The warden with his 8 men does not appear either; the protective box made by Schaffhausen over the passage pillar is too narrow in the east and west, he almost touches it, so he has to enlarge it. Because of the iron protective box for the geodesic universal instrument that I brought with me, the wooden box around the north pillar is to be made a little lower, but it turns out later that hammering in the staples and pins with which the iron box is to be fixed damages and crumbles all the edges at the top. In Songi I unpack the small boxes with photographic plates, the clock of the seismograph and the recording device of the same instrument as well as the spring hangers. Then the half-cast, which Schaffhausen accepted today despite not showing up yesterday, reports that the people have now arrived to unload the lighter,

Customs declaration

Company

Church

Funk

Hydrograph

Bill of lading

Lighter

Bathing

Schaaffhausen

Lammert

Reading

Samoa newspaper

Light signals.

Lanutoo

Funk

Strike

Schaaffhausen

Tamasese

Pillars

Iron protective box

Unpacking

Schaaffhausen

Lighter

and I hurry out. I find some packages already on land, the nearest to the magnetic huts they have to drag quite a distance, soon it becomes too far for them and they prefer, in accordance with my suggestion, what they had refused before, to take the lighters to the further place; there I let the half-cast remove the barbed wire a little, and now they go on more briskly. They take bamboo bast for upholstery on their bare shoulders. 6 have only appeared, the warden himself is missing, so the presence of the half-cast David, who speaks some English, is very necessary. After a short lunch break, from 12 to 2, the unloading continues and everything is taken to its destination as soon as possible. When Mr. Lammert arrives at 4 o'clock, only the last package remains to be unloaded. – Then they leave, and with the remaining 4 men we start opening the packages. Since the pillar of the seismograph has to be hewn in at the same time as the astronomical pillars, we unpack the iron frame, but because of the danger of demolition, it will be best to increase it by the length of the iron bolts, so we still build up the iron frame quite a bit. The two mechanics' assistants from Göttingen have not numbered the pieces of the frame very clearly, and some of the numbers are a bit faded. I fetch English wrenches for the nuts in a sailing boat to speed things up, not capsizing today. Michael is doing well. He has now finished painting the weather house. The return journey takes quite a long time, after two crosses we are only at the height of the flag mast and it is already half past six. Therefore, he rows me all the way home. I hurry to Niedringhaus for dinner and afterwards Hammrell brings me the two pocket watches. The drowned one was completely broken, a pin was broken, it could be repaired in Australia for 10 marks; as it only cost 15 or so when new, I gave it up. The other one was good now, it had been set up by him, like a Waterburg with a spring that was too long and only worked for about 6 hours, now he wanted to guarantee that it would work for 24 hours. He brings me the end of the spring, which he has cut off; I pay him 3 marks and 1 bottle of beer at 1.50 at the bar.

Lighter

Barbed wire

David

Lammert

Unpacking

Seismograph

Boat

Weather hut

Mikaele

Pocket watcher

Central-Hotel

Hammrell

Payment

1902 July 16 Wednesday. Took a sea bath last night after a short visit. Out this morning, where the iron frame of the seismograph is assembled. Had the huts' packets opened, for which 3 Samoans are accepted. In the meantime, Schaffhausen is working on the cladding of the 3 astronomical pillars, with which he will be quite finished today, i.e. up close to their surface, insofar as they are to remain clad at all times during the observation itself. After cocoa at 8 o'clock, we go out again and continue the work on the iron frames. – The screws and nuts are all greased, the clock frame is fitted. Then to lunch and back in the afternoon to lay out the beams etc. of Hut II, variation house, according to the carpenter's sketches with the help of the notch marks on the timbers. Finished at 5 and drank ava = kava at Tamasese, where Mr. Lammert wants to buy a carriage, and met his family. In the evening rain and distant thunderstorms, meanwhile I drank a glass of beer with Mr. Lammert at Niedringhaus for once. This afternoon he unpacked the instruments he has now put on and put them away for the time being.

1902 July 17 Thursday. Early 5 o'clock Samoan boat lands at my place. I soon go out. On arrival at Mulinuu the cannon shot sounds for the incoming Kawau. Outside House II laid out quite ready, the Samoans help and pull out the iron nails. Then {the June}⁴⁸ company bill of 93 M is paid, much of which will have to be taken over by the Königliche Gesellschaft der Wissenschaften⁴⁹, as the things have been purchased in whole or in part for the cleaning and lighting of the shop and workshop. At Doctor Funk's request, I finished his newspaper weather report for the Samoan newspaper and brought it in. Michael helps Mr. Lammert to set up his instruments in the shop. I buy some utensils from the company, Michael fetches them. Then I collect the mail at about 12 o'clock, read the letters from Privy Councillor Wagner, who reports the dispatch of the theodolite and the kite winch, from Mama and Adele, who report everything well; out again after the table, where Mr Schanz helps to pick out the beams etc. for fun, until the end of work at 5 o'clock. Found a letter from the government, which comes from Mr. Stünzner and wants the working hours on Mulinuu to be the same as the others. The matter seems to be based on a misunderstanding, for I know from personal knowledge that people come soon after 6 a.m. and do not leave until 5. I will speak tomorrow with Schaffhausen, who is cited by Stünzner as a witness. By the way, the governor, Doctor Schnee, writes very politely. Lammert buys a horse and carriage from Tamasese.

⁴⁸ [inserted]

⁴⁹ Royal Society of Sciences [at Göttingen]

Pusi Toveti Pologa	Bathing in the Sea Seismograph		Schaaffhausen Pussi Taveta Polonga
	Pillars		
	Variation house		
	Kava Rain Thunderstorm Unpacking	Central-Hotel	Tamasese Vaainga Lammert
	Boat Kawau Variation house Iron-free Payment	Göttingen	
	Sam. ⁵⁰ newspaper		Funk Mikaele Lammert Company
	Theodolite Kite winch	Post office	Wagner Schanz Schnee Stünzner
	Horse Carriage		Schaaffhausen Lammert

⁵⁰ Samoan

Copy:

The Imperial Government would like to obediently [...] ⁵¹ point out that the usual working hours will be observed for the buildings or work supervised by the Government, namely:

6-8 o'clock, ½ 9-12 o'clock, 1-5 o'clock.

The workers in Mulinuu have significantly reduced working hours (Schaaffhausen confirms this) and this only causes quarrels with the natives.

Apia, 17 July 1902

Stünzner

Building supervisor.

To the Imperial Government

Apia

U. R. ⁵²

Doctor Tetens

for your kind attention.

In the interest of the governorate's work, it would be desirable if the working hours mentioned above could also be observed during the work in Mulinuu. If there are no special reasons for this, I would be grateful for an appropriate order concerning the workers employed by you.

Schnee 17/7 1902.

With the foregoing remarks

Yours sincerely, from Schaaffhausen.

Tetens 18/7.

Mulinuu 18 July 1902

Asked by Doctor Tetens I confirm the following

The working hours in Mulinuu have been kept as before, namely from 6-8 in the morning, from 8 ½-12 and from 1-5 o'clock. Furthermore, I note that the 4 men who are busy transporting [...] ⁵³ the boxes etc., have a 2-hour lunch break during the time when the things were unloaded

⁵¹ [illegible]

⁵² [abbreviation unclear]

⁵³ [illegible]

[Seite 61]

[Blank page]

because this is the willingness to work at the DHPG,
and so it was not possible to continue
working. It also happened once that the people
had worked longer in the evening with Doctor Tetens
and then came to work half an hour later the
next morning. The two workers employed by me
have always kept to the prescribed
working hours.

Albert Schaaffhausen.

1902 July 18 Friday. At 5 a.m. out to Mulinuu, boards laid out from House I.
Much is broken off, but nothing essential seems to be missing. Back home at 8
for the second breakfast, out again at 9 with Mr. Lammert, whose new horse has
been taken away during the night, Schaaffhausen writes down the above statement. I continue
to lay out the things from House I with Mr. Lammert. Almost the whole area is now
covered with layers of beams and boards, it is not easy to keep all the different
groups apart. I leave again at 11 o'clock to deliver the document
to Doctor Schnee again. I paste in Schaaffhausen's contribution,
get changed, go to Doctor Schnee, who asks me to forgive the
interpolation. Yesterday morning, while I had gone home for breakfast,
Mr. Stünzner was very agitated and went to see Schaaffhausen,
saying that his workers – building the bridge –
had defected to us in Mulinuu. Then he obviously
drew up the document straight away, then at noon Mr. Haidlen
was already talking about it. Doctor Schnee tells me that he has
not yet received five boxes that came to Sydney with the Oldenburg. After lunch
I go to the customs office to get the paraffin and the steel wire I finally found,
which Michael has to take to Songi. I then go back
out to Mulinuu and, in a little rain, first supervise the
cementing of the earthquake pedestal; there is not enough cement
out yet, so I can only finish the job tomorrow. I slide
some of the weight rings under the bolts so that the frame
is level at the top. I notice that it deviates about 5° towards NW from the
meridian direction formed by the 3 pillars. I had asked Mr
Lammert to fix the direction there. Now it is too late,
but hopefully it will not be very harmful, as far as I believe. Afterwards,
I continued with the laying out of boards for House I and have pretty much finished

ab

absolute house

Horse

Lammert
Schaaffhausen

Doctor Schnee.
Stünzner

Haidlen

Freight

Petroleum
Steel wire
Rain
Seismograph

Meridian

Lammert

absolute house

1902 July 19 Saturday. Out early at 6 a.m., a half-cast carpenter from Schaaffhausen newly accepted, is initiated by me into the secrets of huts I and II, and we look through everything, later he has to continue on his own. Captain Frölich leaves at noon with Schmolck, I stand in for him at 2 and at 9 doing the reading for Doctor Funk. In the afternoon, work is ended at 4 o'clock, I look through everything again until 5 ½, only 1 or 2 boards are missing. The passage house is under construction, the pillars are erected with newly fetched cement, Schaaffhausen has made the corner plinths for it, furthermore he has replaced the broken out areas on the north pillar and filled in the earthquake pillar to the end. I protect it and its iron frame with a government sail covered over it. In the afternoon, the new carpenter has almost finished the posts, for the time being, as yesterday, a batten was nailed. Yesterday after some of the newly arrived American warship crew rode into the stockade; today an English warship also joined them; the English, it seems, are making less life.

1902 July 20 Sunday. Early reading at Funk (on the way Grevsmühl) then read and wrote letters, no substantial breakfast because of Michael's going to church. Afternoon postcards, 4 o'clock post closing. In the evening full moon very beautiful over cloud bank. Schultz with me in the afternoon, pineapple cut. Then read off at Funk, at noon Frölich has forgotten it, who had reported to me in the morning as having returned.

1902 July 21 Monday. Early to Mulinuu. Last boards laid out alone on doors & windows, etc., the passage shack is boarded up. Posts finished today by the half-blood carpenter. Then bought watering cans for the street and the house and garden, and string from the company. After table Mr. Lammert's sidereal time chronometer put in box 75 (in store) after it was unpacked and wound up. Further, his small telescope taken over from Schleifen unpacked and assembled and placed on its heavy perhaps iron-free tripod. Governor "sick", he meets me on the way back to carriage. Looked at Meredith's carriage and horse, 380 or 400M together. Funk's anemometer superficially cleaned and put together (Michael). The tube in which the axe turns is crooked.

1902 July 22 Tuesday Early to Mulinuu, of the passage house the doors are fitted, the walls are up; flaps give difficulty. The half-breed carpenter begins repairing the damaged pieces. Michael improves various things in the house. In the afternoon, some studies in the Kohlrausch, etc. Mr. Lammert unpacks the new Tesdorpf⁵⁴ theodolite he brought with him in the shop, oils it. Then we go to Schaaffhausen, who gave us approximate information about

⁵⁴ [Ludwig Tesdorpf, * 1856-† 1905, German precision mechanic and entrepreneur.]

Huts, magnetic	Schuster Schaaffhausen Frölich Schmolck Funk
Passage house	
Seismograph	
Gates	
Ma	Sailors, (American, and English)
Church	Funk
Full moon	Grevsmühl
Mail	Mikael
Pineapple	Schultz Frölich
magnetic huts	
Passage house	
Watering can	
Cordage	Schuster
Chronometer	Company Lammert
Telescope	Schnee
Carriage	Meredith, Sam
Horse	
Anemometer	Funk
Passage house	
Studies	Schuster Mikaele Lammert
	Schaaffhausen

the hours of work expended in the interest of the observatory and especially the material of wood and cement, etc. In his last statement submitted to the government for the dynamite house, Mr. Stünzner did not charge any wood at all, attributed everything to the observatory, took some of it with him to build his bridge, similarly with the working hours of the Samoans, etc. So there will probably still be a heated argument. – In the evening, Doctor Schwesinger comes to Niedringhaus to play skat, but I don't have the time or the inclination, so I go home. Look at the moon and its very sharp Lissajous-like reflection in the harbour in the Berlin telescope.

1902 July 23 Wednesday. Opened the rain gauge early in the morning, unpacked, cleaned and put together; tried it with water, set it in motion, filled the spring.

Going out to Mulinuu, I meet Schaaffhausen, who wants to go to Adam and have the roof opening cloth of the passage house made, I turn back with him. At home I study Kohlrausch and Lehmann. At noon I learn that mail (without shot) has arrived, Mr. Haaben is there, I greet him, he eats downstairs. – In the afternoon I spoke to Haidlen about Stünzner's expense account, a meeting must be held at the end of the month. – Stünzner's 2 packets and the Göttingen plates have arrived, probably with "Karlsruhe". So the American line is taking postal packets, whereas Traub had told me that it was not taking any; he is just not giving it to it. D'Oleire also sends books and magazines, Wolfhagen seeds and a letter; for the latter, both together worth 18 M, I have to pay 1.80 (= 2 M), = 10% of the value. – The soil seems too bad at my house, so I will try Mulinuu. The Mulinuu people take the weather hut out with a passing load of poles for the foundation of the hut. It is to stand where the board walls are now laid out. In the afternoon we go out with Mr. Lammert, the passage house is nailed with roofing felt, only the joints are nailed to save money. The sleepers and beams of the variation hut are already joined together and nailed with brass pins. Supports are 10x10 poles, widened at the bottom with 2 inch planks, these only resting on the sand. Children brought me a small tree-like structure, black tough wood, covered with stone at the bottom where it is thickened like a branch; Mr. Haidlen says it is rare, and the only plant growing in the lake water. They wanted 12 M, I paid 8. Michael fixes it to the wall of the living room.

Observatory Construction costs

Stünzner

Dynamite House

Fuluason

Schwesinger

Moon
Telescope
Rain gauge

Schaaffhausen
Adam

Passage house
Studies

Haaben
Haidlen
Stünzner

Silver bromide paper

Göttingen

Postal packages

D'Oleire
Wolfhagen

Customs office
Vegetables
Weather hut
Carriage

Passage house
Roofing felt
Variation house

Lammert

aotai

Mikaele

He also cleans a few dozen of my negatives, the glass side, so that they can be copied in the near future. For this he buys cloths for 1 M. Then I visited Mr. Schmolck's shower room to set it up as a darkroom with Mr. Lammert. Also saw his other furnishings, bottles of wine, East African and other photographs. Rainy weather.

1902 July 24 Thursday. Early Mulinuu, hut II is put up. Among other things, the outer stand of the passage house is nailed to completion. After breakfast, for which he bought oranges (allegedly a basket full for 1 mark), went out again, first finished beams on House II. Michael unpacks some of the soldered things, the apparatus for determining the iron content, 2 dozen small and 1 dozen large plates from Spindler & Hoyer. After table I put in plates, and after I have set up 2 walls of the house [...] ⁵⁵ with Mr. Lammert (beams alone), we take kava, for which Schaaffhausen has ordered 4 girls including 1 small Taupou and the mother of 2 (Marie).

I take pictures before, during and after. During the Kava Michael has to press on the rubber ball, I sit on the observation chair in the group. The absolute house, like the other one, is also only placed on posts widened by boards at the bottom, so that it could be lifted completely. Mr. Haidlen arrives on foot, Mr. Schmolck on horseback, when the Kava and its accessories are finished, they inspect the huts in detail, we finish House II with Mr. Haidlen. In the evening, after a short visit and sea bath, early to bed.

1902 July 25 Friday. Early to Mulinuu, some rain. Roof beams and skylight beams, inside and outside, set up at House I. Then Kava at Samoa house, then after breakfast developed yesterday's shots; Spindler & Hoyer's dozen (1 mark) all black. The others, kava etc. good enough. Therefore now Schleussners 9x12 inserted, some too wide, come into the large cassettes. Then out to the table and first worked with Mr. Lammert on inserting the skylight frame and unpacking, adjusting and measuring the fans, then took pictures again. People seem to be more practised at being photographed today. Michael is also taking part now. The sheet metal for the skylight is found, Adam has to solder it on. Mr. Lammert's servant is said to have taken keys from the scaffolding to the Samoa house; must be examined tomorrow as he has already left. Roofs arranged over seismic and variation house, against the sun only. Samoan women are supposed to weave them from coconut palm leaves. The fan of the variation house is to protrude above it.

⁵⁵ [illegible]

Negatives
Purchase

Schmolck
Lammert

Rain.
Variation House.
Passage house
Oranges
Unpacking
Plates

Absolute house
Kava

Lammert

Malia

Photographs

Horse

Haidlen
Schmolck

Bathing in the sea
Rain
absolute House
Kava
Development

Spindler & Hoyer
Schleussner

Fans
Photographs

Lammert

Mikaele

Servant

Canopies
Pola

1902 July 26 Saturday. Early in the morning I gave the people coal pots and soldering materials; I developed yesterday's photos of the hut construction at Davis. Turned out quite well. Then after breakfast out with Adam's son and Michael, the skylight sheets are laid together and nailed on and soldered together in the afternoon. It is nailed in 3-4 cm lower, so the sheet metal also had to be re-bent. The fans are put on. Red & black seem to be reversed, they are put back on in reverse, better plumb up. They are rather sadly done in terms of solidity of the bearings in which the air screw turns. Zinc plate with a bayonet lock forms the bearing pieces. We revise them, but they do not go around well. – The canvas is nailed and glued to the porch of the absolute house and variation house today. Schaaffhausen works posts and beams for simple Samoan huts over seismic and variation house. 100 pieces of sugar cane canopy for 8 M are to be supplied by the Samoans. The thin bearing timbers to be laid from top to bottom are to be fetched in the "bush". The ½ cast carpenter is working with the ½ cast labourer {David}⁵⁶ who "took the day off" yesterday and who has been accepted again today despite Schaaffhausen's threat yesterday, first on {the}⁵⁷ roofs, later on the boxes for the two universal pillars. Mrs. Tamasese visits me in the morning to invite me to the kava, on the way back I go ahead and get one. In the afternoon, a big {general}⁵⁸ discussion with Mr. Lammert's "boy" whom nobody dares accuse any more now that he is there himself. – The people, including Schaaffhausen, leave at 4, as every Saturday, I stay at work with Adam's son and Michael until ½ 6, until the skylight is finished. At noon there was an accident, at Niedringhaus' corner the Schmolck carriage which had brought him to ½ Lanutoo fell, all [...] ⁵⁹ guests rush out for help, also Michael, he pulls the carriage home, instead of the somewhat injured 300 M horse, the lad had flown out, the outer wheel broken.

1902 July 27 Sunday. Early 5 ½ a.m. already got cocoa, as Michael has to go to church later, does not show himself at all the whole day. I read the journal of the Society for Geography, which also contains information about the Samoa Observatory. The kava mother comes a moment after church and receives an "alofo", as do her daughters. In the afternoon, Tamasese's daughters fetch tank water in a large number of empty coconuts. In the evening, flashes of lightning. I make

⁵⁶ [inserted]

⁵⁷ [inserted]

⁵⁸ [inserted]

⁵⁹ [transcription uncertain]

Development		Davis
A Skylight		Adam Mikaele
Fans		
magnetic huts		Schaaffhausen
Canopies		
Lau		
Building material		Schuster
		David
		Vainga
Kava		Lammert
Servant		
Skylight		Schmolck
Carriage accident	Lanutoo	
Breakfast		Mikaele
Church		
Studies		
Gift		Malia
Drinking water		Tamasese
Flashes		

a storm picture with Schleussner's orthochromatic dozen plate, of which 7-9 roof cladding pictures were taken yesterday in Mulinuu. Star shots plate 1: 9^h 0^m to 9^h 40^m, plate 2 9^h 45^m to 10^h 12^m, plate 1 facing south, plate 2 facing SSW⁶⁰ from south porch with "Legion" camera full aperture, top of step ladder.

1902 July 28 Monday. Did laundry early. Then out. In Mulinuu, the roof of the absolute house is nailed to completion with the canvas. Schaaffhausen works on the posts and beams for the seismic Samoa house, the ½ cast carpenter on the two universal protection boxes. Then, together with Michael, we put together the naval observatory's tripod and mounted the Berlin telescope on it with the block enhancement made by Hilbke for the Samoan pole height. Change of strips of the 3 meteorological recorders, set the hygrograph a little slower again. Out after dinner and helped out, the dividing wall between the main building and the porch of the absolute house was covered on both sides. Furthermore, the south side wall of the variation house and the floor covering of the walkway were fixed. With most of these boards something has to be cut away, they seem to have become bigger during transport, or the beam bearings etc. smaller. Some boards and battens are completely or partially broken off and will be replaced. Schaaffhausen has also purchased brass screws for this purpose; the boards and planks are all fastened to the beams with brass nails, although they would perhaps be firm enough without them, as in Göttingen. Mr. Lammert also helps in the afternoon. He drives in his buggy, I walk back with Schaaffhausen and the ½ cast carpenter. With Schaaffhausen I stop at Suatele's, whose daughter was the fat kava mother at the topping-out ceremony, and we get a kava. This time I don't give alofa, but get 3 eggs as a present, which I carry home in my yellow cap. The rain starts, but I don't put on my cap, my suit etc. gets wet too, I change clothes at home and then go to the table. Mr. Schmolck is also back, I lend him 2 large bowls and advice on developing 12 plates of Lanutoo. He raves a lot about his stay up there. One of the ½ cast expedition came back down with broken leg, which is told to me by the sufferer limping in front of the shop. A Samoan limb-setter is to help.

1902 July 29 Tuesday. Not quite well at night; perhaps from the kava at the chief Samoan magistrate's or a tin meal at Niedringhaus. Out without 1st breakfast. The inner

⁶⁰ south-southwest

photographic shots

absolute House
Canopies

Telescopes

Change of stripes

Absolute house
Variation house

Screws
Nails

Carriage

Kava
Eggs
Rain
Clothes

Schaaffhausen
Schuster
Mikaele

Hilke

Schaaffhausen

Lammert

Schaaffhausen
Suatele

Schmolck

Lanutoo

Disease

slab formwork of House II is laid. Then they start on the two walls.

Read some magazines in the morning. Sailed out with boat in the afternoon. Almost finished the walls of the variation house, except for the last two slabs so that light can still get in to search everything for iron. Then set the walls of the porch of House I with Mr. Lammert, laid the floor of both rooms of House I, only loosely at first. In the morning 6 plates were made with large apparatus, both houses. The last two plates in small format with staffage, one orthochromatic, one ordinary Schleussner, the 4 large Imperial from Sydney. In the evening, with the Berlin and Potsdam telescopes, looked at Funk's lights on Lanutoo and some celestial objects. Potsdam telescope separates the upper one in the field of view of ϵ 5 Lyrae, the other only just elongated.

1902 July 30 Wednesday. Early to Davis, 1 ½ dozen developed, the "legion plates" from the roof construction

at the absolute house etc., furthermore with the large apparatus 4 large imperials and 2 small ones, 1 of them ordinary, 1 orthochromatic Schleussner from the construction of the variation house with staffage, everything turned out quite well, only with the orthochromatic ones the shadows too empty; I ran out of stronger potassium bromine free developer. After breakfast I went out; in the meantime, in Mulinuu, the lowest boards of the inner porch boarding on the wall to the main building were loosened again and tilted away, as there was no room left for the floor to be pushed underneath. The floor was finished; the walls on the outside of the main building were started; the skylight was finished on the inside. In the afternoon at Rasmussen's – first in the house where Doctor Schultz arrived – ordered the iron piece N^o 8 from the company that he had offered, which had not come with him, already delivered in the evening. Then out again to Mulinuu, roof flaps of passage house partly put on again and advised. The weather house is nailed with the canvas for the magnetic stalls. The outer walls of House I are finished, the inner ones started. Lalamesa now brings his chief as authority for the possession of the small of the enclosed Samoa houses, but no certificate, and I direct them to Schaaffhausen. The fat daughter of this chief walks with me back to my house, she claims to have been to Germany, Berlin, Hamburg, Munich, Frankfurt, but she doesn't know a word of German, only a few bits of English. Captain Frölich asks me to stand in for him at Funk's in the evening, as he wants to go fishing, so I read off; Mr. Lammert takes me as far as Funk's house, afterwards I spoke to Mr. Dietze, who will be thrown out tomorrow. The company send me the bill of 200M for landing observatory cargo

Variation house
Studies
Boat
Iron-free

Lammert

Absolute house
Photographs

Telescopes

Lanutoo

Funk

Development

Davis (Photographer)

absolute house

Skylight

Rasmussen

Iron
Weather hut
Passage house

absolute house

Lealamisa

Rear building

Schaaffhausen
Fuatingo
Marquardt

Skittles
Freight

Frölich
Lammert
Dietze
Company

1902 July 31 Thursday. Early morning reading at Funk's. With the help of my recording apparatus for barometers and thermometers, completed the missing reading of the 20th at noon. Wrote down the wind and weather data together with Captain Frölich from memory and gave them to him to be printed in the Samoan newspaper. After breakfast I went to Mulinuu, where the inner boarding of the absolute house was being finished, and {the one}⁶¹ of the porch was started. On the way back I had a sip of kava at Tamasese. One Samoan shouts three times while doing so, as the Tamasese woman tells me, it is because of the honour of being allowed to partake at the kava with such a high chief. A Samoan had previously been to Schaaffhausen and demanded the much-disputed Samoa house. When he, like the other pretenders, was told that he would only receive it against a certificate from the chief stating that he was the true owner, he declared that he was so strong that he could take it away even without a certificate. Will he carry out his threat? After noon, inserted new plates at Davis, again orthochromatic, 8 in the Legion, 4 in the large apparatus and the last two Imperial plates in this one. I send Michael to fetch them and bring them to Mulinuu, which he does quickly on his bicycle, as usual. As I am about to leave for Mulinuu, two daughters of Tamasese appear and ask for some coconuts full of water from my tank and bring a rather ordinary watch, awarded to him in {1887}⁶² in memory of ~~the catastrophe~~ the eagle, on which the two hands were bent; I repair the damage immediately and they get everything they want. One of them also shows her foot, which has deep, painful holes in it, but I can't help much with that. In Mulinuu, we started to put in the window frames in the absolute house. The mouldings above the window, which are vertical, are not there, they are being redone. They were also just primitive, as I recall, unplanned. I use the 8 Legion plates on the houses and Samoa boats, and also the two large plates. Mr. Schloetelborg writes to me about his horse which he wants to sell for £15 with saddle and bridle; it is probably worth that much, but I write to him that I have no money for it now. Mr. Rathke wrote to inform me that

⁶¹ [inserted]

⁶² [inserted]

Reading	Funk
	Frölich
Samoan Newspaper	
Absolute house	
Kava	Tamasese
Yodelling	Vainga
	Talua
	Schaaffhausen
Rear building	
Renommage	
	Davis
	Mikaele
Bicycle	
Drinking water	
Clock repair	Tamasese
	Esse esse ⁶³
Absolute house	
Photographs	
Boat	
Horse	Schlötelborg
	Rathke

⁶³ [poorly legible]

the lawn on both sides of the path in front of the house must be cleaned by 8 August. I let Mikaele do it. Red notices on the palm trees say the same.

1902 AUG. 1.⁶⁴ Early out, in Mulinuu I looked for window mouldings, boards etc. for the absolute house, found everything including door boards. Afterwards Schaaffhausen comes and presents me (Songi) with the payroll for the time since Stünzner left. It seems to be correct. I also withdraw my August 600 M, get almost only English money, for which 20.42 is counted, while it is only accepted for 20 M for the small payments in Apia. I send some negatives to Davis for copying and the small copying frame as well as the cards for mounting the prints. At Schmolck's I buy his dangerous shark-toothed weapon from the Gilbert Islands for 7.50 M, the man had wanted 20 M from him. At noon, Doctor Schultz once again ties a knot in his watch chain in order to offer Doctor Schnee my wish to buy Mrs. Schnee's buggy. Afternoon sailing regatta. Mr. Lammert picks up the substructure of his passage telescope on his buggy from me, puts it on his pillar. I make 4 9x11 pictures with the large app.⁶⁵, among other from him on his buggy. Mr. Haidlen wants his dynamite house to be finished soon, so Schaaffhausen is to do the roof there tomorrow with ½ cast David. Yesterday Adam drove the tank I needed there for \$17. Rain water is needed for developing. The workers are gone in the afternoon to get money. I put in doors, handles and hinges with Michael, after he had previously tried in vain, armed with 20 M, to make purchases from the {...}⁶⁶ }⁶⁷ islanders who arrived with the mission steamer John Williams and are busy clearing their imports. Schaaffhausen reports to me that he has now found lime; it has been used to build a Samoan church in Vaimosa, but was left over.

1902 AUG. 2. Early morning at Davis, the 8 small plates from the day before yesterday and the 2 large ones, as well as the 4 small ones from yesterday with the large apparatus, furthermore 12 photographs of Mr. Lammert developed on 2 film tapes. With the exception of a heavily scratched plate from yesterday, everything was okay, 2 American film images were completely black. Then home for breakfast, where Michael cooks me a Samoan soup that doesn't taste bad. Then in Mulinuu I supervised the fitting of the doors and the nailing on of the small strips. Used the triangular reserve strips to seal joints

⁶⁴ [in the following, the date is stamped at the beginning of a diary entry]

⁶⁵ large apparatus

⁶⁶[illegible]

⁶⁷ [inserted]

Path cleaning		
absolute house		Schaaffhausen
Abs. ⁶⁸ Construction costs		Stünzner
Price loss		Davis
		Schmolck
Shark tooth spear	Gilbert Islands	Schultz
		Schnee
Carriage		
Regatta		
Passage instrument		
Photographs		Haidlen
	Dynamite House	Schaaffhausen
Adam		David
Water tank		Adam
Workers' wages		
Absolute house		Mikaele
John Williams		
Lime		Schaffhausen
		Davis
Development		
Films		Mikaele
Breakfast		
magnetic huts		

⁶⁸ absolute house

caused by transport damage or meteoric influences.

The half-cast carpenter does this, the other one nails on the outer strips that have come off, especially on House II. David applies adhesive to the nailing strips of the roof canvas. Schaaffhausen finishes the scaffolding for the seismic Samoa house. Back at 12 and to the clock comparison and table. Then made 2 children's plates at Davis in the yard, where a kind of arbour is made out of sticks for a birthday party, made simple but nicely festive with palm leaves. Banana leaves are floor and table at the same time. All blood combinations are represented among the 8-10 children. Then I went out with Mr. Lammert got out and unpacked the upper part of his passage instrument. It was badly bent; I advise him to correct the matter with paper documents. But not yet finished with that. Then back and a test drive with a buggy for sale for 270 M with Mr. Zuckschwerdt to the new river bridge under construction, where I meet the governor and his wife, I want to visit them tomorrow to see their buggy too. Mr. Stünzner is also there at the bridge. He is said to have only prisoners for work.

1902 AUG. 3. Sunday. Michael appears early about 6 o'clock, prepares 1st & 2nd breakfast for me, as he has to go to church later. I then go out, fetch Schmolck and Lammert, and we look at the ice factory from the outside and the new weir plant and waterfall from below. Mr. Lammert takes 6 film shots. It is a picturesque area. Then we took a refreshing bath below in the institution and went home. After table to Mr. Traub's, who has a very nice flat. Then to the Governor's house where Doctor Schnee shows me the buggy, it is said to have cost over 500 M, is only slightly used and can be sold for 400 M. An English world traveller also appears, but Doctor Schnee didn't tell me his name or I didn't understand him. Afterwards to Mr. Lammert's, seeing his complete office equipment etc. Some Samoans and several sailors are riding and competing. The horse question is now coming up. In the evening I look at stars, Uranus, the South Pole, etc. with the naked eye and the Hamburg telescope. At his request, I also let a Samoan look through the telescope.

1902 AUG. 4. Monday. Laundry early in the morning. Then sent Doctor Schnee 100 M as a deposit, I will pay him the remaining 300 on September 1st. Michael soon brings the answer, that everything is in order and that I can have the carriage as soon as I want it. Then I wrote to Mr. Röver, whom I asked a few weeks ago for oil for watches,

		Schuster David Schaaffhausen
Canopies Clock comparison Photographs Party		Davis
Passage instrument		Lammert
Carriage Tour	Fulusou	Zuckschwerdt Schnee
Gef Breakfast		Stünzner Prisoners Mikaele Schmolck Lammert
	Ice factory	
Films Bathing		
Carriage		Traub Schnee World traveller
		Lammert
Horse		
Telescope		
Carriage Payment		Schnee Mikaele
		Röver

flashlight powder, etc., because of plates that I am in danger of running out of. I also gave Mr. Lammert a vice for his passage telescope to straighten the carrying arms and the clamping and fine movement arm. Then later out myself with the two local glass crates, as the glazier is reporting for tomorrow. The beams of the Samoa house above the seismic pendulum is erected, I take pictures of it; then I change the stripes and compare the clocks, Mr. Haaben visits me. The afternoon hour outside again; holes for the weather hut are marked out and Michael digs them. Tamasese appears and is shocked to see the size of the magnetic variation house, the timberwork of which is now being put together. Then after 3 or 4 more shots of it, to the customs house, where Schmolck wants to make a sailing trip in the governorate boat, whose furnishings, however, do not seem sufficient for sailing to him during the inspection. Therefore with him and Traub for a swim. At noon, horse harness bought for 100 M. 1902 AUG. 5. Tuesday. Out early, as I expect the painter in his secondary capacity as a glazier, who registered yesterday to arrive early. But he does not appear until 8 o'clock. So until then I open the glass boxes for the two magnetic houses. Only 4 of the 12 large matt panes for the absolute house are broken. After showing him the different frames and getting some of them, I go home for breakfast. Then I assemble the magnetic recorders and take measurements for the pillars that have to be placed on the finished limestone fundament for them and for the associated variometers. After the table, Mr. Niedringhaus tells us that due to his wife's illness there will be no food for 14 days. So where to eat now? – At the company I buy 1 box of feathers, a bottle of ink, 2 bundles of string, 1 box of matches. Then the sidereal chronometer table 304 is carried out, Mr. Lammert takes his universal instrument out, then we adjust the passage instrument and universal to each other, the latter on the south pillar. The inclination of the threads and the azimuth, the latter only provisionally, as well as the inclination of the instrument axis, are corrected. Since the threads of the universal are in order, the rest must be postponed until dark. Today, however, the weather is too uncertain. The glazier sends Michael to town for more putty, he will do the rest tomorrow. In the darkroom, red and yellow are now together at the bottom, red at the top left, yellow at the right. This, however, is too bright and in any case still needs to get a red offset glass. We put the two finished skylights in place.

Flashlight powder		
oil		
Plates (photographic)		
Vice		Lammert
Passage instrument		
Glass		Griffith
Canopy		
Photographs		Haaben
Weather hut		Mikaele
Canopy		Tamasese
Photographs	Customs house	
		Schmolck
		Traub
Horse harness		Zuckschwerdt
		Griffith
Glass		
Breakfast		
magnetic recorders		
Pillars		
Pedestal		Niedringhaus
Purchases		Company
Writing material		
Cordage		Lammert
Matches		
Chronometer		
Passage instrument		
Putty		Griffith
Darkroom		Mikaele
Skylight		

Michael draws a line around the variation house at a distance of several metres to where everything is to be searched for iron. The holes for the posts to the Samoa house are dug, it is already staked out. This afternoon, the rafter roofing was added to the finished basic structure of the seismic Samoa house, of which only 3 cross beams remain to be made tomorrow morning. Tamasese has already had several bundles of peeled bush poles brought here. He himself and some Samoans are there for some time in the afternoon. After his departure, Schaaffhausen misses a rasp that has just been used. The two protective boxes over the astronomical universal pillars are soon finished, the half-cast had made them too small, the larger one has been reworked for the small pillar; the larger pillar has been given a new one. But the fitting is still missing. No photos today. Only 2 bananas and 1 slice of bread to eat in the evening.

1902 AUG. 6. Wednesday. Early at Davis's developed the last 8 plates, 2 children's pictures and 6 from Mulinuu, one of which, as so easily, scratched. Then out to Mulinuu. The half-breed carpenter is busy putting 3 lengthwise timbers on each side of the roof beams for the Samoan earthquake house. Schaaffhausen had earlier told me that these were unnecessary and should only be fitted by Tamasese; after his return from the company and from Adam, who has half-lost his order note with exact measurements, and has therefore not yet started the support for the open flaps of the passage house, I ask him first. Tamasese has now asked for these timbers. –

So they are finished. The posts of the other Samoa house are dug in. The corrugated iron roof of the dynamite house is also being finished. Then back to breakfast, after I have taken pictures of both sites to be provided with Samoa houses, with the large apparatus, each with a Schleussner 9x12 and a Spindler & Hoyer 13x18 plate, these without much hope, as the small plates, at least the dozen developed so far, no longer seem to be usable. After breakfast and a little midday rest, Mr. Lammert comes with a horse he has found, which is to cost 120 M; it has not yet ridden in front of the wagon. I order it to Mulinuu in the morning. We fix the defective clamping device at zenith distance on his telescope by placing a piece of zinc plate under it. Then the two Samoans carry the two

Variation house		Mikaele
Iron-free		
Canopy (Variation house)		
Canopy (seismic house)		
Building material		Tamasese
Theft		Schaaffhausen
Protective box		Schuster
Dinner		
Development		Davis (Photographer)
Shelter (seismic)		Schaaffhausen
		Adam
Passage house		Tamasese
Canopy (variation)		
	Dynamite house	
Breakfast		
Photographs		Schleussner Spindler & Hoyer.
Horse		Lammert
Telescope		

remaining chronometers out of Songi, so that with the one I took out yesterday, all three are now outside; for the time being, they are all in the passage house. Rain showers come often. I replace Captain Frölich because of his regatta at 2 o'clock; when he returns at half past five he asks me to take over the reading until further notice, as he is to sail again tomorrow; large sums have already been bet on it. The glazier has not been able to get such a large glass as my large frosted glasses in the absolute house. But he claims that the company has such without their own knowledge. I want to see if I can find it tomorrow. Allegedly, a pane at the top of the skylight broke when putting it on, so that it rained in during the night; the pane will be replaced. At the variation house everything is glazed. The posts and longitudinal beams are erected, the posts at the bottom are put on and bedded in coral. I show Schaaffhausen the measurements and places for the lime pillars inside. Tamasese appears with 3 men and they put the white poles on the roof of the earthquake Samoa house. I photograph this twice on the two remaining 9x12 plates. Then started to correct the level with Mr. Lammert. Poor construction makes this work difficult. Not to be finished until tomorrow. Then home to eat a coconut and esi soup⁶⁹ prepared by Michael with bread, 2 bananas for dessert. It tastes quite good. – In the evening read off at Funk.

1902 AUG. 7. {Thursday}⁷⁰ At night both the Kawau with the European and the Hauroto with the New Zealand mail arrive. Early in the morning I develop 4 small and 2 large plates at Davis. The large ones are from Spindler & Hoyer and also turn out well, all with the large apparatus. Then home and out to Mulinu. The protective boxes over the outer meridian pillars are still not quite finished. The southern one will be white, the northern one black, [...] ⁷¹ one covered with the rest of the magnetic canvas, the other with the rest of the roofing felt we brought with us; so they cannot be confused, {even} ⁷² when both are removed. Mr. Lammert gets the more elegant white one. The posts of the Samoan variation house are {completely} ⁷³ erected. Michael helps with this. The Samoan from yesterday brings his nice white horse. But before making a decision, I want to see Mr. Stünzner's and the younger half-breed carpenter's first. Invited to breakfast by Tamasese. I go there at 11am, first there is kava, the old full-bearded chief Timo and the young Tupua are also sitting there. ⁷⁴ As the food is not quite ready yet,

⁶⁹ [papaya soup]

⁷⁰ [inserted]

⁷¹ [illegible]

⁷² [inserted]

⁷³ [inserted]

⁷⁴ [on the following page it is noted: "Timo is not a chief, but a priest (=teacher)"]

Chronometer	Songi	
Passage house		
Rain shower		Frölich
Regatta		
Reading		
Glass		Griffith (Painter & Glazier)
		Company
Skylight		
Glass		
Variation house		
		Schaaffhausen
Pillars		Tamasese
Shelter (seismic)		
Photographs		Lammert
Level		
Soup		Mikaele
Bananas		
Kawau		
Huroto		
Development		
		Spindler & Hoyer
Protective box		
		Lammert
Shelter (variation)		Mikaele
Horse		
Kava		Stünzner
Timo is not a chief but a priest (=teacher)		Schuster
		Tamasese
		Timo
		Tupua

Tamasese suggests I check out the property and leads me to the back of the cookhouse. There, festively decorated, 2 Samoans sit with the dough in the middle and furiously knead it, a third assists. Soon they bring the finished meal with whoops and hollers, it is served on half a banana leaf each, like at the kava, first to me, then to Tamasese, then to the two less distinguished guests. I get a plate under the banana leaf as a base, as well as a fork to be able to eat the nice-tasting dumplings more comfortably, but I also have to slurp the milky liquid out with my lips, like the 3 Samoans. After a short thank you, I go to Songi and to the post office, where there are only two letters for me, one from Mum, one from Leonie, and a few postcards. The rest, magazines, "Schleswiger" and "Hamburger Nachrichten"⁷⁵, sent these to Karl, Michael fetches them later. In the meantime, Mr. Peemüller appears with an enquiry about a darkroom lamp, I advise him to contact Davis, which, as he tells me in the evening, seems to be successful. Then I miss Funk's key and cannot do the readings at 2 o'clock and also in the evening at 9 o'clock. I had put the key in my overbag. I had taken off this jacket in Mulinuu as usual and hung it up in the Samoan cookhouse. Searched in vain in the afternoon. The laundry is brought in. Read "Astronomische Nachrichten"⁷⁶ in the evening. Then Michael brought Fai-ai, which I enjoy as a main meal with bread and cocoa and bananas. At 8 a.m., after an unsuccessful attempt to open the Funk door with Schaaffhausen's large rusty set of room keys, I go with Mr. Lammert to Mulinuu, where we make the first time determination with the passage instrument. I observe, Mr. Lammert gives me settings & seconds and writes. I change during each passage. Home again at 11. Very tired. 1902 AUG. 8. early to Adam, whom I fetch to Funk, he opens the door, for which I pay him 2 marks including key. I write to Funk to watch for bright meteors these evenings Friday to Tuesday 8 ½-9 ½ and 11-11 ½.⁷⁷ 7 ½ readings first, I have to complete the intervening 2 readings using the 3 recorders writing in my shop. I have these interrupted from 7 ¾ to 8 ¼, as a time marker. Out to Mulinuu where the beams of the Samoan variation house are in progress. Adam's son comes and takes the fan off and with Michael to his workshop to raise it. It must

⁷⁵ [German newspapers]

⁷⁶ [Astronomical News]

⁷⁷ [Tetens is obviously referring to the 'Perseids', a meteor stream that occurs annually around 11/12 August]

Cookhouse
Yodelling
Food

Post office

Mikaele
Peemüller
Davis

Reading
Key

Studies
Faiai

Mikaele

Time determination

Lammert

Key
Meteors

Adam

Recorder (meteorological)
Timestamps
Shelter (variation house)
Fan

Adam
Mikaele

be raised 7 feet. Then Mr. Traub arrives with his carriage, he has harnessed a Conrad horse that he wanted to buy but that his current horse does not like. Around noon, I have David, who has also caught me a supposedly rare fish (the others have been eaten), fetch it from Traub, the recently bought harness and a whip from Zuckschwerdt, then Doctor Schnee's carriage. Around noon, Mr. Lammert's carriage is overturned in Mulinuu, damaged, the horse is brought back by the little boy, the carriage is towed home by his Samoan. Mr. Lammert drives out with me after the table. When Schaaffhausen returns to Mulinuu later, he brings locks for the theodolite protection boxes with him. He also has a serious word with Tamasese, who, because today is Friday, has sent for food with the usual Samoan, and so does not appear at the hut construction. In the afternoon, after correcting the azimuth of 6 time seconds that we received last night, I fixed the passage instrument with plaster together with Mr. Lammert. I take 2⁷⁸ of it and 2 of the small universal instrument on the south pillar, on the former he is, on the latter I am, one small and one large plate each, furthermore 2 large ones from the scaffolding on the Samoan variation house. All with the big apparatus; just a moment, as the sun is shining. Then I drive to the bathing place, the horse runs well, but often stops or goes very slowly, making the whip necessary. At the bathing establishment Mr. and Mrs. Meredith are just leaving in their similar but more elegant carriage. I take Mr. Ettling and Mr. Lammert back with me. Then enjoyed some fai ai and cocoa, then after reading some things, with Mr. Lammert for observation. Doctor Funk has lit 3 bright flames on the Lanutoo, also red light, in response to the letter. Today, Mr. Lammert observes. Some difficulties. Afterwards I look up to $\frac{1}{2}$ 10 for shooting stars, but only 3 faint nonperseids seen, radiant something in eagle. Hauroto steamed off at noon with the International Circus travelling to Viti on guest performance, who board shortly before with music. Doctor Schnee sends me ~~their~~ bills by carriage. 1902 AUG. 9. Saturday. Out early with the carriage. The beams of the magnetic Samoa house are already finished. Schaaffhausen makes a mould for the lime pillars. Back. Developed yesterday's 6 plates at Davis, even the large ones somewhat sloppy, the

⁷⁸ [photos]

Carriage		Traub
Horse		Conradt
Fish		David
Horse harness		
Whip		
Carriage		Schnee
Carriage accident		Lammert
Protective box		Schaaffhausen
Friday provisioning		Tamasese
Azimuth		
Plaster		Lammert
Passage instrument		
Photographs		
Universal instrument, small		
Bathing		
Horse		Meredith (Sam)
		Ettling
Fai ai		
	Lanutoo	Funk
Meteors		
Hauoto		
Circus	Viti	Schnee
Carriage		
Shelter (variation)		Schaaffhausen
Pillars		Davis

9x12, like those from the 1st dozen spoiled. Out again afterwards, Adam's son is soldering the 7" extended air exhaust on the magnetic variation house. Mr. Haaben arrives and happily offers me a few dozen good 9x12 plates.

Tamasese has now started work on the Samoa roof covering over the earthquake house. By afternoon around 4 o'clock he has finished $\frac{3}{4}$ of the roof. Since he refuses to build this too because of the size of the magnetic Samoa house, Schaaffhausen threatens him with court etc., so he finally agrees. Hopefully he will do it soon. In the afternoon the related timberwork is finished. – Mr. Haaben drives with me to Songi at noon. Soon after my breakfast, Mr. Lammert appears and we check and clean the geodesic universal instrument. The two personal Samoans carry it out on a palanquin with two poles, I follow behind with Mr. Lammert as my entourage, at walking pace. Yesterday's time determination resulted in an azimuth – after correction – of $1\frac{1}{3}$ time seconds, so for the time being it was satisfactory, it was corrected a little too much. For the time being, the universal instrument is stored in the good Samoa house – in its box. Then I went for a bath and, after I had driven the American Consul General to his apartment, to the Tivoli Hotel for dinner, with the travelling Englishman who wants to know Milaen⁷⁹, has been to Peking and knows many other parts of the world. Then back to Mulinuu for time determination, Mr. Lammert observes again. No shooting stars to be seen. Back home at 10. Davis has now made the ordered prints of the urgent plates. I drive to "Misi mosa" Moors with Aleipaten⁸⁰ photographs for Mr. Baierlein, who sends a schooner next week.

1902 AUG. 10 Sunday. At morning sun spotless. I distribute the prints made by Davis into a number of parcels, of which I get 8 ready by 3 p.m., 1st Privy Councillor Wagner, 2nd the parents, 3rd Aunt Ida for Mr Romberg, 4th Fritz for the Lerbs and Buchholtz families and 5th for Captain Formes and 6th for the officers on the Oldenburg, furthermore 7th Mr. Schaefer in Hamm, 8th Prof. Wiechert. In the meantime, I go to table at the Tivoli Hotel at 12 o'clock, but dinner is not until 1 o'clock, but something is prepared for me. Then home again and finished the mail, only wrote Privy Councillor Wagner, the others only cards. Around 4 o'clock I am at the post office, then to Mulinuu to compare watches, then to Mrs. Conrad's, where I now buy the horse and pay 120 M, also order an average of 2 eggs a day and take the prospect of making suits.

⁷⁹ [transcription uncertain]

⁸⁰ [the Aleipata Islands are a group of four uninhabited Samoan islands, east of Upolu]

Development Fan		Adam
Shelter (seismic) Lau		Haaben Tamasese
Canopy (Variation)		Schaaffhausen
Large universal instrument	Songi	Lammert
Azimuth		
big house Bathing	Hotel Tivoli	Heimrod
		World traveller (English)
Time determination Meteors Copies.		Davis Bayerlein Moors
Sunspots Copies		Davis Wagner Parents Romberg Lerbs
	Hotel Tivoli	Buchholtz
Mail Clock comparison Horse Payment Eggs		Formes Schaefer Wiechert Conradt

Then visited Mr. Haaben in vain and went to the bath and to dinner. Afterwards looked in vain for meteors and showed Captain Frölich and his ladies some things in the sky, lastly at Funk's with his telescope behind.

1902 AUG. Monday. At night the Manapouri is announced by a shot, will probably bring theodolites and kite winch. Went out early to Mr. Haaben, who was still asleep, I get 10 dozen plates 6 in boxes are to be soldered, 4 not soldered in boxes. Then on the way back I put 9 in the small apparatus, 3 in the large apparatus, (all 9x12). A traveller from Manapouri shows Mr. Davis some splendid panoramic photographs. I ask him to get me one showing Honolulu. ~~Then~~ I had previously dropped in on Mr. Lammert and Doctor Penzl, the latter is ill in the old hospital, the owner is angry that I came in without pulling the bell; to avoid further discussions, I therefore leave immediately without having seen Penzl. – Then out to Mulinuu, where the two enclosures of the astronomical pillars, intended for the protection and installation of the lamp, are in progress. I take pictures of them; the weather house is also being erected. Then home for a strip change and breakfast, then out again with Mr. Lammert, where I still use up the 3 remaining plates in the large apparatus. The weather house is finished, the beams only need to be stiffened against wind pressure. Tamasese wants to start work again tomorrow, today his people are still sick from Saturday's work, he tells Schaaffhausen and me when we visit him at noon. – Then – Michael takes the reading ladder out to the weather house in the afternoon – we go bathing, the first carriage crossing the new wooden bridge under the French mission. Mr. Lammert has to lead the horse and haul away stones. Then home for dinner, fai ai and bananas, cheese and bread served up by Michael. Afterwards read some newspapers and a visitor appears, then with Mr. Lammert, who brings me apples, for 1 mark, out to time determination, which goes reasonably well, but is finally disturbed and ended by clouds. In the morning, laundry was fetched. The captain of the "Elfriede" – Copra⁸¹ ship of the "company" – comes out in the morning, tells me all sorts of things about wind at sea, especially that the wind here on the high seas usually blows from the S and SE for some time, then slowly turns to the NE, then faster over the N to the W and S. High barometer reading at south wind. The high seas in April are inexplicable to him. Manapouri steamed off in the afternoon. Michael & David mending the canvas around the reattached ventilator tube of the variation house. Schaaffhausen brings me the payrolls for June, July etc. for revision, about⁸² which I still have to talk to Mr. Lammert, Stünzner and Schaaffhausen.

⁸¹ [copra is the dried, white flesh of the coconut from which coconut oil is extracted. Copra was the main export of the German colony of Samoa]

⁸² [transcription uncertain]

Meteors		Haaben
Telescope		Frölich
Manapouri		Funk
Theodolite		
Kite winch		
Plates		Haaben
Panoramic pictures		
	Sanatorium	Davis
		Lammert
		Brought
		Doctor Penzl
Pillars		
Photographs		
Weather hut		
Change of stripes		Lammert
Photographs		
		Tamasese
		Schaaffhausen
		Mikaele
Weather hut		
Bridge		
Horse		Lammert
Dinner		Mikaele
Time determination		
Clouds		
		Ahrens
Wind		
Air pressure		
Manapouri		
Fan		
Workers' wages		Schaaffhausen

1902 AUG. 12th Tuesday. Early to Davis for developing, yesterday's dozen on the whole turned out well. Then to Mulinuu, where Tamasese is finishing the seismic Samoa roof, I take some pictures. Palm leaves are put on the ridge and also on the roof surfaces. Tomorrow, he wants to go into the "bush" to get sticks for the magnetic Samoa roof. Then to Mr. Haidlen's, where I sign some of the bills that have come in. Then breakfast. In the afternoon to Mulinuu with Mr. Lammert. Schaaffhausen reports that Haidlen has just recalled him for tomorrow, without him having said anything to me about it in the morning. Captain Frölich gives me the task of taking over the sea chart readings for a few days; he is to take Schultz on the Aeto. Then Mr. Haidlen is summoned to a meeting with Mr. Lammert and Mr. Stünzner for tomorrow morning. The stairs to the two magnetic booths are made. The enclosures around the two astronomical pillars are finished. I wanted sweet water for the lime pillars, but it is not to be had. Then drove to the bath. This quickly arranged, in an hour we are back for the 1st lunar culmination 6-9 in Mulinuu. Big programme observed. Afterwards kava from Lalamisa. Then to Niedringhaus, where the wife is cooking again, but there are only some rotten eggs and cheese. Had 2 more glasses of beer, skat night is upstairs, Doctor Schwesinger is playing. I soon go home again.

1902 AUG. 13th. Wednesday. Early 5 o'clock shot for the Kawau. At noon she brings me a friendly English letter from the wife of the Tasmanian Consul and 2 photographs of the two "Oldenburg" companions, the Americans; one depicting those on camels in front of this pyramid, the other the Greeks on board near the same time as my shots. In both cases, the camera was obviously moved a lot, or the paper was shifted during copying. Early out to Mulinuu, where the recorder pillar is being built just to the left. Thick coral blocks up to twice the head size, small pieces of coral and a mixture of equal parts of lime and sea sand with lots of water form the components. Then I drove to Mr. Haidlen in the governorate. He ordered Mr. Stünzner at my instigation. It turns out that I have to sign for all the wood deliveries, although some are used for the dynamite house. Otherwise I will have to pay for the numerous pillar stone cartloads and the work of fetching coral, which the government will have to pay for. Even if it is not possible to reach a very precise discussion and weighing, everything now seems to be distributed appropriately, Mr. Lammert is also present. Haidlen is satisfied, as he can now take care of everything important before handing

Development		Davis
Shelter (seismic)		Tamasese
Photographs		
Palm leaves		
Shelter (magnetic)		Haidlen 1
Instructions		Lammert
		Haidlen 2
		Schaaffhausen
		Frölich
Readings		Schultz
Aeto		
magnetic huts.		
Pillars		
Bathing		
Lunar culmination		
Kava		Lealamisa
		Niedringhaus
Dinner		
Playing cards		Schwesinger
Kawau		
Oldenburg		Wolffhagen
		Hamilton
Variation house		
Pillar 1		
		Haidlen
		Stünzner
Observatory, construction costs	Dynamite house	
	Government	
		Lammert

over the cash transactions to Mr. Schmolck on the 15th of the month. Mr. Stünzner, riding out to Mulinuu, then gives me the information I have long wanted about the dimensions of the foundations and pillars, and also the mixing ratios of the fillings. Mr. Haaben, who rode with me, accompanies us on the tour. Mr. Stünzner promises to write down the wood consumption with Schaaffhausen, how everything is used. Then after watch comparison to the table and out again later, this time with Mr. Lammert. Tamasese is already waiting outside. He asks for nails for the second Samoa roof. As he wants to start with precision, I give him brass nails from the plentiful supply, although according to the agreement with Schaaffhausen he should bind everything. He sets to work immediately and fastens the sticks on the roof with 2-3 men. After finishing the first pillar, the other workers put up the corrugated metal tank near the dynamite house, for which a wooden grate is erected. Then they help us to screw the big weight of the seismograph together and to carry it into the oak trestle unpacked at the top and provided with its metal attachments. So, under the Samoan roof all this is now protected. I make 6 plates, 2 large, 4 small, with the large apparatus. Then off for a bath and a meal. Read a bit and did Funk's readings, which I unfortunately forgot at 2 o'clock today. Cloudy in the evening, so no lunar culmination to get.

1902 AUG. 14th. Thursday. Early after reading completed the 3 missing for the last two weeks according to the recorders. Then put everything together for the Samoan newspaper and went there. Then back and bought at S.⁸³ Meredith "alofas" for Mr. & Mrs. Tamasese, tobacco and cloth to make a dress, together for 15 marks. Presented this to him. He wants a cart for the coconut leaves already picked, which must be processed soon if they are not to become unsuitable for this. In the afternoon I meet Schaaffhausen, who wants to get it and later tells me that the cart will come tomorrow. Outside, Michael has to open the 4 packet sectors for the earthquake pendulum, and by noon he has only managed to get 2 of the bolts, i.e. 1/8. At noon he fetches one of Songi's tins of petroleum, which works a little better than the "burning oil" Stünzner had provided; he does about half of it. The half-breed carpenter is working on the 2-legged pillar in the absolute house today. The lower part of the moulding box is particularly difficult for him, as the floor is already in place.

⁸³ Sam

	Schmolck
Pillar 2	Haaben
	Schaaffhausen
Clock comparison	Lammert
Nails	Tamasese
Shelter (magnetic)	
Pillar 3	
Tank	Dynamite house
Seismograph	
Photographs	
Readings	
Clouds	
Samoan newspaper	
Gifts	Meredith, Sam
Purchases.	Tamasese
Tobacco	Vaainga
Dress fabric	
Palm leaves	Schaaffhausen
Carriage	Mikaele
Seismograph	
Petroleum	
Fuel oil	Schuster
Pillars	
absolute house	

It is built of coral and lime. Then he places a triangular base of similar mixture for the rain gauge, It comes to rest on the west focus of an elliptical unused house site, south of the weather house. He adds 4 stiffening boards to prevent the wind from shaking it. – In the afternoon 2-5 {in Songi}⁸⁴ I examined the 3 magnetic variometers with Mr. Lammert because of the distance from the recorders. The distance of the instruments in question from the centre of the concerned pillar for the recording apparatus for declination is 184 cm, horizontal intensity 130 cm, vertical intensity 185 cm. While the 1st and 3rd instruments come into the magnetic meridian of the centre of the registration pillar, the variometer for horizontal intensity will have to be shifted 4 cm from it to the side of the lamp, so that it does not stand in the way of the declination variometer to be set up behind it, neither {seen}⁸⁵ from the lamp nor from a point of the cylindrical lens, but, seen from that point, projects itself onto the space between the cylindrical lens and the slit of the lamp. – After this examination, I drive out, meet the returning workers, watch the afternoon's work with Michael, go for a bath and dinner, then Mr. Lammert picks me up for the lunar culmination, I help him in Mulinuu until 9 o'clock, when the moon appears and then go to Funk's house for the reading. 1902 AUG. 15. Friday. Assumption Day; Michael, because of Church at 7 – must appear before 6. Then – after the reading – out, where I fix the ladder for the weather hut with posts, so that it can be used comfortably both to the north and to the south, and nonetheless stands firm in the loose sand. Then I measure out to the half-breed the places for the magnetic variometers at the back, and he sets them up in the moulded boxes. At noon we go out again to compare the clocks. In the afternoon, the weaker posts for the palm leaf walls are embedded in coral and fixed (variation house), which {we}⁸⁶ finish by 5 o'clock. Together with Mr. Lammert, I set up the geodesic universal on the south pillar (white box), as the protective box above the black box has hangers on the doors that do not hold. The thread {glass}⁸⁷ net rotates in its socket due to shocks. I buy a soft {harness}⁸⁸ pad and cleaning apparatus and a bag of bran for the horse to be called Jenny. The magnetic theodolite, which according to the bill of lading

⁸⁴ [inserted]

⁸⁵ [inserted]

⁸⁶ [inserted]

⁸⁷ [inserted]

⁸⁸ [inserted]

Foundation
Rain gauge

Weather hut

Variometer

Lammert

Meridian.

Lunar culmination

Reading

Funk
Mikaele

Reading
Weather hut

Sand

Schuster

Pillars

Clock comparison

Shelter (variation) {=magnetic}

Universal instrument

Lammert

Protective box

Tableware

Horse

Horse feed

was loaded on the steamer Stuttgart, can only come here on the next Union steamer, since Stuttgart did not leave Bremen until June 11. The kite winch, on the other hand, is supposed to be here, but I have not received the bill of lading. The company also wants to collect 5% of the value as a general average fee. Seems an unreasonable demand to me. It is too late for a bath after the day's work is done. Tamasese's daughter Esse esse brings me food, Fai ai, which forms dinner with eggs, cheese, bananas and cocoa. Afterwards, Schaaffhausen arrives and tells us that he can get lime, but the only available carter needs his cart to build a bridge, as he has a contract. Hopefully Schaaffhausen can get another one to fetch the coconut leaves for the side walls of the Samoa houses. I show him negatives, mainly of Mulinuu.

1902 AUG. 16. {1902 AUG. 16.}⁸⁹ Saturday. Early to Davis developing. The pictures are tolerable. Then to Mulinuu, where the earthquake house is now to be put to work. They put on the weights, everything cleaned with petroleum. Then the cement is spread where the frame had been placed and on the sides that protrude from the earth. Then the frame was placed over it, anchored and the foundation beams were started. Since the cement {socket}⁹⁰ is somewhat longer in the longitudinal direction of the house than the one in Göttingen, he cuts off a piece of the front support board. Then posts with a board base are dug into the ground, 4 on each of the two narrow sides of the house, on which the foundation sleepers come to rest. In the afternoon we go out again, lay the floor and fill in the side slats that have come off and been lost, then start on the gable walls. Meanwhile, Mr. Lammert continues to examine and correct the universal instrument lent by the Geodesic Institute. The [...] ⁹¹ rotates in its socket when the roller is shaken. This examination and today's weight and house construction are photographed. Then to the bath, where I buy an icebox from Blacklock for the investigation of the temperature coefficient of the variometer, the smallest one I can find, for 96 M. The electrician Hermann shows me all sorts of material that has arrived. – Afterwards I go out with Mr. Lammert to the moon culmination, despite dubious weather. Got pretty much everything. David asked for some kind of advanced money, I gave him 20 sh. ⁹² against receipt. The new tank is supposedly already half full, the very first night after installation there was water, I inaugurate it by transferring the washing rack from Songi to Mulinuu.

⁸⁹ [stamped twice]

⁹⁰ [inserted]

⁹¹ [transcription uncertain]

⁹² Shilling

Theodolite	
Bill of lading	
Kite winch	
Bill of lading	Company
Average	
Fai ai	Esse esse
Dinner	
Lime	Schaaffhausen
Carriage	
Palm leaves	
Development	Davis
Seismic hut	
Seismograph	
Pedestal	
Cement	
Universal instrument	
Photographs	
Icebox	Blacklock
	Herrmann
Lunar culmination	Lammert
Advanced money	David
Tank	
Washing rack	

1902 AUG. 17 Sunday. Early after breakfast and the 7 o'clock reading looked for Mr. Schmolck in vain, he was already gone. So we set off alone, up the eastern slope of the Vaeaa Mountain by the French mission and on ever steeper through banana plantations. Then across to the steep western slope, where there was a picturesque view of the high mountain foothills to the southwest, covered with beautiful, magnificent high forest. In the distance Tofua, then the whole north-western island area with the sea. A good path led me back to the mission. To Mr. Lammert, who was still asleep, then to the bath, to Mr. Traub, who, only in Lavalava, cleans and blackens his horse harness with his own hands, he also personally keeps the horse clean and shiny, so that it looks splendid. Then home, soon to the table, then home by carriage. At Mr. Lammert's request, we went out briefly for today's star occultation, which he calculated, to determine the tripod of the Seewarte⁹³ for the Berlin telescope. Watches done. Back, picked up Mr. Schmolck, then picked up Mr. Lammert, drove to Vailele, paid an inaugural visit to Captain Hufnagel, who knew Uncle Alfred well, he tells all sorts of interesting things. The father of Mrs. Meredith and Sophie was Uncle Alfred's second mate, the owner of Walter's house, Gabriel, also visited him. After a short refreshment we leave the old man again and drive back. The road winds through several river valleys, fords etc., not easy to drive, partly quite pretty. Drove Selesa a bit, brought the Berlin telescope and the metal tripod to Mr. Lammert in Mulinuu. Dinner made by Michaela. Observed in the evening. Star occultation, lunar culmination

1902 AUG. 18. Monday. Developed early, quite tolerably. Had the carriage repaired a little, also had a tether made for stopping places. Then to Mulinuu, where Tamasese's people are roofing the magnetic Samoa house. The leaves to the Fala fala are finally brought to Mrs. Tamasese. She is hard at work in her house with daughters. The carpenter with the other 2 half-bloods and the two Samoans are erecting the earthquake house. Some of the battens at the top where the roofs rest are missing and are being replaced. I photograph 7 with Legion and in the afternoon 2 large and 1 small with the large apparatus (the earthquake house). The Kormoran arrives at noon. Towards evening salute, probably for the Doctor Schnee going on board. Mr. Lammert tightens the adjusting screws of his passage instrument level; I unpack the 4 reading telescopes of the sea observatory, one has come off the bottom, the screws have come out. In the process it is broken. After 5 o'clock

⁹³ [Naval Observatory]

Reading		Schmolck 1
	Vaea Mountain	
View	Tofua	
Lavalava		Lammert I
Tableware.		Traub
Horse		Lammert 2
Tripod		Schmolck 2
Telescope		Lammert 3
	Vailele	Hufnagel
		Meredith, Sam
		Levensen
		Gabriel
		Walter
		Selessa
Star cover		
Lunar culmination		
Development		
Carriage		Tamasese
Shelter (magnetic)		
Palm leaves		Vaainga
Pola		
Seismic hut		Schuster
Photographs		
Kormoran		
Salute		Doctor Schnee
Passage instrument		Lammert
Reading telescopes		

for bathing and dinner, in the evening for lunar culmination 10am-2pm. Many clouds.
1902 AUG. 19. Tuesday. Out early, the 4 outer roof panels on the earthquake house are fastened, inside the eyebolts for the hooks are missing. I drive back here, get them from the company, also nails 2 to 4 inches and small ones for the battens and for the roofing felt. Then at Adam's I pick up the improved plate holders, on which he has soldered sheet metal. He opens the last 6 dozen plates that Mr. Haaben gave me; I then have my hair cut at Stopfkuchen while Michael appears, indicating Tamasese's visit to Songi, he had wanted some "business". On my way back to Mulinuu, I stop at his place, he wants 40 marks for the houses as an advanced payment; I promise to give it to him in the afternoon. Mr. Rasmussen gets me 4 glass plates 26 ½ x 28 inches from the company. Griffith is to fetch them when he comes out to Mulinuu to glaze the earthquake cabinet: outside I arranged an extension of the Samoa house over the earthquake apparatus, as otherwise the door of the house will not open. Only a kind of apse is added, i.e. the posts that are necessary after all are pushed forward a little on the door side. Furthermore, the roofing felt is now nailed on. The large Reitemeier box is opened and unpacked. Everything seems to be in good condition. It agrees with the list of contents. The two 40 cm long element boards are not oak, but ordinary wood, like the 4 other wall boards. Then to the table, Doctor Schulz handed over the {Malaaga}⁹⁴ photographs, Traub also chooses a large number, some do not find a lover. Then the first 12 plates are put into the newly improved frames, the plates are very thin. Mr. Haidlen appears and wants to know the value of the kite winch and the roof, I state to him 300 + 50 M, it is for the assurance because of the Karlsruhe accident. The bills of lading have neither reached me nor the addressee, the government. In the afternoon, Michael cleans the carriage, then goes out again and checks everything, the carpenter continues the construction of the porch in front of the seismic⁹⁵ Samoa house, posts, also rafters, taking these from the packaging crates; this makes it more comfortable for Tamasese. The roofing felt is nailed on. I take photos, 7 plates of the newly opened variety of Mr. Haaben with "legion apparatus". Mr. Lammert tries in vain to use the one Hamburg reading telescope as a collimator for the geodesic theodolite. The telescopes are not set up for infinity. Then to the bath with Doctor Penzl, the [...]⁹⁶, later lunar culmination

⁹⁴ [inserted]

⁹⁵ [transcription uncertain]

⁹⁶ [illegible]

Lunar culmination		
Cloud cover		
Seismic hut 1		
Nails		Company 1
Roofing felt		Adam
Photographic apparatus		
Plates		Haaben
Haircutting		Stopfkuchen
		Tamasese 1
Advanced money		
Glass panes		Rasmussen
Glass cabinet		
Shelter (seismic) 1		
Seismic hut 2		
Roofing felt		Reitemeier
Box		
Unpacking		
Borders		
Copies		Schultz
		Traub
Kite winch		Haidlen
Average		
Karlsruhe		
Bill of lading	Government	
Carriage		
Shelter (seismic) 2		Schuster
Roofing felt		Tamasese 2
Photographs		
		Haaben
Universal instrument		Lammert
Reading telescope		
Lunar culmination		Penzl

with Mr. Lammert 11-3. He ~~again~~ used his carriage for this purpose.

1902 AUG. 20. Wednesday. Early to Davis, developed and paid him 52 M for the copies. Then to Mulinuu with Doctor Penzl. Michael assembles the bearing frames for the earthquake rolls today, also the two steps and the drip rack. The posts for the coconut leaf roof on the earthquake house are put in place today, the apse is finished. I instruct the half-breed carpenter to make boards with a hole for inserting the chronometer for universe observation on the protective box of the passage instrument. In the afternoon, he finishes this under Mr. Lammert's supervision, so that he can probably observe with it next night, as I am then no longer there to sleep in, because I am otherwise too tired to be able to devote myself to the correction and examination⁹⁷ of the magnetic instruments. At noon, Doctor Schultz seriously claims that I have to go on board the Kormoran to pay a visit. It would be an outrageous presumption if the officers really expected you to pay them a visit first. Yesterday evening the commandant and an officer broke into our main room at Niedringhaus without further ado and ate there. Herr Lammert and Herr Traub introduced themselves to them! Today at noon none of them were there; I was already prepared for that: In the afternoon 4 pictures with Legion, 1 with large apparatus (inside of the Samoa house), mostly or all with Doctor Penzl on it. Towards evening for a bath, Kormoran crew with us. Partly with, partly without swimming trunks. This time not observed in the evening. Rain at night.

1902 AUG. 21. Thursday. Took the pictures to Captain Frölich last night, who is away for the company skat evening and has already read off at Funk's. Mrs. mother-in-law and sister-in-law are sitting there drinking porter with me. – This morning Michael comes as usual with the carriage, but it has completely torn the cover lining. The saddler is to repair it, writes me that he has no time today, so he takes the deck off at noon to keep it until it is finished. So I walk home today, paying a boy a mark for a basket of lemons, but forgetting it later, it doesn't come any further from the customs office, as I went to see Mr. Schmolck for a moment. He wanted to see if he had a bill of lading for the kite winch. But he does not have one. Mr. Haidlen has paid the 5% average costs, gives me the receipt for it, which I will send to Göttingen for reimbursement so that Privy Councillor Wagner can present it to the insurance company through the forwarders. In Mulinuu today, Michael is making the protective cabinet over the seismic apparatus with me, it fits together excellently as well as on the pillar, which is just the right length.

⁹⁷ ["correction" is marked with a 2 and "examination" with a 1, probably Tetens wanted to swap the words here]

Development	Lammert
Payment	Davis (Photographer)
Seismic hut	Penzl
Shelter (seismic)	Mikaele
Pola	Schuster
Time determination	
Passage instrument	Lammert
Variometer	
Visits	Schultz
Kormoran	
	von Burski
	Sea officers.
	Lammert
	Traub
Photographs	
Rain	
Playing cards	Frölich
	Company
Carriage	
	Curry
Lemons	
Purchase	Schmolck
Bill of lading	
Average	Haidlen
	Göttingen
Glass cabinet	
Seismograph	Mikaele
Pedestal	

Michael screws on the small ironwork and hammers in the wire brackets that go with them. The half-breed carpenter frees the 3 magnetic variation pillars from their covers and places those of the large one on the place where the second recorder is to stand, fills this and then places the front small pillar for the scales and fills this too in the afternoon. In the morning I make one photograph with Legion and 5 with the large apparatus, 2 of which are large plates (grw⁹⁸-Schleussner), the other small one of the new Haaben variety. (Doctor Hauff). In the afternoon we {cement}⁹⁹ a brass bolt as the normal altitude and main point on the astronomical north pillar. It has threads. Mr. Lammert's heliograph can be screwed onto it. The last two collimator pillars are stripped of their moulds. {These are the pillars around the absolute house}¹⁰⁰ Afterwards drove to the bath with Mr. Lammert's carriage, drank cold coconuts in Songi on the way. Walked back with Mr Hansen.

1902 AUG. 22. Friday. Developed at Davis this morning, 2 exposures large plate on one, one plate gone blank. The small plates many times underexposed. Then back and to Mulinuu. The joints in the earthquake house, broken off in the meantime, are filled in, the screws fastened to the hooks of the roof so that they do not go out of the eyelets. Michael finishes fixing the small ironwork and knobs on the glass box. The rain gauge is set up, I take 11 shots of it; cement is added to the lime pedestal, bevels. The broken glass is buried in the process. The two pillars to the east and west of the absolute house are stripped of their forms. The pedestals under the magnetic booths, as well as the two-legged one in the absolute house are lined. Then the cleaning of the places under and around the magnetic booths is begun. In the afternoon the ordered timbers from the company appear, the half-blood carpenter notes them down, also on the back of the earthquake house. I photograph 5 large and 1 small slab with large apparatus. The latter Tamasese, further the timber arrival and the now arriving Tamasesian daughters, fixing the polas to the magnetic variation house, at the same time his "Boys" continue the still missing northern roof side with sugar cane. The still missing posts of the earthquake Samoa house are set. Dynamite is brought at the same time, a whole wagon full, Mr. Kruse takes it to the dynamite house. – Then went bathing with Mr. Davis. Mr. Lammert has an ear infection. He consults Schwesinger. In the evening to Captain Frölich, who looks through the Malaaga pictures and labels them. At noon bought a long-fibre blanket for 48 M from a boy in Aana. Thick.

⁹⁸ [transcription uncertain]

⁹⁹ [inserted]

¹⁰⁰ [inserted]

Pillars
Variation house

Schuster

Photographs
Plates
Cement
Altitude mark
Light bolt
Pillars
Carriage
Coconut

Lammert
Hanssen

Development

Seismic hut

Glass cabinet
Rain gauge
Photographs
Pedestal 1
Glass
Pillar
Pedestal 2
Cleaning
Timber
Photographs

Mikaele

Company
Schuster

Pola
Shelter (magnetic)
Lau
Shelter (seismic)

Tamasese

Dynamite
Dynamite house

Bathing
Disease
Iesina

Davis
Lammert
Schwesinger
Frölich

1902 AUG. 23. Saturday. Developed early at Davis. Better results. Tamasese somewhat moved and too bright. With Mr. Traub to Mulinu. The posts at the earthquake Samoa house are set. Then the box around the pillars in the absolute house started, the floor around it made, which in Göttingen had the 3 holes for the tripod legs, then here equipped with a cut-out for the pillar. The lime pillars are so crumbly that you can break off the corners and edges with your finger, so protection is absolutely necessary. I take a photo of Mr. Traub, and also of the dynamite house with the tank. The north side of the Samoan roof over the variation house is almost finished, on the south half there are already palm leaves, also laid over the ridge for better protection against rain. Even more palm leaves are being broken off. The area around the magnetic booths is being cleaned further. Doctor Funk is back. In the evening 1 ½ hours with General Manager Hansen and Wendt with him. After table went out to Griffith, who is to come next day for glazing, and to Mrs. Conrad, who supplies me with eggs, 6 every 3 days, and who is now to make me 4 jackets according to sample. Visited Mulinu. Then to bath and home.

1902 AUG. 24. Sunday. Up early because of Michael. Studied a few things, then visited General Manager Hansen. Missed the teacher. To table; to Mulinu to compare watches, photographed the pillar in the absolute house with the not yet assembled cladding, furthermore the variation house with almost completed Samoa roof and finally the two guards, one asleep, on large plates. To Songi, picked up the prints for the fellow travellers in Australia, which were ready-made in the morning, Fairbairn, Miss Cavaye with her, Miss Robertson, Fultons, Mr. Lachmund, Mr. Bereli from Lloyd; brought to the post office, mail leaves tomorrow. Drove to Mr. Lammert, who does not want to go to Peters and Haidlen and therefore, contrary to his intention, does not go to Vailima. I visit Peters, who is very stylishly furnished, then Conrad in Vailima, who is alone, and finally Haidlen as well. Beautiful plantation up to the river, where the terrain drops off abruptly. Flying foxes. Then home, slowly downhill; horse fed. Later Michael picks it up.

1902 AUG. 25. Monday Done laundry early. Developed 10 plates at Davis, Legion all reasonable, from day before yesterday. Then to Mulinu. Glazier is there, getting everything ready. 4 panes of the Reitemeiers are broken, I have them replaced at the company, as well as the 4 large ones in the absolute house, these matted by Griffith. The half-breed carpenter finishes the protective box in the absolute house, then he attaches stronger hangers to the black box above the geodesic universal instrument. He also makes horizontal

Development
Shelter (seismic)
Pillars
absolute house

Davis
Traub

Lime

Tank
Shelter (magnetic)
Palm leaves
Cleaning

Dynamite house

Eggs
~~Suit~~ Jacket

Doctor Funk
Hanssen
Wendt
Griffith
Conradt
Mikaele 1
Hanssen
Damm

Studies

Clock comparison
Photographs

Copies
Oldenburg

Post office

Vailima

Fairbairn
Cavaye
Robertson
Fulton
Lachmund
Berele
Conradt
Lammert
Peters
Haidlen
Mikaele 2
Griffith
Company
Schuster

Flying foxes
Horse

Development

Glass cabinet
absolute house
Pillars
Protective box

poles on the gable walls of the Samoa house above the Variation house to fix Tamasese's sticks. In the afternoon, he also makes the floor flap in the earthquake house, places a bar in the middle crosswise underneath and this then rests on a post that is slightly slanted and rests on a board in the sand. These 3 parts remain in the hole when the flap is lifted out. In the variation house, the last two moulds are removed, and people look in vain for metal nails and the like at the bottom. In the afternoon, Tamasese's daughters seal the east side of the variation house with pola, so that it is half finished. I buy copper nails at Grevesmühl, brass nails are nowhere to be found. They are used to fasten the pola cords and for the floor in the variation house. In the evening to bathe with Traub, who still charged me 3 M 20 pfennig in the afternoon for the 4 heaviest photographic shipments to Australia. In the evening after ½ 9, out with Mr. Lammert to observe with the universal instrument. The threads on the glass plates are very delicate. Difficulties with illumination. Then clouds come, all overcast, ½ 11 back home.

1902 AUG. 26. Tuesday. Early to Mulinuu, the half-breed carpenter makes up a folding table in the earthquake house at the back, in order to put a chronometer on it when comparing with the pendulum clock. Because of the narrow space, the table must be able to be folded down. Furthermore, he also fills in the recesses in the 4 windows where the bolts that protruded too far were located, which were replaced by smaller, more practical ones at Privy Councillor Wagner's request in Göttingen. Then he mends the gaps in the floor and walls; the chickens come into the house, despite the work. I therefore have Michael carpenter a small chicken coop together. The carpenter also makes a ½ inch thick strip around the cut-out, left in the floor for the pillar, so that nothing can fall into the gap between the floor and the cement. The other two half-breeds help him and clean the area around the variation house. The floor flap in the earthquake house gets 2 holes that are meant to be lifted out and are usually closed with pieces of canvas. In the afternoon, all this is also done. Furthermore, I inspect the net of the geodesic universal with Mr. Lammert and nail roofing canvas around the pillar. – I photograph this and 2 plates outside and inside the earthquake house on the small apparatus. Bathed, Mr. Schmolck

Shelter, magnetic		Tamasese
Seismic hut		
Pillars		
Variation house		
Iron-free		
Pola		
Nails		Grevsmühl
Copies	Post office	Traub Lammert
Universal instrument		
Cloud cover		
Table		Schuster
Seismic hut		
Clock comparison		
	Göttingen	Wagner
Chickens		
Chicken coop		
Workers		
Cleaning		
Roof canvas 1		Lammert 1
Universal instrument 1		
Roof canvas 2		
Photographs		Schmolck

then falls off his new horse, rides on it beside me to the bridge.

In the evening, with Mr. Lammert, I made the first series of observations on the universal, observed β Litrae β Ceti, azimuth and zenith distance. Afterwards, in my store, I did the meteorological work with the mercury barometer, the centrifugal thermometer and the two recorders for temperature and air pressure. To bed at 12.

1902 AUG. 27. Wednesday. Early at Davis 12 plates Legion developed from yesterday and day before.

Lots of blurry Samoans and exposed too short. Michael then carries water for Davis. At Mulinu the half-breed with assistants pretty much finishes off the earthquake house today; window hooks(=runners) put on, etc., the other "Schuster" (II) helps and mends outside. Outside, a table is being attached to the NW side. Also a step in front of the entrance door. Today Tamasese finishes the laos of the northern half of the roof at the variation house. The pola on the same side are put on so that they are only missing on the west side. The half-breed is repairing the doors in the absolute house in the afternoon; they have come apart because the horizontal crosspieces are not attached to the door boards at all. The inner door is made to close better, mouldings are inserted and some of the rebated wood is cut off at the top to decorate the door.

Michael cleans the 3 stalls roughly in the afternoon. In the afternoon, Mr. Lammert plasters the large base plates of the geodesic universal instrument on the north pillar. I had brought him the small ones for this purpose. He also determines the partial value of the axis level of the large universal instrument on the passage instrument. He finds 2".6 to 2".9 with the help of the known levels. – Bathed after 5 o'clock

1902 AUG. 28. Thursday. Early comes the Kawau. In Mulinu, finished the over-shrunk dividing door in the absolute house by putting on a strip.

Darkroom furnishings, wall boards, made. Brought some negatives to Davis for copying. Fetched the post, read letters, saw Aunt Ida Teten's death from them, the most modest of the siblings. – After dinner, discussed with Hermann the installation of signal lamps on the magnetic variation recorders, which I cannot do without. At Adam's, we discussed the wind vane with the strength chart after Wild, which is also indispensable. Out again after table, laos arrive for the Samoa roofs, which I hope will finally be finished. The darkroom racks are ready. Captain Frölich with his wife {probably sister-in-law}¹⁰¹ and small child arrive. They and the carpenters are photographed with Legion. With Davis to the bath; read magazines in the evening.

¹⁰¹ [inserted]

Horse		
Universal instruments		Lammert 2
Latitude determination		
Development		Davis
Water		Mikaele 1
		Schuster 1
Seismic hut		
Table		
Lau		Tamasese
Shelter (magnetic)		
Pola		Schuster 2
Absolute house		
Door		
Cleaning		Mikaele 2
Plaster		Lammert
⌘ Universal instrument		
Level		
Kawau		
Door		
Absolute house		Davis
Darkroom	Post office	Ida T.
Village		
Signal lamp		Herrmann
Wind vane		Adam
Lau		
Photographs		Frölich
Studies.		Davis

1902 AUG. 29. Friday. In the morning at Davis developed the last 12 plates of "Legion", too insensitive variety, by Doctor Hauff. – Then Doctor Funk taken to Mulinuu. The darkroom furnishings are pretty much finished, as far as wood is concerned. The doors of the magnetic stalls are being touched up. The floor in the variation house is laid, 1 inch from the pillars; before this the beams are laid to it and fastened. This will be finished by evening. 2 people from Tamasese finish the roof of the porch to the seismic Samoa hut. I take photos in the morning and afternoon, in the morning 1 small one and 1 large one with the large apparatus, Doctor Funk in the afternoon with Legion. With Mr. Lammert I plot the meridian through the bananas beyond Malietoa's grave to the southern end of the peninsula tip. Doctor Funk sends me 2 note calendars for 1902 and 2 for 1903 for meteorological readings and the like. In the morning I buy 5 large and about 5 small mussels from 2 Samoans for 3 marks, in the evening in Mulinuu {No. should probably be Matautu}¹⁰² a coral bowl for about 40 marks. On the way back with Mr. von Hippel at Allw¹⁰³ {should probably be Andrew}¹⁰⁴, who has a magnificent one for 80 M. Yesterday evening and this morning the rear house, which was about 60 metres back, was rolled up to 20 metres, after the front and rear verandas had been taken down. Rathke's son is to live in it. Dark blue curtains in the bedroom and wire windows underneath and in the tool room were made in return, and a carriage shed is to be added. In the evening, Captain Frölich and his wife visit me, drink chilled coconuts, bring back a book and newspapers. In the afternoon, meeting with the "electric lieutenant" about the small signal lamps on the magnetic recorders. Mr. von Bülow introduced himself to me, apparently visiting him. In the evening 6^h 35 to 6^h 45 striking evening red.

1902 AUG. 30. Saturday. Out early to Mulinuu, having previously compiled some notes on the works of the last few weeks. The variation house is finished, the doors closing, the last two panels inserted, now there is only Tamasese's end missing. Then the astronomical mirus pillar is set on the southern tip. Last plates used up, this last one here, in the afternoon, where David is standing in the hole, in which coral layer already laid. 1 metre deep and equally side or slightly more. It is quite permeable sandy soil, with high water, in the afternoon, it rises in the pit. In the morning to Haidlen to fetch cement, 1 ton, Rathke's cart, David and {the}¹⁰⁵ one Samoan fetch it, also Lammert's iron rods for the roof of the passage house. Meanwhile, the half-breed carpenter "Schuster I" has finished the moulding box. Afternoon clock comparison. In addition, schooner wound up at Grevsmühl, I pass the hauling ropes 3 times. In the afternoon for a bath with

¹⁰² [inserted]

¹⁰³ [transcription uncertain]

¹⁰⁴ [inserted]

¹⁰⁵ [inserted]

Development	Davis
Darkroom	Funk 1
magnetic huts	
Shelter (seismic)	
Photographs	Funk 2
Mirus pillar	Lammert
Meridian	
Bananas	Funk 3
Notebook	
Mussels	
Tanoa	von Hippel
House shift	Andrew
	Hahnemann
	Rathke
	Frölich
Coconut	
Signal lamp	Herrmann
	von Bülow
Evening Red.	
Variation house	
Door	Tamasese
{Mirus} ¹⁰⁶ Pillar	
Photographs	
Sand	Haidlen
Cement	David
Passage house	Adam
Clock comparison	Schuster
Shipbuilding:	Grevsmühl

¹⁰⁶ [inserted]

the electrician Hermann. Tattensall has made copies, which I will send tomorrow. In the evening I write to Privy Councillor Wagner. Haaben and Schroeder are coming, the first I am to take to Vailele tomorrow.

1902 AUG. 31. Sunday. Up early before 6 a.m., 1st breakfast, later wrote letters and sent photographs away. Wolf, Fritz for Oldenburg, Leonie; everything done by ½ 12, as far as urgent. Then dressed, picked up Mr. Haaben, to Vailele, where only one commis of the company, Hansen. The officers and others cancelled because of mail. Mr. Hufnagel very nice man. Wife and visiting sister-in-law have some Samoan blood and speak only English, no German. Old Hanoverian, also gives all sorts of things to the best, teaches the Hufnagel children. Allro's at sea is shown, in which there is a large good drawing of Hufnagel's head and many others from Samoa. Departed again at 5, visited Mr. Lammert, who had soldered the last two 9x12 rifles and the penultimate 13x18, by Schleussner. Then drove home. In the evening 6 ½ bright evening sun again up to Spiaa. South wind yesterday afternoon, large tree fallen in front of the company.

1902 SEP. 1. Monday. Done laundry early, a young Samoan came to fetch it in addition to Vaiula's sister, but despite some deficiencies in Vaiula's washing skills I have no reason to make a sudden change in the washing business. The half-breed carpenter reports that the two Samoans do not want to come to Mulinuu to work any more, but are only asking for their money for August today. One Samoan had gone to the wife of another, who had then sent a third to kill the first, who then had stabbed him with a fish spear, and the two Samoans from Mulinuu belonged to him and were taking him to the doctor. Schuster II has also become unfaithful, now works for Blacklock; furthermore, there is a lack of food outside, and my boat is wanted to fetch coral. I send him, Schuster I, out to hire new Samoans; he is to have the payroll compiled by Schaaffhausen. I then develop the last dozen Hauff plates of Haaben in the Legion apparatus at Davis, as well as 6 in the large apparatus exposed during the last week, including 2 from Doctor Funk, (1 large 1 small). Haaben's plates too insensitive. Schleussner's inserted and later on Mulinuu I photographed Tamasese during resumed work with daughters at the earthquake house,

Copies		Hermann Tattersall Wagner Haaben Schröder
Oldenburg	Vailele	Wolf Leonie Haaben Hansen Hufnagel Morstadt Lammert
Evening Red Wind Tree Laundry	Company	Comp Vaiula
Workers Strike		Schuster Samoan
Revenge		
Food Boat Corals Wages Development Plates		Schaaffhausen
Photographs		Haaben Schleussner Tamasese

furthermore, the construction of the pedestal to the mirus pillar {on the}¹⁰⁷ southern tongue. Today, bricks are being laid up to the surface. Lime is also taken in between; Tamasese and his men nail the freshly fetched and peeled sticks to the still open 3 gable fields, 2 at the magnetic variation house, 1 at the earthquake house. For the first one he uses the copper and brass nails still available, for the last one iron ones. The polla are attached to 2 sides of the earthquake house. In the morning on my return from Davis – on foot, as the wagon was taken to Hammrell to repair minor damage – I buy a nice sailing canoe model from Samoan for 4 marks; then to Schmolck, where I collect the 600 M for September; then out ~~again~~ to Mulinuu, soon back to the strip exchange, to table after Damm has paid me a return visit. On the stairs to Niedringhaus I meet the governor, who answers my question that he will be in the office at 4. Then I went in and noticed Captain von Butzky of the Kormoran, whom I knew from Davis' photographs, but who had not yet become known to me personally. Mr. Schmolck, who was sitting between him and me, confirmed this to me after I had sat down and asked if he should introduce me to him. I thankfully declined, and as the captain did not seem to find any reason to introduce himself to me either, that did not happen. Doctor Schultz, Doctor Schwesinger and Mr Lammert were already sitting there and were just having soup. Although the conversation was quite lively in parts, the atmosphere was somewhat forced; I did not address the captain and he did not address me. After the table, everyone rose and we sat down on the veranda for coffee, after {we}¹⁰⁸ had noted down the drinks in the books lying on the next table. The captain was also standing there, somewhat distant, talking to Schmolck, but I called him over with a question, and so the captain went back into the room, sat down for about 5-10 minutes to read the newspaper and to pay, and then left. When Mr. Schmolck asked me why I hadn't let him introduce me, I replied that I didn't have to introduce myself to anyone at my regulars' table. When Mr. Schmolck said that the captain could not have known that, I replied that I had not invited him. That was the end of the conversation on this subject.

¹⁰⁷ [inserted]

¹⁰⁸ [inserted]

Pedestal
Mirus pillar
Lime
Shelter (magnetic & seismic)

Nails
Pola
Carriage
Boat model

Salary
Change of stripes

Davis
Hammrell
Schmolck

Damm
Doctor Schnee

von Burski

Schultz
Schwesinger
Lammert

If the captain was invited by one of the gentlemen, the respective had to introduce him to the other regulars, but if he came uninvited, it was his own business to introduce himself to the regulars. – After the table, I went out with Mr. Lammert and visited the construction of the mirus pillar. On the way, I reply to Mr. Lammert's question that it is the stranger's business to introduce himself. – I then go straight back, as David rides up to get the signature for the payroll. In Songi, I complete this and the food order for Zuckschwerdt. I show Mr. Lammert some more recent photographs at his audition, give him his in the carriage and then drive to the governor, who gives me a receipt for the 300 now given to him + the 100 paid earlier, a total of 400; then unscrewed and left the roof of the carriage at Schmidt Landels to put in the spyglass, which was completely missing (along with the frame) and some buttons for the fold-down ~~ceop~~ back leather; Conrads drive past me, they have brought me the last two jackets; open at the top. Then to the bath, after picking up a light bolt for the surface of the mirus pillar from Mr. Lammert. On the way back with Doctor Funk to the electrician Leutnant, who has finished the model of the lamp socket; then home. Paid off Michael.

1902 SEP. 2. Tuesday. Early to Mulinu, remained there till noon. Finished the pillar on the south tip. The foundation is about 4 feet deep and wide and long, going $\frac{1}{2}$ foot above ground, here a little smaller. Then the first box 3 feet high, 2 feet long and wide, at the top there are the lamp irons, so that one can put a lamp in from each side, but usually in the south, which then shines through both circular holes to the north straight towards the 3 instruments standing in the meridian (resp.¹⁰⁹ pillar). A height of 1 foot is recessed there, then another 1 foot gradually tapering upwards, so that the iron sheet box taken along just fits on it. 4 cramps from Adam are let in in the afternoon, and everything patched up where cavities had remained under the tapered part of the box, the remaining part, at the bottom, we left untouched. A light bolt is cemented in at the top. In the afternoon the editor of the Samoan newspaper joined us, but we thought it would be better if he saw everything in operation first. Kormoran steamed off in the morning,

¹⁰⁹ respectively

Mirus pillar 1

Lemuta

Lammert

David

Zuckschwert

Doctor Schnee.

Landells

~~Conradt~~

Funk
Hermann
Mikaele

Food
Copies

Carriage 1
Payment
Carriage 2

Jacket
Light bolt
Mirus pillar 2

Mirus pillar



Protective box

Adam

Light bolt

Samoan newspaper
Kormoran

Lübke

so back among us at lunch. In the afternoon Mulinuu still last plate of the large apparatus small format exposed, the attachment of the last Lau on top of the west gable of the magnetic variation house. Exposed the other plates in the morning as far as not already yesterday, Legion, some on the headland at the pillar construction, and the Tamasesian daughters at the completion of the polla at the same house, with other female beings helping today; one is said to be the sister of Mrs. Tamasese, 3 large and 1 small with large apparatus used for this. Afterwards still started to build the shed needed for many things, I think Samoa-style will suffice. It will be in front of the Samoa house. The posts are sawn 4x4 inches, 8 feet long, 2 of them in the ground, above them (beams){=wall plate}¹¹⁰ from 3x4 inches, the rest will be 2x3. Length and width about 20 feet. Picked up Davis for bathing, afterwards drove back to Songi with thick elephantiasis ballast that gets Kaikai, Lolli etc. Then brought to Funk his earthquake house lookout picture print, which Tattersall is swiftly printing for me today. 1902 Sep. 3. Wednesday. Early 4 and 7²⁰ said to have been earthquakes. Out to Mulinuu, where the posts and other timbers are being erected into a shed. 20 feet long and wide, the posts 6 feet high, roof 20 v ½ high = 14 feet, the 3 side laths for nailing on the lao sticks are 24 feet long, so they overhang the front and back by 2 feet. In the afternoon with Mr. Lammert outside, removed the rest of the wooden form from the mirus pillar on the southern tip, and filled in the places where the cement had not run. Finished the frame to the shed. Consultation about the wind vane {before}¹¹¹ at noon after I developed at Davis', at Adam's, at ½ 5 outside with the workers, later Hermann ordered a thick pole for it, he has some lying at the government for telegraphs. Tamasese wants to do the roofing of the shed on similar terms as the other two, which according to Schaaffhausen's agreement with him are \$ 18 for the big house, \$ 16 for the small house, furthermore \$ 2 for every 100 laos, and \$ 4 for every 100 polla. – I am to bring him money for his people tomorrow. Had dinner after the bath, then to Herr von Hippel's, where kava at Melle's in the Samoa house, siva too. Selessa. Mr. Dahms is there, furthermore Mr. von Bülow, Mr. Hoeflich, Mr. von Schroeder, Mr. Heydebrand von d. Lasa, Doctor Penzl also appear; a Protestant Samoan preacher from Melua sits there and embarrasses the players. The

¹¹⁰ [inserted]

¹¹¹ [inserted]

Photographs

Lau

Shelter, magnetic

Mirus pillar

Pola

Tamasese

Vaainga

Shed

Post

Davis

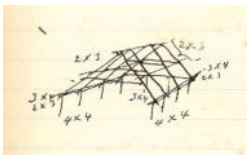
Carriage

Funk

Copy

Earthquake

Shed



Lammert

Mirus pillar

Cement

Wind vane

Development

Telephone pole

Adam, C. O.
Hermann

Tamasese

Absolute construction costs

Lau

Pola

Siva

Höflich
von Hippel
Melle (Hamilton)
Selessa
von Bülow
von Schröder
von Heydebrand von d.
L.¹¹²
Doctor Penzl

¹¹² von Heydebrand von der Lasa

Union steamer from Auckland, meanwhile, announces itself by the shot fired next door by the pilot. At 10 o'clock I leave, my legs getting too stiff, therefore walk back.

1902 SEP. 4. ~~Wednesday.~~ {Thursday.}¹¹³ Early in the morning gave drill to "Schuster I", then out myself. Head of tall palm tree cut off. Discussed with Schuster the fixing of the pole. Then to Hermann and picked out the lightest and thickest of the somewhat crooked telegraph poles made of Samoa wood lying by the governorate on the main road. David with me; then to the company, Michael and another Samoan bring the boat there and then come to the company with the pole in tow. Here I buy 8 pieces of 2ⁱⁿ x 3ⁱⁿ x 16 feet, 1 equally long 2ⁱⁿ x 6ⁱⁿ, furthermore pot for Michael and string and strong rope as well as wire rope. At 12 they are in Mulinuu with the double towed ballast. Meanwhile also ordered iron from Adam, and bolts, 4 each. See drawing → the palm is about 7, the pole 5 inches in diameter. Wooden fixings are then added. The iron wind vane itself is already in the works according to the description and illustration in Jelinek. First he makes 4 ring eyelets on a 7 ¾ inch iron ring; I take this with me at 2 o'clock along with the 4 long bolts and in the afternoon by 5 the palm is anchored to 4 neighbouring palms with the wire rope. Before that they already have a kind of chicken ladder almost ready at 2 ½ o'clock, made of 2 x 3 inch laths about 2 ½-3 feet long with spaces of 1 ½-2 ½ feet in between. With the purchased rope, the palm is pulled towards the concerned side after applying the ring, and then the wire rope is attached to the concerned palm. I take photographs with large apparatus, large plate (2) and (5), small plate (1), having previously taken 2 Legion plates from the arrival of the boat in Mulinuu, slow moment. At 5 o'clock still done watches, as Mr. Lammert is now always calculating on longitudes all day. Mr. Eckenweber rides around the whole enclosure outside. In the evening, a bath. Vaiula's daughters bring 2 forgotten handkerchiefs. At noon Lalamisa brought me 1 fine taupou lavalava and a large piece of kava as a counter-alofa; yesterday I had given him a piece of tobacco through Michael. I give Tamasese 80 M as further payment for the two houses and get him to undertake the making of the shed roof on the same terms as before. His wife signs the receipt for me.

¹¹³ [inserted]

Steamer
~~Le~~ Cannon shot

Palm tree
Wind vane
Telephone pole

Schuster

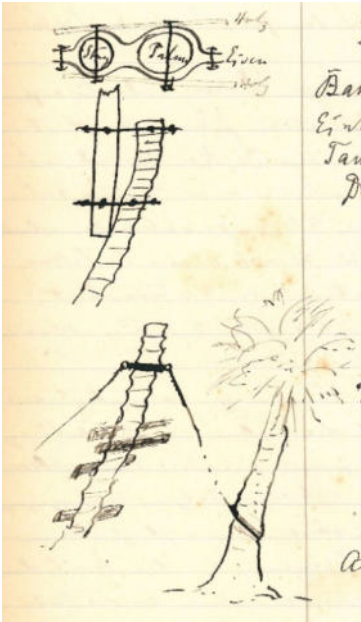
Hermann

David
Mikaele

Boat
Timber
Purchases
Cordage
Wire rope 1

Company

Adam



Wire rope 2

Photographs

Clock comparison

Lammert
Eckenweber
Vaiula
Lealamisa

Laundry
Lavalava
Kava
Gifts
Tobacco
Observatory Construction costs

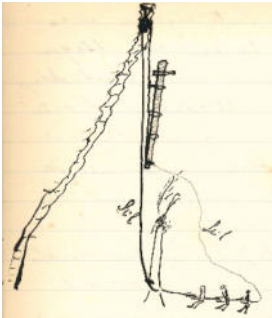
Tamasese

Vaainga

1902 SEP. 5. Friday. Early out to Mulinuu. The bar is planed off a little to fit Adam's irons. Then drilled through at the bottom. The pulley for a cord screwed to the top of the cross-bar. One of the American recorders is supposed to be raised on it; a flag can also be flown there if the occasion should require it. The pole is then wound up with a wooden pulley, bottle, from Schuster and the new strong rope. It is attached to the iron at the bottom of the pole and tied with several small bands, which are then gradually loosened at the top. In order to steer the lower end, as it is in danger of falling over, the free end of the rope is tied at the bottom. David works upstairs, as he did yesterday, as a deft circus man. Then the pole is tied upstairs almost in the right position for the time being. At 9 the people then do Malolo' and I drive into town. Adam hasn't finished it yet, not until tomorrow. Mr. Deeken also arrives, is at least greeted by Adam and I have to approach him with some determination until he allows me to talk to Mr. Adam for another ½ minute and also apologises, as he thought I had already finished my order. Back to Mulinuu, the work begins. Schuster cuts the board he has bought into 2 x 6 inches x 16 feet, cuts it into 4 parts, 2 to 3, 2 to 5 feet, drills 2 holes in each of the 4, through which the bolts are to pass. Then the iron rings are put around. After table out again, he now pierces the palm and the pole then everything turned to right and fastened; straightened; then finally in the somewhat loosened rings, after the two bolts are pulled out, lowered until the crossbar rests on the upper ring. | Then set posts, 2 x 3 inches, all around the shed to restrict the width of the polla spaces to half. Also to the front on both sides a pole each, to reduce the entrance a little. – Meanwhile, with Michael, unravelled the 4 window curtains for the absolute house, put together by Mrs. Wiechert; done one window. Then out for a bath and later out with Mr. Lammert. When they arrived, two women came out of the house. Schuster was also there, claimed that 10 M had been stolen from him and that he had cited them for having stolen it. – They went to the pillar on the southern tip in a boat, put down lamps with frosted glass. Then Mr. Lammert determined the azimuth with β Ceti¹¹⁴ and ζ Ophiuchi¹¹⁵. Then home, in the meantime David also appeared at the Samoa house, for conference? – sleeps. – 11 o'clock home. Schultz meets us, coming from Funk, whom I could not visit any more. –

¹¹⁴ [star in the constellation of Cetus, also called Diphda]

¹¹⁵ [star in the constellation of Ophiuchus]



Wind vane
Telephone pole

Adam 1

Flag

Schuster 1

Circus

David

Malolo

Adam 2
Deeken

Schuster 2

Palm tree

Shed
Pola

Curtains
absolute house

Mikaele
Wieckert

Theft
Mirus pillar
Boat
~~Azimuth~~
Meridian

Lammert
Schuster 3

David
Schultz
Funk

1902 SEP. 6. Saturday. Early to Mulinuu. The people begin to build a gate shed for the magnetic stalls, for storing the iron things, keys, etc., and the unused observation magnets in the theodolite. For this purpose, the remaining wooden ends are gathered and patched together. Then to breakfast in Songi. Michael cleans the rooms, as usual on Sundays, looking for water nearby at the Samoa huts, as the tank is in danger of running out. Then to Adam, who continues to work on the wind vane, then to Rathke, to whom I pay the monthly allowance for August etc., then to Davis to develop the last 4 legion plates and three with the large apparatus, one of which is a small plate. Then to Haaben, on the way carpenter Paul agrees to put the glass in the carriage if Adam makes a copper frame for it. Haaben has been ill with fever again, not yet fully recovered. There I get some transparent envelopes for the negatives, a pile of "Strassburger Neueste Nachrichten"¹¹⁶ and the prospect of plates. Then to Mrs. Conrad's, where the girls claim that my horse can expect motherly joys, but the woman doesn't want to believe it. I pay for eggs and the 4 jackets, these cheap, 9 marks each, the eggs 7 for 1 mark. I am asked to come along on tomorrow's outing. Then back, after another audition with Adam, back to Mulinuu, where 2 photographs of the Iron Gate, 2 in the afternoon of the weather vane; all large apparatus, as I don't have any in the small one, 8 of the dozen were cut too large. Then to table and out to Mulinuu with the weathervane ready. The iron gate is made ready in the entablature and the windvane erected; but it turns out that the pole is not quite immovably fixed in the cap which comes over the pole. Therefore taken down again. On Monday Adam has to improve it. Finished at 4 o'clock, went for a bath with Mr. Schmolck, who is tomorrow's entrepreneur. Then home for dinner, then Mr. Lammert arrives, wants a Samoan delivered as the provider of the food etc. I give him prints of Mulinuu photographs, mostly with him on them, which Tattensall has finished for me these days.

1902 SEP. 7. Sunday. Kormoran back yesterday, Union steamer off. This morning had 1 Samoan fetched by Michael from Mulinuu; then picked up

¹¹⁶ [Strasbourg Newest News]

Storage space

Cleaning

Water

Tank

Wind vane 1

Payment

Development

Carriage

Disease

Envelopes

Horse

Eggs

Jackets

Excursion 1

Photographs

Wind vanes 2

Excursion 2

Copies

Kormoran

Songi

Adam 1

Rathke

Davis

Haaben

Paul

Adam 2

Conradt

Adam 3

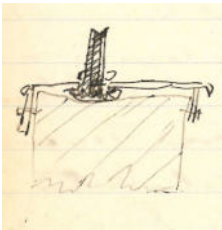
Schmolck

Lammert

Tattersall

Mikaele

Hahnemann



B. Hannemann, to Mr. Lammert, where luggage is taken, the Samoan helps carry things out. We wait at Armstrong's corner until Mr. Schmolck arrives with S. Levensen, also Mr. Traub and Mr. Lammert. Then we pick up the three oldest Conrad girls, the oldest of whom is riding. Then to Papaloloa, Moors' property, not a long way, hardly ½ hour from the usual bathing place. The river in several cases here descends through gorge. Deep at bottom, so girls all jump down, about 30 to 40 feet deep. Then climb up; the river cool. We males not brave enough to jump down. Then breakfast. Mr. Lammert got everything well. On banana leaves. Mr. Traub and I stay in our swimming costumes. Mr. Lammert takes photographs. He was almost pulled down as he went over at the top of the first small fall. Later, Haaben and Haidlen appear from the other side, they also get seltzer and white wine, I have to hang out a ladies' towel. Mr. Schmolck lets Mr. Lammert have a drink, then we go home again, the carriages and horses are harnessed up again and after taking a photograph, the train starts moving. We drop Conrad off; then home, I deliver Rathke's stepdaughter again, to Songi, to Niedringhaus for lunch, it had become 12 o'clock in the meantime. Then home to Mulinuu, done watches, slept a little and read, went for a bath in the public square filled with sailors, had dinner and then went to bed early, after the incoming Union steamer from Sydney had been announced by gunshot.

1902 SEP. 8. Monday. Early to Davis, put plates in Legion apparatus, orthochromatic Schleussner's, penultimate dozen. Of these 1 does not fit, of the other 11 exposed 10 today. Then to Adam who sets the cap higher and fastens it to the bar with 2 nuts. This is then carried out and, at the request of Mrs. Tamasese, I send Michael out to order Danielsen to bring a load of coconut palm leaves from Ifi Ifi and Motootua to Mulinuu. This is arranged in the morning. In the meantime I drive out again. A hole is drilled in the top of the wooden telephone pole for the {iron}¹¹⁷ pole. Then everything is put on, wound up, fastened. But it now sits very crooked. Therefore it was lowered again. After the table, the top, crooked piece of the telephone pole with the crossbar sawn off, a new hole drilled for the iron rod, but initially crooked again. So it is lowered again,

¹¹⁷ [inserted]

Lammert 1
Schmolck 1
Levensen
Traub
Conradt
Moors

Papaloloa Waterfall

Breakfast

Photographs

Haaben
Haidlen
Schmolck 2
Lammert 2

Rathke

Central-Hotel

Sailors

Clock comparison
Bathing
Steamer
{Cannons}¹¹⁸ Shot

Plates
Wind vane

Davis
Schleussner
Adam

Palm leaves

Vainga
Danielson

Motootua

Telephone pole



118 [inserted]

the cavity widened, wedges under the cap helped a little, still not enough. Therefore, down again, bent a little, up again, now it seems to be sufficiently vertical. The rose is a bit wrong, it will be turned and screwed tight. The rest is to be improved tomorrow by tightening the concerned wire ropes. – Tamasese appears in the afternoon with his wife and daughters, they quickly finish the polla of the earthquake house, and then they count everything, I now have to count it too. Then Tamasese starts nailing the bush sticks on the shed. – Then to the bath and home, with Doctor Penzl turned around again, who is still suffering. Then back home for dinner. Afterwards another hour with Doctor Funk. When I bathed, my forearms show as completely burnt by the sun, today they burnt very badly, it had been two quite hot days yesterday and today. Funk says they are the hottest for a long time, especially at this time of the year. The governorate sends me an opened consignment of Stolp paper¹¹⁹ 4 envelopes of 30 sheets each. Recorders forgotten at noon, not changed strips until evening 9^h50-10^h0, one had stopped, temperature, the others overflowed the brass.

1902 SEP. 9. Tuesday. Early Mulinu. Wire ropes tightened so that the crookedness of the iron bar disappears as far as possible. Wooden box made for the iron gate with 4 compartments for depositing the iron parts. Wooden floor laid on the two lower crosspieces of the telegraph pole attachment for more comfortable standing, in the afternoon also pulled a wire rope, to touch there and lower down on the step slats. David does not risk climbing all the way up, as suggested to him, in order to bend the iron pole a little more. I make 2 more large plates with 13 x 18 app.¹²⁰ and finally one more with Legion of workers. I then dismiss Schuster and the Savaii man. David and the other two stay a few more days for cleaning etc. – Tamasese and wife demand money in the morning, I go out + count all Lau and Polla, Michael also does it for checking. It comes out: variation house 495 Lau, 275 Polla, earthquake house 280 Lau, 200 Polla; together 775 Lau, 475 Polla, = the hundred for

¹¹⁹ [transcription uncertain]

¹²⁰ apparatus

	Tamasese
Pola	
Shelter (seismic)	
Shed	
Disease	Penzl
Sun beams	Funk
Air temperature	
Silver bromide paper	
Change of stripes	
Wire rope 1	
Wind vane	
Storage room	
Wire rope 2	
Photographs	
Cleaning	Fuaamu
Lau	Schuster
Pola	David
Obs. ¹²¹ Construction costs	Tamasese
	Mikaele

¹²¹ observatory

8 or rather 16 marks makes $8 \times 7.75 + 16 \times 4.75 = 62 + 76$ marks = 138 marks, plus 34 \$ = 136 marks for the work of mounting etc. makes 274 marks. I have already given him 40 marks and 80 marks, a total of 120 marks in advance, so today he still receives 154 marks. I drive with him via Songi to the customs house, but Mr. Schmolck doesn't give me anything, so I put it out that I have just that much. Tamasese gives a receipt for this. He has many visitors, as there is a big tallo'lo in the afternoon, gifts from the villages for the governor and the warship. I meet everyone, governor commander in front by carriage, officers on foot behind, many Samoans, jumping chief's sons (maneia) in high headdress, throwing big knives, and many spectators. Selessa, going to bathe, transported to her flat, as she had a bad foot, stepped on a nail. After bathing, saw the 3 signal lamps at Hermann's; crude, but probably sufficient work. Then home, after dinner still on foot to Mulinuu, as the chronometers had forgotten {about}¹²² the many other businesses. Mr. Lammert does not often get to do it anymore.

1902 SEP. 10. Wednesday. Developed early at Davis, some of the small ones have metallic haze, probably been too long in the developer. Michael carries water, but then paid off Schuster I and the Samoan from Savaii Fua amu at Schmolck; to Mulinuu. Joints in variation house cemented, afternoon curtains in absolute house further fitted, cords very messed up. David and the two Samoans clean the whole place; fill in some hollows, etc. Mr. Haaben wants me to take shares for the water pipe, Captain Frölich and Doctor Schultz take 10 each, I content myself with 5. à 100 M. – Took Doctor Funk from bathing. Drove to his place, little Marie found my ring by Sophie Lew. lost there {the day before}¹²³ yesterday, which I now have to carry on. – Grevsmühl invited me yesterday evening and Mr. Rathke this morning to the picnic organised by the German Association on Sunday. Doctor Funk and Schmolck want to go in the afternoon. – After bathing, immediately out again after a short snack to help Mr. Lammert in lunar culmination and azimuth determination, last with the barely recognisable σ Octantis¹²⁴. 10 ¼ o'clock home.

1902 SEP. 11. Thursday morning to Mulinuu. An enclosure, wood[...]¹²⁵ is being made around the well hole, so that especially at night, one does not fall in, old wood from the sheds etc. is used for this. Furthermore, the area is being cleaned up, a lot of banana waste, palm

¹²² [inserted]

¹²³ [inserted]

¹²⁴ [Sigma Octantis – also called: Polaris Australis – is a star in the Octans constellation. It is currently the closest star to the southern celestial pole visible to the naked eye]

¹²⁵ [word illegible, presumably: wooden hurdles]

Advanced money	Customs office	Schmolck Tamasese
Taalolo		Schnee von Burski
Manaia		Manaia
Tuinga		Selessa
Carriage		Hermann
Signal lamp		
Chronometer		Lammert
Development		Davis
Water		Mikaele
Variation house		Schuster
Putty		Fua amu
absolute house		David
Curtains		Haaben
Cleaning		Frölich
Water pipe		Schultz
Finger ring		Funk 1
Picnic		Marie Ertel
Concordia		Levensen
Lunar culmination		Grevsmühl
Meridian		Rathke
		Schmolck
		Funk 2
		Lammert
		Concordia
B Waterhole		
Cleaning		

leaves and similar residues are burned; gathered what is still usable into larger piles, buried old, unusable iron bands, also glass; neatly arranged the iron in the Samoa house and filled in many depressions; nailed roofing felt over the doors of the passage house, where the hinges are, so that no rain penetrates there, as it has already happened in the other places. Furthermore, in the afternoon I continue the curtains in the absolute house with Michael, finish the draught curtains on the skylight, show him the red rod curtains of the 4 doors and the window. In the morning I went to Mr. Haaben, who gave me a box with 6 dozen 9 x 12 dry plates, but he wanted 2 dozen back, so that I owed him a total of 14 dozen. We take some photographs of his house, 2 near the path, 2 up in the garden. Schaaffhausen is working on the bridge, demolished the old Vaisingano bridge yesterday, is now building a footbridge for the festival until Saturday. Jimmy and prisoners are working. Then ordered a protective cap over the universal instrument from Mrs Conrad. Then went in with Mr. Haaben, he wants to let me have his uprooted agaves and his Samoan, the former for Mulinuu, the latter for Songi. But Haidlen tells me that the agaves are too old to replant. In the afternoon Mulinuu, (see above) then for a bath, drove back with Schaaffhausen, who wants joint photographs of all those involved in the construction of the observatory. On Sunday he wants to visit me to discuss the company's latest timber bill. Then after a short snack back to Mulinuu, with Mr. Lammert again lunar culmination. Traub & Schmolck join us, but are immediately shuttled out again without losing a star. – 9 ½ o'clock home.

1902 SEP. 12. Friday. Early to Adam's, ordered a tray for the sink in the darkroom. Then to Mrs. Conrad, does not know water bags any nearer, I need one for cooling water for temperature coefficient determination. I return two dozen plates to Haaben. He goes with me to Hoeflich, soda water manufacturer. He has an old piece of hose that fits the kettle well, and he also got the last piece of Samoa ice from the factory, which is now at a standstill. He kindly gives [...] ¹²⁶ it to me. I pick it up in the afternoon after my bath!

¹²⁶ [word illegible]

Roofing felt	
Passage house	
Rain	
Curtains	Mikaele
Absolute house	
	Haaben
Plates	
Photographs	
Bridge	Schaaffhausen 1
Universal instrument	Jimmy
	Prisoners
	Conradt
Agaves	Ainga
	Haidlen
	Schaaffhausen 2
A	Workers
Absolute construction costs	Company
Lunar culmination	Lammert
	Traub
	Schmolck
	Adam
Darkroom	Conradt
Cooling device	
	Haaben
Temperature coefficient	Hoeflich
Ice	

In Mulinuu, cleaning and burning continued in the morning. Samoa dwelling house in order, weeds pulled out; after table, set up scales in Songi, reading telescope of the naval observatory (first star apparatus¹²⁷, black¹²⁸ box) used for this purpose. All 3 mirrors adjusted, needle corrected. Then to the bath, fetched ice, in tin box and travel blanket. Then to Mulinuu, done watches, started to examine temperature compensation in Songi until about 1 o'clock. Readings taken every 5 minutes. Mr. Lammert helps in the afternoon and evening. Room temperature hot water, room temperature. Needle rather restless at first, perhaps from all the iron parts, corrugated iron roof, etc. Quite tired to bed.

1902 SEP. 13. Saturday. Took scales and reading telescope, kettle, etc. to Mulinuu early in the morning to continue the investigation in the absolute house. Started to set it up. Then went to see Schmolck, who gave me a form for Tamasese. Took it to him. He signs the general receipt for 274 M. (double). After a discussion with him and his wife about what still has to be done and a short Kava, where his little boy, who he lets play on his lap without any other clothes, also has to drink, 1-2 years old, I want to drive back, the noon shot is already sounding, which is why I only get the money from Schmolck after the table, then to the company, where I buy 2 square lighting lanterns, which will be attached to palms by David and Tavete in the afternoon, as well as 4 pieces of white fish line, 1 of which will be used for these lanterns, 3 for the fencing of the magnetic houses, but only half enough for this; furthermore, 6 glasses for me, only one available so far, 2 water bottles woven into a basket, each holding 5-10 litres. Michael uses it to fetch nice water from the other side of Vaiasu Bay by boat in the afternoon, as both my tank and the nearby native spring have run dry today. I continue setting up in the absolute house in the afternoon. Then to bathe, to eat, after drinking a glass of lemonade with Doctor Penzl in the "German" beer hall, and with Mr. Lammert, observing lunar culmination and star occultation, on the way back, to which we no longer wait for the exit, as already the entrance at the dark edge is rather uncertain (* 6.2) we meet the worthy Kormoran commander with some Samoan women.

1902 SEP. 14. Sunday. Early out to Mulinuu where Busi now sleeps for the next week. There set up the scales on the pillar in the absolute house and adjusted all 3 mirrors. Adjustment of sensitivity difficult. Not achieved until 11 am. Then

¹²⁷ [transcription uncertain]

¹²⁸ [transcription uncertain]

Cleaning		
Vertical intensity		
Magnet variometer		
Reading telescope		
Ice		
Carriage		
Clock comparison		Lammert
Compensation		
absolute house		
Compensation		Schmolck
Obs. ¹²⁹ Construction costs		Tamasese
Kava		Vaainga
Lunch break		
Purchases	Customs office	
Lanterns	Company	
Palms		David
Cordage		Tavete
Water		
Boat		Mikaele
	Vailoa	
Tank		
Lunar culmination		Penzl
Star occultation		Lammert
		von Burski
Variometer		Pussi
absolute house		

¹²⁹ observatory

to table at Niedringhaus, where I find invitation from Schnee to Wednesday evening. Then drove to the picnic, almost all Apia there, met some more. Got coffee at Mrs. Rathke's and Grevsmühl's, and also at Hufnagel's. Deeken with cute wife come, furthermore officers from Kormoran and governor & wife, but officers & governor not spoken to. 4 ½ driven to Mrs. Conrad's where I am taking Davis, Traub also coming, she is set up for more guests with coffee cups and various kinds of cakes. She has finished sewing the protective bag over the instrument of the Geodesic Institute, it still needs to be oiled. After bathing home, where Funk drinks something alcoholic as the former president of the German Association Concordia, which is giving the picnic, is not at the party. In the evening to Mulinuu for observing the moon culmination. Schmolck and Traub go along, but are taken out again when the observation begins after 5 minutes. Home at 12 o'clock.

1902 SEP. 15. Monday. Early morning. Vaiula's wife appears, but only takes the money, the laundry is too much for her. Michael then fetches Alietta, Taupou (ret.), Celesa's ~~sister~~ cousin, who takes it over. He takes her with him, on the carriage, as the horse's harness is broken, to Curry. Back he brings mighty flowering branch of Selina, Bougainvillea lilla. Then out to Mulinuu; continuing to set the scales in motion. The brass rod with screw thread sits rather loosely in the magnet. Tried the two small screws alone, the large weight removed, will be too heavy here, where the vertical intensity of the earth's magnetism is only half that in Germany. The top screws used for regulation, but not yet finished.

The door to the absolute house, outside, has bent so crooked that it can be closed only with great effort & slamming. Michael and Busi are planing some of it. The latter saw the devil in the Samoa house last night. But Mr. Lammert claims at noon that he surprised him with female company.

Change of strips at noon. After table to the customs office with bill of lading on the theodolite, also fetched a delivery note from the company, as the bill of lading for the kite winch is not yet there, it has to be done that way.

At the customs office they ask for 1.60 M storage fee and 1 M transcription fee for the warehouseman. I receive the receipt for the former immediately. I make 2 declarations – each double, then everything is finally done.

Now I go in search of a cart to transport the 3 items, including the fourth Vogtlander opened by Capt. Frölich,

Concord Picnic		Schnee Concordia Rathke Grevsmühl Hufnagel Deeken Naval officers Conradt Davis Traub 1 Funk
Universal instrument		Schmolck Traub 2
Lunar culmination		Vaiula Alietta Selessa Curry Godinet Mikaele 1
Laundry Carriage Tableware Flowers Variometer		
absolute house Door		Mikaele 2 Pussi Lamert
Aitu		
Change of stripes Bill of lading Theodolite Kite winch	Customs office Company	
Declaration Carriage		Frölich

with iron-free lamps. At Grevsmühl I learn that the carter Gardain, newly opened business, is now fetching the boards from yesterday's fairground. I meet him on the way there and ride back with him. He does it right away. He comes to Songi, where I keep the kite canopy and the lamp box, in Mulinuu we then put the kite winch at the front of the flagpole {at the beginning of the village}¹³⁰ under the canopy for the war boat that is supposed to be a gift to the emperor, between the individual boats next to each other, which are held together at the top by the common deck. It lies close to the only suitable place for flying the kite.

As we continue our journey, Tamasese's wife asks me to load the pollas, which I do and the theodolite with polla

soon arrives at the site. I give thanks and a tip to the two Samoans accompanying the carter and then go for a bath, then back home for dinner. Mr. Lammert comes to me at about 8 o'clock, we go out, first latitude observation¹³¹, since he has set the wrong meridian by applying the deviation valid for the earth mark due to the eccentricity of the telescope, the first stars are useless, at last still 4, but got only northern ones; then time determination of longitude, lunar culmination observed until 12 o'clock.

1902 SEP. 16. Tuesday. Early to Mr. Haaben, for photographic matters, not met at home. Talked to Mrs. Conrad about shutters, as I cannot get my bedroom dark enough during the day to be able to sleep after nocturnal observations. Not done yet, as the company's fabric is too narrow and the shutters would roll up badly at the seam. Took the one recorder to Mulinuu and put it in the variation house. Here the red curtains are still being put on the doors and windows; the only thing missing are the sealing strips around the pillars on the floor, which are to be made from the rest of the same fabric. The section between the passage house and the north pillar will be cleaned and levelled even better, glass and stones removed. Out again after the table, to the sea, but this time on the west side of the peninsula. The water only arrived in the arms between the mangrove thickets, so Michael had to pull the boat a few 100 m and then carry me in, even afterwards often sitting up. The bay is quite shallow. Outside, improved the passage house, as the doors cannot be closed, crosspieces clamped between the doorposts,

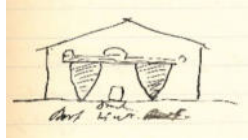
¹³⁰ [inserted]

¹³¹ [transcription uncertain]

Lamp, iron-free

Voigtländer
Gardain

Kite winch
Alia



Dragon ascent
Pola
Theodolite
Gift

Vaainga

Latitude determination
Meridian

Lammert

Time determination
Lunar culmination

Curtains 1

Songi

Haaben
Conradt

Recorder (magnetic)
Variation house
Curtains 2
Pillars
Cleaning
Boat
Mangrove

Mikaele

Passage house
Door

Vaitele Bay

which keep the two halves of the house the required distance apart; then greeted Miss Heimroth there together with an English woman who, according to Michael, had a relationship with Mr. Pranch¹³², the English doctor and I fixed her broken photograph tripod reasonably. She takes photographs in the avenue on the way back. Before, Doctor Schultz with Mrs. Rasmussen in the carriage, saw the latter there at Lalamisa. Then on foot to Songi, by carriage for a bath, back for dinner. Afterwards tried to get some sleep, alarm clock probably did not work, did not get out until 11 instead of 10, to Mulinuu, until {about}¹³³ 1 o'clock then helped Mr. Lammert. Heavy moisture precipitation on table top outside. Last night cirrus clouds conspicuous, from NW towards W., less today, but strong cirrostratus formation on the northern horizon. Bought 2 canoe models yesterday for 5 M from the same man living in Vailele (as the sailing canoe for 4 M the other day), he waved to me from the boat as I passed, the bargain was then soon concluded, only 50 pfennigs down.

1902 SEP. 17. Wednesday. Early to Mulinuu. Adjusted the top screws of the scales magnet; also adjusted the brass rod and the 3 mirrors. Also continued with this in the afternoon; it is hot work in the absolute house, in spite of the very mitigating blue-black curtains. Tamasese's wife asks me for money as we pass, I give her a 20 M note; she doesn't want it, but takes it anyway. Apparently, you cannot get rid of paper money in the shops. – At the table, the captain appears again, again without introducing himself. He also sits down unabashedly at the coffee table, but soon leaves again, as does Schultz, with whom he arrived. After the table, as also before, I tried to find Hermann, in vain, he is on board the petrol boat Aeto, which is to take Williams back to Savaii tomorrow. Back to Mulinuu, further adjustment of the scales magnet. Door of absolute house has become all crooked and no longer closes, repaired with Michael. Theodolite unpacked, inclinometer disc broken; had not been closed tightly, flipped open and hit the one in front of it. The booklets 1/ with the formulae of my processes and 2/ my Potsdam & Göttingen measurements are missing. A magnetic box has been made. For bathing, the horse goes badly, horseshoe off. Bought an alarm clock from Hellesöe, copper-plated, 12 M, also lights for the iron-free lamps. In the evening with Mr. Lammert moon culmination until ½ 2 o'clock.

1902 SEP. 18. Thursday. Early in the morning sent the horse to the company's farrier, who

¹³² [transcription uncertain]

¹³³ [inserted]

		Heimrod
Repair		
		Schultz Rasmussen Lealamisa
Bathing	Songi	
Carriage		
Alarm clock		Lammert
Latitude determination		
Cloud cover		
Humidity		
Boat models	Vailele	
Variometer 1		
absolute house 1		
Curtains		Vaainga
Paper money		
		von Burski Officials table Schultz Hermann Williams
Aeto		
Variometer 2		
Door		
absolute house 2		Mikaele
Theodolite		
Glass pane		
Formulas		
Observations		
Horse		Hellesö
Alarm clock		
Candles		
Lunar culmination		

replaces the two old hind hooves, one of which went off {the day before}¹³⁴ yesterday, with new ones.

He is sitting with his cute wife having coffee, as I call on him for this purpose, and finishes it in an hour. In the meantime, Mr. Haaben sends a messenger asking me to come as soon as possible, as he wants to go to the Mission's "May" festival later. Busi wants to go to Apia, I intercept him, he then helps harness the horse.

Then I drive out, passing many hundreds of Samoans, festively decorated. We load up the photographic equipment left at Haaben's and drive to Hufnagel's, where we get a glass of beer; he gives me a basket of green "sweet" lemons, and an old chair, covered with horsehide, long, to lie on; he wants to have one of the backrests, which has come off, put back on beforehand. At the same time, a captain-lieutenant from the Kormoran appears, who is spending a few days there to rest, and makes a much more pleasant impression than the captain-lieutenant¹³⁵. We soon set off, back a little, through 1 gate on the left, a further one, and then up along the edge of the Fangali valley. The place of the waterfall is soon reached, climbing down, over the stream, partly a bit wet, slippery and smooth polished stones, just above the fall. We take photographs there – above with Legion, measure the height by lowering and tying a tree trunk, 10^m long, below still 4^m fall height, so 14^m high. Then, climbed down, below photographs with large apparatus¹³⁶, two large, two small plates, and also a couple of Legion plates. Then climbed back up; drove home, i.e.

to Niedringhaus, picked up mail, various birthday wishes, Jörn Uhl, printed matter. Then Mulinuu, clock comparison, passage house improved (door flap closure); some rain starts, drove to bath, more rain comes. Home; read. Still quite a bit of rain at night; tank fills up at 7 a.m. M

1902 SEP. 19. Friday. Developed early, some of the plates too short exposed, some good. Then still studied mail. Afternoon Mulinuu, looked at theodolite more closely, the glass disc from the compass lies loose {in the box}¹³⁷, as does the metal ring holding it, I find the needle after a long search between the aluminium protective sleeves.

But it is all right. Needle balancing¹³⁸ not good, but got it pretty much right. The inclinometer glass has 78 radial cracks, but there seems to be no crack in all 4 places just where it is needed. Meanwhile Michael and Busi grease and clean the carriage.

Then to Songi, where Penzl arrives, we drive¹³⁹ to Selesa, who is not at home, back at the Vaisingano bridge we meet her, turn back with her, but she doesn't want to get Penzl the desired Samoan things. Missed the bath; home, after dinner Penzl comes to me again. Then slept for 2 hours, watched lunar culmination with Mr Lammert, and slept again for 2 hours.

¹³⁴ [inserted]

¹³⁵ [abbreviated, transcription uncertain]

¹³⁶ large apparatus

¹³⁷ [inserted]

¹³⁸ [transcription uncertain]

¹³⁹ [transcription uncertain]

Horse
Horseshoe

Company

Nusshär

Haaben
Pussi

Harnessing
Me

Hufnagel
Vailele

Hufnagel

Beer
Lemons
Chair
Kormoran

Naval officer

~~Waterfall~~

Fangalii
Waterfall

Photographs

Post office

Clock comparison
Passage house
Rain
Bathing, tank
Development
Theodolite

Cleaning
Carriage

Mikaele
Pussi
Penzl 1
Selessa
Penzl 2
Lammert

Lunar culmination

1902 SEP. 20. Saturday. In the morning made a boat trip to Vaiusu from Mulinuu because of lassitude. Beautiful estuary, spring at the end of the bay; immediately abuts the road from Apia to Vaitele. The two glass bottles filled with drinking water, then bathed. Some Samoan women do the washing. One of them also bathes and pushes us out afterwards. Crossed back, took a long time. Lamps in the passage house put in order. Measured the glass pane of the inclinometer and went to the table. In the afternoon we regulated the scales. Too hot in the afternoon in the absolute house. Then to the bath and home. In the evening early to bed, Mr. Lammert then picks me up, his horse runs away from him when he unties it again, his Samoan must not have harnessed it well, as it was able to strip off its head harness. It races with the carriage out to Mulinuu, off the road to the right, around Lalamisa's house, then to the left across the road and stops in the bananas behind Nale's house, where we find the carriage overturned and partly broken when we arrive {on foot}¹⁴⁰. Lalamisa brings the notebooks etc., we had already found the rope. Afterwards I let the heavy metal tripod fall on my right big toe. It was leaning against the north door from the inside, and of course it falls out when I open it from the outside. Severe pain. Limp home.

1902 SEP. 21. Sunday. Early to Haaben, where I buy 5 cat's or tiger's eye buttons for 5 M, cheap. – He also gives me another 1 dozen, the 15th, drying plates, which I am to give him back later; also a darkroom lamp, for oil with petroleum, yellow and red disc; also some developing cartridges and fixing cartridges. Finally, his Ai ugas, a coarse cook who used to be with Hufnagel. Sanga, interpreter to the governor is also there, seems to be her chief, he mediates the takeover. – She asks him if I am "lelei", which he must have answered in the affirmative. Then home, I drop Michael off at the church. Doctor Funk looks at my toe, prescribes and brings me a compress with sublimate water to keep it moist and cool. I do this all day, so I do without lunch. In the morning, before the journey to Haaben, I have the somewhat heartier Sunday breakfast. The same in the evening. Out to Mulinuu. ~~Monday. Not yet better~~, but now in my carriage. Michael therefore sleeps with me, at 2 Mr. Lammert picks me up. At 4 already back home, as it is getting cloudy. In the afternoon ½ 5 o'clock I drive to the Apia Hotel, where I place an order for the departing Haaben¹⁴¹, glass for the inclinometer & cocon threads¹⁴² in San Francisco.

¹⁴⁰ [inserted]

¹⁴¹ [transcription uncertain]

¹⁴² [transcription uncertain]

Boat	Vaiusu Vailoa	
Water		
Bathing		
Laundry	Dynamite house	
In the afternoon, the iron, partly left over from dynamite house construction, is taken to the governorate. ¹⁴³	Government	
Variometer		
absolute house		Lammert
Horse		
Runaway horse		
Bananas		
Carriage		Lealamisa
Tripod		
Accident		
		Haaben
Buttons		
Plates		
Lamp, photographic		
Chemicals		Ainga Sanga
Church		Mikaele 1
Treatment, medical.		Doctor Funk
Breakfast		
		Mikaele 2
Lunar culmination		Lammert
Cloud cover		
Glass pane		
Coconut threads		Haaben

¹⁴³ [Insert for diary entry at left page.]

1902 SEP. 22. Monday. Still pain in toe today, but not so bad as yesterday, when I always had to chill and therefore must lie down and could not write letters (only 4 postcards). Aliatta's sister gets money and picks up new laundry. Later, the new Donna appears with relatives. Michael gradually introduces her to her occupation during the day. I buy food and such from the company, which Michael fetches in the afternoon. For the time being, he has to eat with her, which requires a tin of meat or fish every day, as well as rice, tea and sugar, and hard bread (biscuit). In the afternoon she goes for a bath and returns soon. Michael makes the red pieces around the pillars in the Variation house in Mulinuu, where I went to do the clocks and lamps in the morning. I bathed again. Then home, Michael and Ainga practised cooking together. Changed strips of recorders (meteorological) at noon 12^h20^m-30^m, these are still in my shop; first the magnetic ones have to work.

1902 SEP. 23. Tuesday. Early to the bathing establishment, having forgotten the cuffs there last night, together with Uncle Emil's gold buttons (blue enamelled). Unfortunately no longer there. To Mrs. Conrad's, negotiated further because of dark curtains. Traub introduced me to her as 52 years old, which she believed despite my strikingly youthful appearance. Back, to the police station, Mr. Fries was advised to look for the cuffs. Home, to Mulinuu, done watches. Michael made high-legged storage rack out of the lid of Reitemeier's box. Key box attached. Out again in the afternoon. Visited the pillars in the variation house, they are nailed around with red fabric, on the floor. Not quite sealed yet. The scales in the absolute house has finally become quite good, so that the definite compensation determination can be made. Gifted Lalamisa with lavalava at 3 M to keep good neighbourhood. He is very grateful, a kava is drunk. To bath, Funk back; wants to make sundial, noon hand. Treat big toe in the evening; talk with Aina. Schaaffhausen finally looks through the company's timber bill. A lot of cowry wood of about 40 M has been returned.

1902 SEP. 24. Wednesday. Delivered the invoices checked last night to the customs office early in the morning. Mr. Schmolck is not there, at Hugo Schmidt's to see the coffee blossom, which I am prevented from doing because I cannot walk. Mulinuu. Gave the other neighbour, Nale, also lavalava, must also take kava there; Michael finishes the curtains around the pillars and over the doors by afternoon. Out again after table. Scales seems to be holding up now. Tank key missing, must be replaced. Has to be lockable. After bathing, home with Captain Frölich, took cotton-type fruit from Lammert,

Food		Aliatta Ainga Mikaele Company
Clock comparison Pillars Change of stripes		
Loss Curtains		Conradt Traub Fries
	Police	
Key cabinet Pillars Variation house Variometer Gift Kava Sundial Obs. ¹⁴⁴ construction costs Kauri wood		Reitemeier Lealamisa Funk Schaaffhausen Company Schmolck Hugo Schmidt
Coffee	Government treasury	
Gift Curtains Variometer Tank Kapok		Nale Frölich Lammert

¹⁴⁴ Observatory

purchased cufflinks and watch from the company beforehand, the latter Wendt only wants to wear for a trial run. In the evening 1 hour at Doctor Funk's, who makes a sundial noon hand from "eagle brass plate".

1902 SEP. 25. Thursday. Early in the morning, after other work, out to Mulinuu and done clocks, also adjusted the scales more sensitively than with the tip screwdriver, finally brought to 4 to 5 seconds; the mirrors adjusted to the same height for the scale reading. In the variation house, the 4 ventilation slides were fitted with inner red fabric curtains, so that everything is now quite tight. At Adam's son water box made of glass of zinc is finished; the box from Voigtländer is set up as a watering box. After table pocket watch fetched from company, nickel, 15 M. ~~disinfected~~ Aseptic bandage from Swann, but still has to be cut. Back later for bath with Doctor Funk, upper part. Home. In the evening dull, therefore only went over the flood calculation with Mr. Lammert, who wants to know it.

[1]902 SEP. 26. Friday. Early, water-casting zinc box {fetched and fixed in Mulinuu}¹⁴⁵ by Adam. Michael cuts

the accompanying pieces of wood, as it has got a little too high for the wooden box in the corner of the darkrooms made by Schuster I. A brass tube is soldered in the middle and the wooden box is drilled through for this. In the afternoon, when we go to fetch the finished watering box, Adam's son gives us some suitable copper nails to fasten it to. The watering box is only fastened together with copper nails, the iron nails are taken out. Two copper handles on the short ends of the brass pipe to drain off the water. In the morning, the scales were corrected again to make the oscillation time a little longer. The threaded brass wire through the middle of the needle, vertically, is unfortunately not very tight; therefore it is always necessary to adjust it as soon as anything is changed. In the afternoon, the recorders in the variation house were screwed together and set up. After bathing, ate rice with apricots at home. Then Lammert fetches me for latitude determination, before that we make a short time determination, home after 11 o'clock.

1902 SEP. 27. Saturday. Early in the morning an older "sister" of Aina offers herself, but is not accepted. Aina is said not to be able to flatten shirts. Drove to the customs office where the bills are drawn by Schnee. I take the one for Tamasese first and bring it to him to sign. Although there was no interpreter, his wife was away and Michael was already in Mulinuu – it went smoothly; then I fetched the money {28 M}¹⁴⁶ from Schmolck; also the last wages; in the afternoon gave Busi the remaining 13 M on the way. David only has 40 or 80 pfennigs left to get.

¹⁴⁵ [inserted]

¹⁴⁶ [inserted]

Purchases
Watch, pocket watch
Sundial
Clock comparison
Variometer

Company

Wendt
Funk

Curtains
Darkroom

Adam
Voigtländer

Pocket watch

Swann
Funk

Flood calculation

Lammert
Adam
Mikaele
Schuster

Darkroom

Nails

Variometer

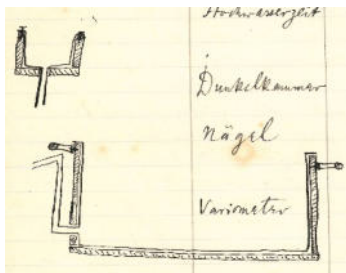
Recorder (magnetic)
Dinner
Time determination
Latitude determination

Government treasury

Ainga
Schnee
Tamasese

Workers' wages

Schmolck
Pussi
David



Tavete is completely exhausted. Traub and Schmolck left for Falifa today at noon, will be back tomorrow evening. Schultz left yesterday for Savaii for 1-2 weeks with Aeto finally restarted, Homer, the ice-factory man "without ice" has repaired it again, as Hermann could not. Midday clock comparison. A spider sits in Lloyd's scales, finally out, then cleaned. Afternoon company shopping, 2 new irons as the old ones seem to have been stolen, at any rate gone for weeks, probably taken by one of the workers. Also 2 bolts for the posts, furthermore a new padlock for the side posts, the previous one was also stolen before it was used. Also one for the tank, for which Adam is still making the lock. In the afternoon, bathing, home with the Consul General, invited to von Hippel's kava in the evening after dinner; a little sense¹⁴⁷ seen there. Meanwhile Lammert measures some latitudes in Mulinuu. Home at ½ 11.

1902 SEP. 28. Sunday. Early Mulinuu. Done clocks. Afterwards returned Hockett's visit, who, according to English custom, had called on me first, he wants to include articles about my mission in missionary calendars, he is also interested in the ebb and flood times given by the pilot for this year. The calendar for this year is very neatly printed in Malua. Then to Doctor Schnee, only short stay. The wife dresses for Riedel. Afterwards at 1 o'clock to him for breakfast. Funks, the two authorised signatories of the company, the Deekens. Mrs. Schnee is still limping a little from the last overturn in the unlucky buggy. As I refuse the meat, the black boys don't offer me the vegetables either, only later something at Hanssen's and Funk's intervention. Afterwards coffee in the new garden shed. Then to the bath. Then home. Despite clarity, Lammert does not appear today. In the night from Wednesday to Thursday there was an earthquake at 1 o'clock lasting about 15^s, Haidlen noticed it among others.

1902 SEP. 29. Monday. Strip change 11^h55^m to 12^h10^m. Done laundry early; paid 6.50 for the week. Then Mulinuu. Tamasese's wife given 24 M on way, against receipt. Her husband is outside working, fixes lau and pola at the shed. He stole the galvanised box from the theodolite, as I notice, he claims one of his men carried it away without his knowledge, sends him to retrieve it. Before I had noticed, he had already asked me for the wooden boards and sticks lying there, left over from boxes, pillar moulds, etc. I had agreed to give him some of it, only Michael was supposed to build a chicken coop out of it first. Further adjusted the scales. Sensitivity increased. After the table for a bath. Foot not yet normal, but hopefully in about 3 days.

¹⁴⁷ [transcription uncertain]

	Falefa	Tavete
Aeto		Traub
		Schmolck
Clock comparison		Schultz
Spider		Homer
Variometer	Company	Hermann
Purchases		Comp
Padlock		
Theft		
Tank		Adam
Kava, Siva		Heimrod
Latitude determination		von Hippel
Clock comparison		
Visits		Huckett
Mission calendar		
Flood times		Pilot
		Schnee
		Riedel
Carriage		Funk
		Deeken
		Black boys
		Haidlen
Earthquake		Lammert
Laundry		
Change of stripes		Vaainga
Lau, Pola		
Shed		Tamasese
Theodolite		
Theft		
Box		
Chicken coop		
Variometer		
Disease		

In the evening Lammert comes in temporary clearness but it soon covers again and then also rains for a short time; about 9-9 ½.

1902 SEP. 30. Tuesday. Early Mulinuu. Lalamisa lends kettle, begun temperature coefficients of scales. Cold, hot, cold. Very restless after hot water poured in, probably air currents, especially as the instrument itself is not closed by the lens, as otherwise not readable in the telescope. In the afternoon I bought my own kettle, suitable for an open fire, from the company and went out again. Repeated with it, in the evening 7-11 ½. Mr. Lammert also comes out 8^h approx. but it is too changeable to determine the latitude. In the afternoon helped with Funks sundial, he has board disc between 2 posts; but not very firm and {not}¹⁴⁸ fit for purpose. Back at it tomorrow. Took him for a bath, and back. Hufnagel joins at last 6 ½, wants to borrow magnet, as bolt has fallen into 25 feet deep hole (by Lawa 20').

1902 OCT. 1— Wednesday. Early Mulinuu. Repeated temperature coefficient determination of scales. Started ½ 9 o'clock. Then fetched the 600 M from Schmolck. Zuckschwerdt & Voigt paid 100 M for the carriage harness, Traub 6 M for the renewal of the horseshoes arranged by him previous year. Mulinuu again, then to Funk after rain where the sundial is not yet considerably further. Ate there, good menu chosen for me. Then Mulinuu, new row started. Closed the copper kettle at the bottom against the pillar with paper to protect it from ants and the like. After filling the water, the position of the needles changed considerably for no apparent reason. In the afternoon to bathe, afterwards readings in Mulinuu until 9 ¼, where I went twice more.

1902 OCT. 2 – Thursday. Early Mulinuu today again 2 determinations of the scales. In the forenoon, where the scales were warming up, drove to town, paid for Samoan newspaper and ordered envelopes for the observation sheets. The editor wants to report next time, wants me to write something down for him. Then to Selesa, where I deliver the book given to me by Doctor Penzl. Rain shower. Hammrell picked up the watch for the seismograph yesterday, I bring him the forgotten pendulum lens together with cord and key today. Then Mulinuu readings again. After table I took the boat to the "Samoa", which had arrived from Matupi in the morning. I went to see Captain Jürgensen at the coffee down at Niedringhaus, where he was eating with Hippel, von Schröder and Maquardt. Blacks on board, also women, all looking quite tidy and satisfied. He did not bring cane chairs and the like in order to give the blacks a comfortable place. Unfortunately, he didn't bring any curiosities either, he says he never takes things made for sale, only real articles of daily use. Suddenly Michael, who hadn't stayed in the boat, called out to me that something was wrong with the boat. It was lying on its side. With help

¹⁴⁸ [inserted]

Cloud cover		Lammert
Rain		
Boiler 1		Lealamisa
Variometer		
Temperature coefficient		
Boiler 2	Company	
		Lammert
Cloud cover		Funk
Sundial		
Bathing		
Borehole		Hufnagel
Temperature coefficient 1		
Salary		Schmolck
Tableware		Zuckschwerdt
Horseshoe		Traub
Rain		Funk
Sundial		
Lunch		
Temperature coefficient 2		
Temperature coefficient 3		
Variometer		
Samoan newspaper		
Envelopes		Lübke
		Selessa
Rain		Penzl
Seismograph		Hammrell
Pendulum clock		
Temperature coefficient		
Boat 1	Matupi	Jürgensen
Samoa (motor schooner)		
Wicker furniture		
Boat 2		Mikaele
Capsize		

of two blacks, it is righted again after 2 futile attempts under the captain's orders. Then I went to Mulinuu directly in the boat. Not used for a long time. There I found I had forgotten the keys to the magnetic house in Songi, went home, out again with the carriage. Then again hot water on, and for bathing, again 2 more times to Mulinuu. Tamasese says the name of the relevant place is Lemuta, the top of Mulinuu. In the evening 8-10 o'clock determined latitudes at circummeridian heights and time with Mr. Lammert. It is cloudy weather, weather lightning. Later in the night heavy rain showers.

1902 OCT. 3 – Friday. Early Mulinuu. Tamasese's people once again at work on the shed. Seems to be finished soon. Reading at the scales and lately watering cans. Michael pours too fast, so the glass funnel jumps in two. Drove back. Conradts bring eggs. Reading in Mulinuu, then Doctor Funk, sundial inspected. To table. Afterwards, compared barometer with Lammert in Songi and read the boiling thermometer, also the 3 recorders. Then took Mulinuu readings. In the morning an Englishman, Lees from Liverpool, went out with us, introduced himself as a scientist, had to keep him still during the clock comparison for 2 photographs. He knows some German, comes and goes with Hauroto. Out for a bath with Lammert, back with Doctor Funk. The foot is now almost completely better, only the nail is still steel blue. No time for the second measurement of the temperature influence today; as it has cooled down again only later in the afternoon. A noticeable jump in the position of the needle is there again.

1902 OCT. 4 – Saturday morning Michael's sister-in-law appears and asks me, together with him, for 1 week's leave for him to go to Savaii, his mother-in-law being very ill. I finally grant it to him. He provides a rather young, inexperienced deputy in Alaivaa, who also does not know German or English. – But the sister-in-law wants to check on him from time to time. We drive out to Mulinuu. I make another determination of the scales with less hot water. Then I hire Fuanru for 1.50 a day as a permanent guard for Mulinuu for as long as necessary, as I can't send Ala back and forth in advance like Michael, he has to do more carriage work. Then out to Mrs. Conradt's, where the bill for eggs and cap for September is paid. Bertha ran away, but was brought back by LeoLeo, couldn't stand it in Vailima. Now Auguste there. Back to Songi & Mulinuu. Clock comparison. Readings of the scales. Michael wants to go with his father-in-law's big boat at 10 am.

Key

Latitude determination	Mulinuu	Tamasese
Time determination	Lemuta	
Cloudiness, lightnings		
Rain		
Shed		Tamasese
Temperature coefficient		Mikaele
Eggs		Conradt
Barometer		Lammert
Boiling thermometer		Lees
Clock comparison		
Photographs		
Hauoto		
		Mikaele
		Leitu
		Alaivaa
Variometer		Fuaanru
Workers' wages		
Avanga	Vailima	Conradt

Ala drives me to the bath in the afternoon, Peters, who promises me things from the Bismarck Archipelago, and Papauta shoe. Here I first buy all sorts of things from Miss Schultze's hand, for 15 marks. Then refreshments, then lectures on poems and songs, mostly awful pronunciation, all German, but probably didn't understand any of it themselves, because the governor gave them a Samoan speech after the first part. I then left too, there was to be a long cantata and afterwards, with paper lanterns lit in the meantime, club wielders etc. Back I had to lend one of my carriage lamps to other carriages, and in return took 1 lady with me, sister-in-law of Eiffe. In the evening I compared the temperature with Lammert and determined the barometer with a boiling thermometer, even cooked myself some eggs despite the large staff, as they are always away. Then 1 hour to Schmolck's, where Schröder I, who had returned from Savaii, was also present.

1902 OCT. 5 – Sunday. Had coffee at Funk's early in the morning and went with him to Lotopà on Albert Jensen's property to collect blossoms and fruit from trees for the botanical garden in Sydney; took some photographs (also a few yesterday afternoon while bathing). In the evening after dinner to Michael's brother Talolo, who is photographed in his jewellery at Davis and who is projected from Deeken or another book. Sanga, the governor's interpreter also appears. All 3 speak Samoan to each other, Leitu wants to come tomorrow morning, which happens. Kava Alietta.

1902 OCT. 6 – Monday. Letu appears early, helps pick out laundry, etc. To Mulinuu, (Lemuta) where hot water is poured, after the compensation magnet has been moved from the highest to the lowest position and the one running weight screwed out accordingly. Afterwards, thermometer and barometer were determined with Mr. Lammert in Songi. Then out again, afterwards brought the padlock to the entrance gate to Adam, the son can probably open it, the father is to return tomorrow from the military hospital where he has survived a hernia operation. The lock was not quite pushed onto the tooth bracket when Ala closed it. – Then after the table another reading in Lemuta and in Songi with Lammert again the final determination. Tomorrow he wants to go on his first reconnaissance trip, 10-12 days, to the eastern half of Upolu. Bills paid, then off for a swim and home, in between Lemuta reading the scales again. Fuaamu and wife, and Ala are busy cleaning the Lamuta place.

1902 OCT. 7 – Tuesday. Morning and afternoon one row each of scales examination. The horse

Bathing

Papauta

Peters
Schultze, Valesca

Schnee

Carriage

Eiffe

Eggs

Ainga
Schmolck
Schröder
Funk
Albert Jensen

Lotòpa

Flowers
Photographs

Talolo
Sanga
Leitu
Alietta
Leitu

Kava

Compensation

Lammert

Thermometer

Barometer

Songi

Padlock

Adam

Surgery

Sanatorium

~~Sanatorium~~

Lammert

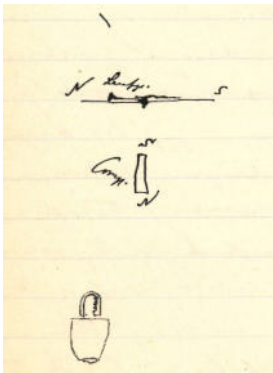
Payment

Fuaamu

Cleaning

Alaivaa

Variometer



has chafed under the back cushion. First tried to build a new double cushion, but it was too bad to use, so I borrowed Hammrell's horse for \$1 a week and gave Jenny some rest. In the afternoon, during the breaks between readings, also in the evening, made a short report for the Samoan newspaper and copied it out. After bathing, picked up some things of the Bismarck Archipelago from Peters, 1 idol, a club, 2 spears, 2 javelins, 20 arrows, 1 bow, 2 stone knives, 1 stone axe, and 1 arm ring made of snake skin. Until after 11 o'clock still copying the newspaper report. In the evening, lock attached to the gate Lemuta

1902 OCT. 8 – Wednesday. Early Mulinuu new scales determination. Later to Apia, Adam is to make the tank key, as Samoans fetch water there (dynamite house). Invoices from Zuckschwerdt & Voigt as well as liquidation for Tamasese, who is finishing the shed, taken to customs office. Reassurance received from the governor about the passage instrument. He has a letter from the Foreign Office stating that he is authorised to lend it to me. I am to send him a letter to that effect. Took rest of article to Samoan newspaper, finished this morning. In the afternoon, new series of temperature compensation determinations for the scales. In between to bathe.

1902 OCT. 9 – Thursday. Delivered essay early, the rest at noon. Received correction in the afternoon. 2 rows of scales compensation. In the evening improved the meridian with Cepheus star at Doctor Funk. Then final reading in Mulinuu.

1902 OCT. 10. Friday. Early, as yesterday, sent Jenny to Swann, smeared something on her back. Mulinuu one more row, finished by afternoon, so that even with the low position of the compensation magnet 8 rows measured in Mulinuu, together now 16. Calculation. Early correction delivered to Mohr, Hammrell brings me his other, somewhat better horse in the morning ½ 8 to Mulinuu. At noon Lalamisa, whom I had once again turned down for the house yesterday, to the Governor, who has authorised him to sell me the house for 60 M. It is necessary as a cooking house.

We will therefore do the deal with Mr. Haidlen straight away. I advance it.

The son of the late chief, Tete, is there, signs the receipts and gets the money, he wants to take it to Savaii today. – A little more unwell, diarrhoea early in the morning, earache in the afternoon. After bathing at Doctor Funk's, sundial corrected by 1 star. Schanz wants meteorological instruments; Funk tells for the first time that he has ordered 6 sets and expects them in dozens soon.

What Schanz wants to wait for.

1902 OCT. 8 {1902 OCT. 11.}¹⁴⁹ Saturday. Early 2 shots, Kawau probably entered during the night. Manapouri runs in 6 o'clock. I calculate the coefficients for the two magnet positions of the scales, I-VIII magnet high, IX-XVI low.

¹⁴⁹ [two stamps]

Horse 1		
		Hammrell
Horse 2		
Samoan newspaper		
Ethnographic objects		Peters
Padlock		
Variometer		
Tank	Dynamite house	Adam
		Zuckschwerdt
Passage instrument	Governor's Fund	Tamasese
		Doctor Schnee
Samoan newspaper		Federal Foreign Office
Compensation		
Bathing		
Samoan newspaper		
Sundial		Doctor Funk
Variometer		
Horse		Swann
Treatment medical		
Variometer		
Samoan Newspaper		Mohr
		Hammrell
Rear building		Lealamisa
		Haidlen
Payment		
Disease		
		Funk
Sundial		Schanz
meteorological instruments	Government	
Kawau		
Manapouri		
Variometer		

each reading graphically recorded. Plotted curves, then calculated the coefficient in 3 ways, 1/ from the time of heating, 2/ from the time of cooling
3/ from the 2 hours of maximum heating. Then drove to Mulinuu, the shed is not quite finished. Back to pick up Tamasese, with him to the customs office, where he signs the receipts and I pay him 100 M, I¹⁵⁰ had already given 24 M to the woman, but still have to pay $172-124 = 48$ M when everything is ready. Then only the small gatehouse is missing. Back, his wife wanted to drive him at least as far as the flagpole, so I would have him brought from my house to his by Ala. Schmolck only gave me silver money for 20 M, they had wanted at least 40 M, but didn't have it yet. Then I bought two padlocks from the company, one for the tank, the other as a reserve, and meat and fish for the staff. Then to the post office, which is not yet open, as both offices have to be serviced, half of Samoa is waiting there. I pick up the two cheap 10 M pocket watches at Grevsmühl, which were tried out there for a few days, as the 15 M watch bought from the company a few weeks ago no longer works; then to Mulinuu to compare watches, back to pick up the mail, which I read after table. Nothing from Göttingen. Aunt Riana died, which Ottilie tells me. Uncle Alfred's book sent by Aunt Ida, also something to read from Karl, from Paulsen, also newspapers. Rain in the afternoon, weak, but quite long; read on in the evening.
1902 OCT. 12. Sunday morning reading, then wrote letters, compared watches, lunch, wrote letters and some cards at the post office. With Frölich to the bath.
1902 OCT. 13. Monday. Change of stripes 12^h15-25^m . Early done the coefficients graphically and arithmetically. High position, + 0.25, low position, + 0.11 is the result, the magnet therefore also in low position still acting in the same sense as in high, would have to be even lower to make the coefficient zero, therefore, as this is not possible, it must be weakened. The administrator of Haaben arrives, informs me that the ordered photographic things have arrived. I confirm that it is for the observatory on the not quite separated¹⁵¹ invoice, which also has things for Haaben on it. Then I drove into town, to the Samoan Newspaper, got the two books bound, Paulsen & Uncle Alfred, and ordered paper to write on as inserts for the perforated envelopes to note down the observations. Bought scales candles, only available at Sophie's, all other larger shops only have too thick or too thin ones. Mulinuu Clock Comparison

¹⁵⁰ [transcription uncertain]

¹⁵¹ [transcription uncertain]

Compensation
Calculation

Shed

Tamasese

Government treasury

Obser.¹⁵² Construction costs

Storage room

Carriage

Silver money

Padlock

Company 1

Tank

Food

Post 1

Pocket watch

Company 2

Clock comparison

Post 2

Lauenburg

Rain

Clock comparison

Mail

Frölich

Change of stripes

Temperature coefficient

Stennes

Haaben

photographic material

Lübke

Envelopment

Paper strip

Candles

Levensen

¹⁵² Observatory

change of strips in Songi. Lunch, then out to Mulinuu with Hermann, on the way I give Tamasese the remaining 48 M, as the shed is now ready. I only had English gold, deduct the 84 pfennig, which causes great indignation, so I will do my best to change. Outside, Hermann looks at the situation, paces the distance from the absolute to the variation house. Then to the bath. In the evening earlier to the moon culmination. Only clear later.

1902 OCT. 14. Tuesday morning compensation magnet completely removed, in the morning and in the afternoon one determination each without compensation magnet. I bring Tamasese money changed today; at Sophie's I was able to change 100 M into German money, albeit with difficulty. Hermann comes with Samoan helpers in the afternoon, they lay the double wire one way. In the evening I go out again and take some readings at the cooling scales; during the two breaks I see the Samoans playing cards in the house. The horse does not want to go into the new shed.

1902 OCT. 15. Wednesday. Hermann does not send his Samoan till $\frac{3}{4}$ 8, instead of $\frac{1}{2}$ 7, and then he sits down in the Samoan house and does nothing till about 10 o'clock when Hermann himself comes. I took the elements, 10, out with me, we put them on, 8, lay the line through to the lamps. But they are not quite enough, I have to add some more. In the meantime, I do another row of scales, without a compensation magnet. Hermann's work is not very solid. One connection breaks right away, the palm tree sways a bit in the wind. Otherwise quite superficial. After the table I pick up some mail, notification that things with Manapouri have arrived, photographs from Sydney, Röver has finally ordered them, it took a full 3 months. Also 2 letters of thanks for photographs, one from Mrs. Fairbairn, one from Miss Robertson. At the table, Mr. Hesse, who is now drilling wells for Hufnagel, brings me a horse by Gervain for sale. But I don't take it, small, weak, stallion. Test drive in threes from Songi to Matafele to have dinner. Afterwards out again with Hermann, who finishes it to some extent, apply more power sources tomorrow, take 4 from him too and my last, in total then 16 elements. To the bath. Then I drove Miss Heimrod home, the father tells me there about his son in Leipzig who wants to sell an invention by Prof. Ostwald that is important for all positive methods, reproduction methods of all kinds. – Then to dinner in Songi and for a farewell kava to Mele or von Hippel. Brought her Lavalava and Tolua, also Lolli. Hippel moves out tomorrow. Then $\frac{1}{2}$ 11 home, there Jenny's

Payment		Hermann
Shed		Tamasese
Gold money		
Price loss		
Signal lamp		
Cloud cover		
Variometer 1		
Compensation		
Silver money		
		Hermann
Signal lamp		
Variometer 2		
Playing cards		
Horse		
		Hermann
		Samoan
Battery		
Signal lamp		
Variometer		
	Mail	
Manapouri		
Photographic material		
	Borehole	Fairbairn
	Lotopa	Robertson
Horse		Hesse
		Hermann
Battery	Ball	
		Heimrod
		von Hippel
Gifts		Melle (Hamilton)
		Tulua

absence discovered. AINU or someone else has left the new door at the back house open. Afterwards Captain Kruse comes and tells me that a horse had blown past Niedringhaus earlier; at the governorate people also shouted something at me, perhaps they saw it or even grabbed it. I therefore send Ala there and it is picked up, but he does not bring it with him.

1902 OCT. 16. Thursday morning Hammrell's horse, also down by the saddle, sent to Swann, have the other picked up, but does not follow, so I go to Swann, and on to the police station, where it is. Schaaffhausen tells me that it costs 4 M ransom, which I hand in to him. Then home for breakfast.

Ala then brings both horses to me via Swann. I then ask Swann, the Hammrell's cannot be driven for the time being. But the other one would be back soon.

Then on to Mr. Lammert's house, where I pick up the observation books, as there is a lunar eclipse tonight. Then to Haaben's caretaker, who tells me that the things will be handed over next day, I have to

pick it up myself. In the meantime Hermann, where Ala picked up the elements for reinforcement, has supposedly gone out to Mulinuu.

But I have no time now, it has become $\frac{1}{2}$ 12 o'clock, and

he also sends his nice English-speaking little boy,

George, announcing him at 2 o'clock. After table out with Reid's

son, nice boy who has nice big black horse, he also

has one for sale for 140 M. Talolo, the governor, is already

outside; at Mataafa's, it sounds like a steam whistle, probably a shell.

Hermann soon follows, but the two Samoans confess

that the box Ala had carried out, containing Hermann's 5

new elements, has been knocked over by the small child, almost

all the liquid has gone out. So Ala has to fetch new salt from

Swann. I then fetch the two cells 11 and 12

from Songi and give them to Ala to carry them out in the old English

hatbox. Now there is more life in Mulinuu, Mr. Haidlen

comes out of the big house (fono) and asks me on behalf of

Doctor Schnee, who is sitting inside, to help arrange the things, but

unfortunately I have no time and go on. We now put on all the

cells, in the end there is still some dull

light, they are also only $1\frac{1}{2}$ candlepower, about 6-7 volts. The new lamps

sent from San Francisco are brighter, 3 candles, so he is to change them

and put in new lamps; also the carbon filament is not parallel to the

slit, but perpendicular. His boy is supposed to help out for 1m a day and food

Horse

Kruse

Ala i vaa

Horse

Hammrell
Swann
Schaaffhausen

Police

Observation books
Lunar eclipse 1

Lammert
Stennes

Hermann 1
Ala ivaa 1

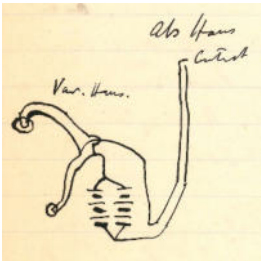
Horse
Taalolo
Musselhorn(horn)¹⁵³

Yandall 1
Reid
Schnee 1

Hermann 2

Battery

Swann



T

Fono house

Haidlen
Schnee 2

Signal lamp

Yandall 2

¹⁵³ [corrected]

some days, I therefore dismiss the somewhat clumsy Ala, provided by Michael, who still seems to have a dispute with Aina about a lavalava belonging to her, which he has taken to Mulinuu. Heavy thundershowers begin, lots of distant and closer lightning and thunder, since 6am; no time for bathing, no lunar eclipse to be seen either. Pouring rain, tank filled up again.

1902 OCT. 17. Friday. Early George appears, takes the bay horse to Swann, but he is not at home. To Lemuta, determination with scales. Horse is brought by Adam's assistant, I ride it first for a short trial ride, later to Apia and to table. Tonas on the hocks of the feet; therefore sent back, the bringer demands money for this use, I give him 2 M. In the afternoon Hermann comes, finishes it; today again some thunder and a little rain. Passage house cleaned. Put some boxes etc. from Mr. Lammert into the Samoa house. So more space inside. Hopefully clear weather soon to determine the time. The weather was too unfavourable for ¹⁵⁴ culmination this lunation, as nothing has been available so far. Went for a bath in the evening, but too far for us to go all day. George goes along, wears swimwear, then bathes too. In the evening, Doctor Funk brings back the spirit level, after which his sundial is made; then Schaaffhausen arrives, from whom I picked up a magnificent long spear this evening, as a gift, in return for the photographs. Then Michael comes, gives me a kiss on the hand as a greeting, looks a bit miserable. Gives me handstick.

1902 OCT. 18. Saturday. Early morning with Michael to Lemuta. Determination of compensation repeated. Moved the boxes and racks, crates, tripods, etc. from the Samoa dwelling house to the shed. Ala went out to fetch coral for the waterhole, which needs to be hollowed out deeper and better enclosed at the top. So, the Samoa house will now be usable as a dwelling for Michael. A horse is brought by Riedin¹⁵⁵, he lets me borrow it for a few days after a test ride, I probably won't keep it, it's quite unmanageable when it starts to run. Good later. In the afternoon, paid the freight for the parcel sent by Harrington with photographic items and chronometer oil, 4 M 50 pfennig. Also declaration done at the same time for the other box that could not be delivered today. Also picked up the first one. Key cabinet brought to Adam, who has to improve the closing and opening. With Mr. Lammert, who returned yesterday, meteorological instruments determined in Songi, reading Lemuta, bathing, ordered 4 pairs of trousers Mrs. Conrad. Michael then brings his brought things, kava bowl 16 M, 6 combs 10 M, braid needle 6 M for fishing, together 28 M.

¹⁵⁴ [schematic drawing of the moon]

¹⁵⁵ [transcription uncertain]

		Ala ivaa 2 Ainga
Thunderstorm		
Lunar eclipse 2		
Rain, Tank		
Horse 1		Yandall 1
Variometer		Swann
Horse 2		
Tona		
Thunder		Hermann
Rain		
Cleaning		
Passage house		
Time determination		
Lunar culmination		Yandall 2
Bathing		Funk
Level		Schaaffhausen
Sundial		
Ethnographic objects		Mikaele
Copies		
Gifts		
Compensation		Mikaele 1
Shed		Ala i vaa
Waterhole		
big house		
Horse		Reid
Freight		Harrington
Payment		
Declaration		
Key cabinet		Adam
meteorological instruments	Songi	Lammert
Ethnographic objects		Conradt
Trousers		Mikaele 2

In the evening Doctor Funk fetches me, we check the noon line on 2 pairs of stars, α β Gruis¹⁵⁶, η Pegasi¹⁵⁷

and ζ Cephei¹⁵⁸, it is correct to about $\pm 0^m.3$ or $\pm 0^m.5$, so not possible to be more precise.

1902 OCT. 19. Sunday. Took an excursion with George in the morning, used Ried's horse. Moa Moa, nice walk. Finally Gabriel's house. He was not there, a foster son Victor was sitting with Albert Jensen in the Samoa back house. I took a photo, then continue to the "brothers" who are starting a settlement, they have 1000 cocoa plants, lots of esi and vanilla etc. An Alsatian entertains me first and last. Everything is home-made; bamboo-woven house walls, also the church, this one with 2 coloured windows. The bishop has a small villa. The pupils live in 2 Samoa houses. To the small waterfall with a double basin in front, using the former as a shower bath. Photographs. Back. Mulinuu clock comparison. In the afternoon, after heavy rain, another small trip. Brought Mr. Stünzner a few prints, where he is on them, was not at home. Mrs. Schlüter also, here Mrs. Marschall and Oskar there. Then bathed. In the evening with Doctor Funk, time determination in Lemuta, but mostly clouds. At $\frac{1}{2}$ 10 he has to leave when it gets better.

1902 OCT. 20. Monday. Laundry Alietta in the morning. Then took some "tins" to Hufnagel's land in Lotopa with Mr. Stennes. He has been drilling for water there. Before that I write the letter below *). Outside filled various earth and stone samples into the tins, some still being taken by Stennes, but probably mixed from different depths. The hole is about 50 feet deep, 4-6 feet of water in it; after $\frac{1}{3}$ scooped out, half of it comes back after $\frac{1}{2}$ hour. Hesse has more samples for

me, but I only meet him on the way back, after my borrowed horse had run away, it beat against the carriage with its hooves, finally it came over the right drawbar with its right foot and stood, then slowly fell down on the right, the drawbar breaking off. With the help of Samoans, I unbuckled the harness and later had it picked up by the two "boys", who had the drawbar

*) The passage instrument set up in the observatory, belonging to the Foreign Office, together with a chronometer, has been used for two months by the land surveyor Lammert to determine longitude with sufficient success for his purposes. As it seems desirable to continue these determinations and to extend them over a whole year, and to obtain an even more precise value for the geographical longitude of Samoa in this way, I hereby request that the instrument together with the chronometer be made available to me for the continuation of the observations for one year.

Otto Tetens.

To the Imperial Governor of Samoa

¹⁵⁶ [stars in the southern sky in the constellation Grus, also called Alnair and Tiaki]

¹⁵⁷ [star in the constellation Pegasus, also called Matar]

¹⁵⁸ [star in the constellation Cepheus, also called Kurhah]

Sundial

Doctor Funk

Horse
Excursion
Photographs

Moamoa

Yandall
Gabriel
Albert Jensen
Marists

Bamboo
Church

Bishop

Waterfall

Photographs
Clock comparison
Rain
Copies
Time determination

Stünzner
Schlüter
Marschall
Funk
Alietta
Stennes

Lotopa

Borehole

Hesse

Runaway Horse
Horse

Carriage
Tableware
Passage instrument

Samoan

Government

Federal Foreign Office

bound together. They took the carriage to the blacksmith Landells, the horse to Ried with 3 marks, the Samoans had received 2 marks for help and storage until the boys arrived. – I was not able to change the stripes and compare watches until 3 o'clock in the afternoon¹⁵⁹. Mr. Lammert made instrument comparisons in Songi in the ~~morning~~ afternoon and evening. In the afternoon, invoices are brought to Mr. Schmolck; the second box, provided by Stennes, is collected by Michael, which requires a note from Schmolck, who initially wanted customs duty from me, but then calmed down when I told him that the "Gesellschaft der Wissenschaften"¹⁶⁰ had delivered the apparatus and also the first plates to me. Michael moves by boat to Lemuta from Matafele or his other house. Captain Fröhlich, who is driving a horse for the second time, takes me for a bath and we end up in the ditch when another carriage overtakes us, which the new one shied away from. But everything was unharmed and the journey was simply continued. In the evening we did another programme to determine the time. It is dull. Mr. Lammert. 1902 OCT. 21. Tuesday. Early morning. No one comes, George in particular. Developed at Davis. Some photographs some weeks ago. Bathing place and Funk's Sunday tour, also from day before yesterday. 10 ½ back, nobody there waited till 11 ½; but George has taken Hammrell's horse away, at least it is missing, Jenny alone there. Mulinu clock comparison. No one comes in the afternoon either. Michael finally; Mr. Lammert in the afternoon concluding determination and collecting the instruments. On foot to the bath. It is finally agreed with Michael that he will receive 60 M for himself and 20 M per month for an assistant, provisionally Fuaamu. They have already moved to Lemuta. Calculated in the evening. Funk. Palolo literature¹⁶¹ 1902 OCT. 22. Wednesday. Early Aina appears to Michael, through him let her go, given 5 more marks to the 20 of the day before yesterday, as 1 plate and 1 saucer are missing, 1 of which is broken, the 26th mark deducted. Then 6 ½ to Mr Lammert, whom [...] ¹⁶² taken in with his people. To Stennes about the bills for Schaaffhausen – Harrington. He refers me for receipt, which Schmolck wants, to the company which took the deposit. Then delivered the saddle piece of the harness to Hammrell for shortening and ordered a cushion of oilcloth to relieve the pressure on the area of the spine. Then to the company, which does not want to issue the receipt because it has only received the total amount transferred. I therefore write compilation myself, with that to Schmolck, who is asleep because Empress' birthday – ships all flagged over the toppings. Clock comparison. Lunch. Heavy rain, then on board the Samoa, Captain Jürgensen

¹⁵⁹ [transcription uncertain, probably abbreviation for: noon]

¹⁶⁰ [Society of Sciences]

¹⁶¹ [the Samoa palolo is a species of palolo worm. The hind bodies are considered a delicacy in Samoa and are also consumed as an aphrodisiac or fertility agent. Steamed between banana leaves or baked as mbalolo.]

¹⁶² [illegible]

		Landells Reid
Change of stripes Clock comparison	Songi	
Instructions		Lammert
Phot. ¹⁶³ Material		Schmolck 1
Customs clearance		Stennes Schmolck 2
Move		Mikaele
Horse Accident		Frölich
Time determination Cloud cover Development		Ł Yandall Davis
Horse Clock comparison meteorological instruments		Hammrell
Workers' wages Wage		Mikaele Lammert Fuaamu Funk Ainga Mikaele Lammert
Palolo Calculation Wage		Stennes Harrington Schmolck 1 Hammrell
Photographs		
Tableware		Company
Flags Clock comparison Rain "Samoa" (motor schooner)		Schmolck 2



¹⁶³ photographic

very nice, I take a few photographs, so that the dozen is full, (at Mr. Lammert's made also 2 large plates with large apparatus.). Home. In the evening dull. Studied palolo literature.

1902 OCT. 23. Thursday. Early 2 o'clock with the small boat and Michael and Fuaamu out to the Palolo. Outside few people, of whites only the police {soldier}¹⁶⁴ officer Eckenweber. $\frac{3}{4}$ 4 to 5 $\frac{1}{2}$ o'clock first quite individually lastly more Palolo. At 6 o'clock with daybreak to the house. Only just at the bottom of the bucket some are the result; Michael's wife made the nets of gauze. Mulinuu clock comparison. At noon carriage and horse inaugurated. In the afternoon got a large piece of hake from Captain Frölich, who is back, has been with Traub, Peters and Doctor Schwesinger on the south coast. I give it to Michael's master for him. The fish weighed 40 kg. Frölich hooked another one with a loose mouth several times, but didn't catch it, unknown species. Tamasese asked about the completion of the work. He wants nails for the poles that are to carry the Lau. I get them for him. There are some new clubs, perhaps for sale, hanging in his house. Then to the bath and to Mele in Matautu, where I get kava and announce myself for the evening, also inviting her with appointment to go for a ride. As the boat barely went back over the reef early on, I borrow a bigger one from Nale for 4 marks. The canoe then returns over the outer reef. Haircut. In the evening to Schnee, where Deekens, Hufnagels, Doctor Schultz and Ms Schulze, headmistress of the Papauta School. There until 10 $\frac{1}{4}$, then separation, I go to Mele, where I get Hippel's room, on the way (on foot) auditioned at the baths. I sleep from 11 to 1^h.

1902 OCT. 24. Friday. Woke up 1 $\frac{1}{4}$ o'clock, 2 $\frac{1}{4}$ the Boys arrive with 2 neighbouring women. Tea. Set out 2 $\frac{1}{2}$. 3 $\frac{1}{4}$ -5 $\frac{1}{2}$ Palolo, today 10 times as much as yesterday, but also only small finger high layer in bucket. Schnees also there, with Schultz and Schultze. Give them one of my two observation lamps. More people there today, {e.g. Harmann with Selessa pp.¹⁶⁵ ("like a King")¹⁶⁶ yet not everyone. Finally over the outer reef. Rain, everyone wet, John Williams comes in. Over the west reef I was pulled back into the boat, the Samoans all got out, some of them elegantly dressed, wading in the water 1 foot deep, it was pouring. They

¹⁶⁴ [inserted]

¹⁶⁵ perge, perge [Latin for: go on, proceed]

¹⁶⁶ [inserted]

Photographs		Lammert
Cloud cover		
Studies		
Boat		Mikaele
Palolo		Fuaamu
		Eckenweber
Net		
Gauze		
Carriage		Frölich
Horse		Traub
Fish		Peters
		Schwesinger
		Tamasese
Nails		
Lau		
Club		
Kava		Melle
Boat		
Low water		
	Reef	Nale
Haircutting		Schnee
		Deeken
		Hufnagel
		Schultz
		Schultze Valesca
		Malle Person
Palolo 1		Nusshär
		Harmann
		Schnee
Observation lamps		Schultz
	Reef	Schultze
		Tunufai
Boat		Tulnai
Rain		N Coe

go home wet around Apia. Afterwards, I drive to Matautu with the carriage that stayed overnight in Mulinuu and give the 3 of them 2 small things of 1 mark each from Latapi. Then Samoan-German conversation hour in Hippel's room, 2 of the 3 are there. Then Mulinuu clock comparison. After table set up the pendulum clock at the seismograph, Deeken also there, as yesterday, probably uninvited, went out with Hammrell. Bathed, to Schnee, where the wife did not appear because of seasickness, which I also suffered from once. He says that in Buka near New Guinea a native woman told him something in Pidgin English about similar fish once a year, he didn't know anything about Palolo at the time, so didn't investigate. To Conrad's, where only Bertha, sewing my 4 trousers; then meeting the mother and sister, at the son-in-law of Dean(?) Wendt who is going to Mioko tomorrow, and met Schmolck and Mrs. Dean at whom the 3rd Samoan of the palolo society is in the house, went with Schmolck, whereby, what had also happened to other trousers yesterday, the last button at the back tears off. So through Apia I have to go with one hand in my pocket. Early to bed.

1902 OCT. 25. Saturday. Michael arrives at 3 o'clock, at ½ 4 we get into a two-seater canoe borrowed from the Samoa house before last, it goes quite well, Michael sits at the back and gives direction with his oar. Good weather, moonlight, no rain. Only boat, later there is another, a Samoan, but he probably wants to catch fish. With the observation lamp only one palolo, green, found, as usual 20-30 cm long, about 4 ½. At 5 I found a few more pieces together, but could not state with complete certainty that they were palolo-like. When it was light, about 5 ¼ drive home along the same way smoothly over the inner reef. Splendid cobalt blue fish seen. At sunrise in Songi. Tried to sleep some more. Collected 60 M at the customs office, which I had given to Tete for the house. Unpacked the photographic and oil shipments. Michael fetches the photographs of the Samoa from Tattersall, I take them to Captain Jürgensen, who is on a farewell visit to Frölich and is delighted. Wendt pays me a farewell visit, I photograph him twice on the veranda. Funk is shown the sunrise and moonrise calculations from the Nautical Yearbook. – Deeken again at the table. After his departure, it is stated that no one asked him¹⁶⁷ Took 2 photographs of Samoan fishermen from my veranda.

¹⁶⁷ [the sentence is continued on page 184]

	Carriage		Latapi
	Gift		
	Clock comparison		
			Deeken
	Pendulum clock		Hammrell
	Seismograph		Schnee
	Seasickness	Buka	
	Palolo 2		
			Conradt
	Trousers		Dean
		Mioko	Wendt
			Coe
	Carriage		Schmolck
\	Accident	\	
	Soatau		Faipule
			Mikaele 1
	Moonlight		
	Observation lamps		
	Palolo		
	Twilight		
		Reef	
	Fish		
	Refund	Customs office	
	Rear building		Mikaele 2
	Unpacking		Tattersall
	Copies		Jürgensen
	Photographs 1		Wendt
	Calculation		Funk
	Nautical yearbook		Deeken
	Photographs 2		

eat with us, so probably Niedringhaus. – Sailed to Lemuta, good wind. Compared watches. Paid boat at Nale with 4, canoe at the other neighbour with 2 M. Kava here. More Palolo to come in November, they say. Rain later. Mrs. Tamasese comes to me and fetches 20 M advance for the gatehouse, of which only the sticks are nailed on, upper part. I give it to her against a receipt. She wants to buy petroleum. On the way back, she comes back because of the rain and has bought an umbrella instead of petroleum. Drinks water. – Afterwards studied some photographs. Early to bed; rather dull from the 3 palolo nights.

1902 OCT. 26. Sunday. Early in the morning read geographical etc. Journals, then Lemuta clock comparison, again pola bands torn down, too weak for the heavy coconut leaves. At noon Schmolck, whom I tell about the presents from the captain of the Samoa, wants me to pay customs for the things. Afterwards I ride with Traub to the corner, then up the Vaea Mountain, very hot, sweating wet. Eventually the path along the western slope gets lost and I take a break. Long-distance thunderstorm, no rain. Then back without underjacket and overshirt plus collar, wearing all this, also the jacket, partly then bathed and drove to Songi with Traub.

1902 OCT. 27. Monday. Got laundry early. Then treated the last ~~row~~ {group}¹⁶⁸ of the coefficients of the scales in the same way as the first two earlier. Graphically noted, evaluated in 3 ways. The 5 rows agree better with each other than the first two groups. There was no compensation magnet this time. The coefficient becomes the smallest of the 3 groups. In the first 4 rows of the 2nd group, where the magnet was deep, it was only about $\frac{1}{2}$ as large, but in the last 3 of the 2nd group it was so large that the mean was slightly larger than now in the 3rd group. The last coefficient is equal to 0.10, so one always has to subtract $\frac{1}{10}$ of the temperature curve when using the curve. – Not been to the bath, no time to walk, the carriage not ready yet. In the evening we went with Captain Fröhlich to Lemuta to determine the time, but it was already cloudy at the first star. So we turn back. Because of the rain we go to the next Samoa house, the one of the mission (Papauta school) and get kava at Sose. Two black boys are also sitting there.

1902 OCT. 28. Tuesday. Out early. Declination and horizontal intensity

¹⁶⁸ [inserted]

\	Boat	\	Niedringhaus
	Clock comparison		Faipule
	Payment		Nale
	Kava		Vaainga
	Palolo		
	Rain		
	Advanced money		
	Storage room		
	Studies		
	Studies		
	Clock comparison		
	Pola		
	Customs clearance		Schmolck
	Ethnographic objects		Traub 1
\		Vaea mountain	
	Thunderstorm	\	
	Clothing		
	Temperature coefficient		Traub 2
	Calculation		
\	Bathing	\	
	Carriage		
	Time determination		Frölich
	Cloud cover		
	Rain		
			Sosse
			Black boys

variometer set up in absolute house. Tamasese is working on the gate house. I have Michael make a wooden frame that can be placed on the absolute pillars east west or north south to compare the scales with the declination variometer, scales value determination. – My carriage is back from Landells. – Driven to the bath. Hufnagel brings the chair promised at that time, tomorrow his sister-in-law marries Rege, who is going to Nassau Island with Stünzner. Visited Stennes, who signs the bill. Then at Mrs. Conrad's, who sent me 4 pairs of trousers yesterday. I get a nice pineapple. Took Ella to the Governor, who also gets one. At home I find a letter from Wilmanns, who asks for the letter back to the Foreign Office. I had already told the governor that I didn't want to make a special request because of the chronometer. – He sent me a draft dated 23 October to the Foreign Office:

The passage instrument belonging to the Foreign Office, together with a chronometer, has been used for two months by the land surveyor Lammert to determine longitude with sufficient success for his purposes. The astronomer Doctor Tetens, however, has declared it desirable to continue these determinations and to extend them over a whole year, and in this way to obtain an even more precise value for the geographical longitude of Samoa, and has therefore requested that the instrument and chronometer be given to him for the continuation of the observations for one year.

In accordance with this request, I have left the instruments with Doctor Tetens, subject to any other instructions from the Foreign Office.

The second chronometer that was promised has not yet arrived here.

In representation

Schnee

First of all, humbly requesting Doctor Tetens to indicate whether he still attaches importance to the sending of the second chronometer. Schnee 22/10,

Humbly returned with the expression of sincere thanks for the continued use of the passage instrument and the chronometer. If the second promised chronometer arrives in the course of the next month,

Variometer
absolute house
Storage room
Table
Carriage
Chair
Wedding
Trousers
Pineapple

Nassau

Tamasese
Mikaele

Landells
Hufnagel

Rega
Stennes
Conradt
Schnee 1
Wilmanæs
Schnee 2
Federal Foreign Office

Passage instrument

Chronometer

this would, however, be very desirable considering the deterioration of the existing chronometers that is likely to occur soon in the local climate, but I believe I can refrain from making a formal request in this regard.

28/10 Yours

Tetens.

The neighbour, an Englishman, allows me to take the horse early to his place so that it eats the grass that would otherwise be torn off. So I send it over.

1902 OCT. 29. Wednesday. Early Mulinuu. Tamasese at work again. Running the recorder apparatus. The horizontal intensity variometer set up in the absolute house. Started with it in the morning. Michael fetches {drinking}¹⁶⁹ water from Vaiasu. Then to Songi and took the letter to the government. Customs work on photographic boxes done.


19 M customs laid out for them. Took the 4 spears and Captain Jürgensen's mask. They are not to cost anything. Company, bought {hanging}¹⁷⁰ lamp for Lemuta dwelling house and

other things. Clock comparison Lemuta. After table out again, variometer ready set up 3-6 o'clock. Beforehand Nale handed over the Tanoa brought by Michael for smoking, several speakers or chiefs sit there and there is the inevitable kava. – In the evening for a bath. Then home. Weather light and a bit cloudy, so time determination postponed till tomorrow, walked up and down once with Doctor Funk & wife.

1902 OCT. 30. Thursday. Early Mulinuu, took rain gauge things with me, further photography paper. Worked all morning again on the horizontal intensity variometer, first with small reading telescope, then with the telescope used for the scales, set up in the photographic anteroom on a pillar overbox – reading telescope for the earth current apparatus. The day before yesterday I had already reattached the torn-off {quartz}¹⁷¹ thread.

It takes about 2 turns to get the necessary torsion.

At noon I fetched the post after lunch. Wiechert sends spare springs for the seismograph and small corrections and photographs for his instruction; letter from Privy Councillor Wagner will probably only be able to inform him by next post that meteor¹⁷² & magne¹⁷³ are in order. In the afternoon I read the post, in the evening bathing and with Funk time determination Lemuta

The ¹⁷⁴ about 5th largest¹⁷⁵, seen its position from Astronomical News. Tail quite bright, can only be guessed at with the naked eye. Captain Röbeck claims to be able to see it with his eyes.

1902 OCT. 31. Friday morning Mulinuu, all day set up the meteorological instruments. With Michael, screwed in the bars intended for this purpose in the weather house, for which brass screws were bought from the company, also machine oil with oiler. Below, the two recorders, thermometer on the left, hygrograph on the right (seen from the ladder usually used in the south), standing on and south of the laths in recesses, the laths are supported by east-west ones on the door sides. Behind it is the Lambrecht

¹⁶⁹ [inserted]

¹⁷⁰ [inserted]

¹⁷¹ [inserted]

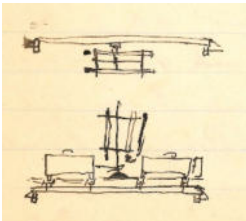
¹⁷² [probably: meteorological house]

¹⁷³ [transcription uncertain; probably: magnetic house]

¹⁷⁴ [unknown sign; astronomical sign?]

¹⁷⁵ [transcription uncertain]

\	Horse	\	Gladding
	Horse feed		Tamasese
	Recorder		Mikaele
	Variometer	Government	
	Drinking water	↓	Jürgensen
	Customs clearance		Company
	Ethnographic objects		Nale
	Lamps		
	Variometer 2		
	Tanoa		
	Kava		
\	Sheet lightning	\	Doctor Funk
	Cloud cover		Senitima
	Rain gauge		
	photographic material		
	Variometer		
	Quartz thread		
	Torsion		
	Seismograph	Mail	Wiechert
	Instruction		Wagner
	Time determination		
\	Comet	\	
	Astronomische Nachrichten ¹⁷⁶		Röbäck, O.
	Meteorological instruments		
	Screws		Mikaele
	Purchases		Company
	Weather hut		



¹⁷⁶ [Astronomical News]

psychrometer, consisting of a frame with the two thermometers, the wet one covered by Fuaamu's wife with lavalava. The base of the frame is fastened to two strips screwed east-west onto the north-south strips of the graphs, and by the way, it already stands firmly enough due to its own weight (lead inlay). At the top of the lath, the max & min thermometer (Lambrecht). Furthermore, the rain gauge is finally set in motion. Colour in, runs well on the zero line. In the evening, observed comet again and showed things to Funks in the Hamburg telescope. In the afternoon, Mataafa's ~~daughter~~ {granddaughter}¹⁷⁷ Lesina appears, I show her, among other things, the sun in the Berlin telescope, goes through zenith today. Later Alietta appears by carriage, then in Songi Tulua and Tutuila, whom I take to Tivoli Heights for a bath after feeding them with Aunt Emmy's ginger, where they have to sit on each other's laps; in the evening still to Lemuta for the first reading. No water yet got to the humidity thermometer, I pour on more. 10 ½ to bed.

1902 NOV. 1. – Saturday. Michael arrives 5 ¾, carriage prepared and to church.

I to Mulinuu at 6 ½. Meteorological readings at last begin regularly today. The humidity thermometer was dry. Schubert's sling psychrometer is to read regularly. In the morning same reading in sun and shade. In the morning until 11 o'clock horizontal intensity variometer adjusted even better so that the 3 light points come to the same height. Unfortunately there are no correction screws for the two movable mirrors, so you have to bend the delicate aluminium frame to your liking with your fingers, which sometimes gives too much, sometimes too little, but only after many attempts can the correct setting be achieved. At Schmolck's at noon ¾ 12, but he was not there, went "to take a leak". He came 5 minutes before 12, explained that he had to go to the governor, and that it was almost 12 o'clock. So I didn't get the money until 2 o'clock, ordered a Samoan Newspaper for Karl, Fritz and Adele.

Then I paid Michael and Fuamu. Afterwards, paid bills to the company, Hammrell (who cannot give me change for a 50 M note and owes me 22 M), to Peters, where Mrs. Zimmerman, back from Sydney, paid 10 M for the long chair and 76 M for the New Guinea things.

Also settled Stennes' bill, £ 6 p 12 and sh 4 for freight, so all urgent matters settled. Then bathed and home, in the evening showed Captain Frölich & family the comets and showed Mr. Lammert, back from the western half of the island this afternoon, the meteorological readings at Lemuta.

1902 NOV. 2 – Sunday. Mail done. 3-4 cards written. To the bath

¹⁷⁷ [inserted]

Gauze

Fuaamu

Rain gauge
Comet
Telescope

Funk
Lesina
Alietta
Tunufai
Tulua

Carriage
Reading

Carriage
Church
Reading
Centrifugal psychrometer
Variometer

Schmolck

Schnee

Salary
Samoan newspaper
Wages
Paper money
Payment
Steel
Ethnographic objects

Company
Hammrell
Peters
Carpenter

Stennes

Comet
Reading

Frölich

Mail

and went to Mrs. Conrad, then home, ate, Mulinuu reading, Mr. Stünzner coming etc. and Samoan newspaper. 2 numbers from November 1902.

1902 NOV. 3. – {1902 NOV. 11.}¹⁷⁸ Monday morning to Tuesday 9 days absent, Savaii. Tuesday evening Schnees.

1902 NOV. 12. Wednesday after breakfast early Lemuta again 1st reading after Mr. Lammert substituted for me till last night. Then developed at Davis. 1 dozen photographs of small plates from the outward voyage aboard the Aeto. "Before Savaii" 1-12. 3 large plates developed further on later completely run off! In the afternoon, after the reading, we started the seismic work, which had not been done much in the last weeks. Mr. Lammert helps outdoors for the first time. We level the large weight hanging in the frame and trestle. Then to the bath and ate. In the evening we always go out on foot. Very exhausted.

1902 NOV. 13. Thursday. As yesterday. 1 dozen small, some large plates developed, tolerably, fresh formalin taken; but dangerously near deliquescence.

Mulinuu then first clock comparison to make Davis off as early as possible. Then discussed earthquake maps with Funk, brought to printer's table. Should be ready tomorrow evening so that Lammert, who is sent to Savaii on Saturday morning in accordance with my suggestion to Schnee, can distribute them. In the afternoon, I put the damper plate on the pendulum and began to set it up. In the evening, as usual, Lemuta meteorological reading.

1902 NOV. 14. Friday. Early after meteorological reading at Davis; developed. Later heavy rain after clock comparison. After table earthquake pendulum put right, alone, with Michael.

Then bathing. I take Mr. Lammert to his lift to Savaii, where von d. Heide wants to photograph with von Bülow's apparatus 4 dozen 13X18, & 4 8 dozen 9X12 in 2 large cans; a red lamp (Voigtländer), furthermore 3 tabloid developers. To the bath with Davis. In the evening Lemuta. Michael fetched New Britain weapons and idols from Captain Fröhlich in the morning for 100 M., not yet paid. As some things are damaged, I ask Riedel to lend me 2 of the many black slaves employed by the company for Monday morning at 8 o'clock. Schnee asks for the report on Sunday afternoon, furthermore I am to photograph him in the house; finally to stay in the evening. I send an affirmative reply.

1902 NOV. 15. Saturday. Early to Lemuta. Schubert has lost a (humidity Th.¹⁷⁹) cover, Michael's wife renews it. Then to the Apia Hotel, where I give Mr. Lammert the newly printed green earthquake maps 10¹⁸⁰ M each at Conrat together 250 for Savaii, furthermore I had written down for him the route Sasina-Manga Afi up and down with time specifications. He leaves at 8 am. I then write a report for the Samoan newspaper until noon. Then clock comparison, lunch, Davis some¹⁸¹ deductions from the

¹⁷⁸ [stamped over]

¹⁷⁹ thermometer

¹⁸⁰ [transcription uncertain]

¹⁸¹ [transcription uncertain]

\		\	Conradt Stünzner
	Reading Development		Schnee Lammert 1 Davis
	Seismograph		Lammert 2
\	Development Formalin Clock comparison	\	Davis Funk Lübke Lammert
	Earthquake maps	Savaii	
\	Seismograph Reading Development Rain Seismograph Plates Lamp photographic. {iron-free} ¹⁸²	\	Mikaele von d. Heide von Bülow
	ethnographic objects		Davis Frölich Riedel black boys Schnee
\	Report Photographs	\	
	Centrifugal psychrometer Gauze Earthquake maps Itinerary Samoan newspaper Report Copies	Savaii	Mikaele Lammert Davis

¹⁸² [inserted]

crater photographs; then Lemuta. Back, a little tired. Paid bill at Mrs. Conrad's, got map of Savaii from Haidlen, visited Melle in Matauta, arranged to meet Mr. von Hippel there on Wednesday evening. Also bathed, home. New "boy" Lai recruited by Michael, father Faipula in Mulinuu, from Savaii, knows some English, makes a nice impression. Fuamu's replacement paid off, Michael given the money for him. Read first chapter of Uncle Alfred's book. Lemuta.

1902 NOV. 16. Sunday. Early Lemuta, then wrote report of my crater trip for Doctor Schnee, thereupon saw the prints at Davis, crater photographs pp. Then began to copy report, lunch, finished writing report after Lemuta reading, brought Schnee 4 o'clock, with photographs and 1 stone from the stone dam. Then some (6) large photographs taken partly with partly without me, with him to the bath, dinner at his house, shows me many photographs from the Bismarck Archipelago, Neumecklenburg¹⁸³, Herbertshöhe¹⁸⁴, very good ones by Doctor Pflüger, lends me his book; Lemuta, Lai on strike.

1902 NOV. 17. Monday; done laundry early, readings Lemuta, then the two black boys of the company come, they get a knife and red and blue paint and begin to fix up the familiar things on the veranda. Later Lemuta strip change, Lai leaves, gives me 2 esi as alofa, I give him 2 M for it. Then Michael goes looking for another one, but in the end he only finds one who charges 36 M a month and doesn't look very nice, yellow. So I let him accept Lai, who had left, for 30 M a month; he soon agrees. After the table, I go out with Mr. Schröder and finish the symmetry of the installation of the seismograph, so that the upper pivot of the weight has a neutral position in the middle of the plate hole, both when it is suspended from the chain and when it rests on the spring system. Then to bathe and home, Lemuta in the evening.

1902 NOV. 18. Tuesday; to Lemuta, Davis, rest developed, also the photographs taken about 4 weeks ago with small apparatus, too long ago, yellow haze. Then home. Adam does¹⁸⁵ nut on carriage. Afterwards Tulua and Tenila visit. We go together to the Samoan house in the back, where Tulua's mother is not at home. After dinner again 3 hours with Mr Schröder earthquake app.¹⁸⁶ mounted. Damper pistons fitted. Bathing. Funk fetches the last information from begin of November (meteorological readings from Lammert) for the completion of his Lanutoo gaps. Lemuta. Dark, as not expected here¹⁸⁷, due to some dust rain.

1902 NOV. 19. Wednesday morning Lemuta. Then errands in Apia. Arranged customs office liquidation of Savaii voyage, handed in company bill for October. Then delivered Davis plates for Christmas shipment, is to make copies. Fetched books from Mr. Lammert

¹⁸³ [New Ireland]

¹⁸⁴ [Kokopo]

¹⁸⁵ [transcription uncertain]

¹⁸⁶ earthquake apparatus

¹⁸⁷ [transcription uncertain]

	Payment Map	Crater Savaii	Conradt Haidlen von Hippel Lai
	Wage		
\	Report Copies	\	Schnee
	Photographs	Archipelago	Pflüger
\	ethnographic objects Knife Colour Veranda	\	black boys Lai 1 Lai 2 Schröder
	Seismograph		
\	Development Yellow haze Carriage	\	Adam Tunufai Tulua Schröder Funk
\	Seismograph Reading Dust rain Travel expenses Instructions Copies	\ Customs office	Davis Lammert

he had borrowed. Stennes put the company's freight receipt for the photographic shipment in the room. In any case, he was busy at the back on his large piece of land.

After table, put on the parts from the damper device to the weight with Mr. Schroeder.

Brass wire is missing, the magnetic one seems to be too weak. Michael fishes out a nut that fell into the big weight, for which he gets 1 mark. Hammrell meets us on the way back, he wants to (I am to start up the electronic clock he has been given. Bathing. 3 women are bathing nearby, one of them asks for swimming trunks, which is granted to her. After dinner to Melle Matauta. Magnesium mixed by Swann, flashes well. 2 photographs. Tonga Malauga there. Then Lemuta and home. Schultz brings me nice little bitch who does not get along with his dog. Comes from Hugo Schmidt.

1902 NOV. 20. Thursday. Early Kawau arrives with Schnee. Lemuta. Lammert's house fetched 1 pineapple, started Oskar Hammrell's electric clock at his request. Fetched Hellesö pineapple, paid whip, bought brass wire. Diarrhoea since last night. Still ate lunch, probably came from all the pudding at noon yesterday without anything else. Then read mail. Bathing. Lemuta. Time determination with Doctor Funk. Opium drops.

1902 NOV. 21. Friday morning Lemuta, picked up mail parcels. Opium tablets. Lemuta not in evening, too much diarrhoea. Afternoon $\frac{1}{2}$ 2- $\frac{1}{2}$ 4, adjusted seismograph and values noted, with Schröder. Then too unwell. At home vomiting; went to bed.

1902 NOV. 22. Saturday. Early Lemuta, then to bed again. Reid sends son, very good, wants photographs for studies in San Francisco, I authorise Davis to give prints for publication at \$10 a piece if I get 2 copies of publication w.¹⁸⁸ get \$10 within 2 months. Picked up the prints made for me in the afternoon. Early, sent Palolo boat to Mele with family and Funks. Abandoned yesterday morning and tomorrow morning due to illness. Thunderstorm squalls all the time today.

1902 NOV. 23. Sunday. Early Lemuta then to bed again. Photographs selected for relatives and Göttingen, the former sent to Fritz, the latter to Privy Councillor Wagner. Already after 4 o'clock, but still came along. Unable to write reports or letters. Only sample of stones sent, received from Captain Fröhlich as thrown from volcano.

1902 NOV. 24. Monday. Early Lemuta. At noon again to change stripes. Somewhat better today. At night heavy thunderstorm, rain. Bruilles¹⁸⁹ at Niedringhaus. Then back to bed. Send Michael to Tanila; he reports that she is coming tomorrow.

1902 NOV. 25. Tuesday. Early Lemuta, then to bed again, but better. Schmidt's calculation¹⁹⁰ agrees 9° with the passage meridian. The Rev. Hockett wants flood calculation, I go to him, scold his wife for not coming himself. There is no agreement with plate 18 in the Berlin Nautical Yearbook for 1902. Then Mele and Tenila. Parents met. Tomorrow she wants to come.

¹⁸⁸ [transcription uncertain]

¹⁸⁹ [transcription uncertain]

¹⁹⁰ [transcription uncertain]

	Freight		Stennes
	Photographic material		
			Schröder
			Mikaele
			Hammrell
	Gift		
	electric clock		
	Swimming trunks		
	Flashlight		Melle (Hamilton)
	Photographs	Tonga	
	Dog		
\		\	
	Kawau	Mail	Lammert
	Pineapple		Hellesö
	electric clock		
	Whip		
	Disease		Funk
\	Time determination	\	
	medical ¹⁹¹ treatment	Mail	
	Seismograph		Schröder
\	Disease	\	
			Reid
	Copies		Davis
			Melle Hamilton
	Palolo		Funk
\	Thunderstorm	\	
			Fritz
	Copies		Wagner
	Thunderstorm		
\	Volcanic stones	\	Frölich
	Change of stripes		
	Disease	Central-Hotel	
\		\	Mikaele
	Bearing compass		Hugo Schmidt
	Flood		Huckett
			Melle Hamilton
			Tunufai

¹⁹¹ medical

Then to table in the rain. Mulinuu. Home. Wind Sunday {or Monday}¹⁹² blew off dynamite roof. In the afternoon Schultz, who is sailing to Savaii tomorrow, made a sketch of the Aopo route. Brought Captain Fröhlich some prints in the evening.

1902 NOV. 26. Wednesday. Early Lemuta, too weak to compare watches, as at night ear infection, so completely deaf. This improves during the day. Furthermore, skin torn off from young dog by grease¹⁹³ on little finger, why ½ to 1 hour cold compresses, during the whole night. This morning Funk, sublimate. Niedringhaus. Hugo Schmidt brought back compass. Visited Schwesinger for ear but missed. Gave Tenila's father lavalava as a present, worth 4 M. Pilots carried out the United States Tide Table Book 1902.

1902 NOV. 27. Thursday. Early Lemuta. Not yet better with ear. Schwesinger not there. Davis, developed 6 large plates, 2 of Mge.¹⁹⁴ Mele Matautu; quite right amount of light been. 2 Dynamite house, covered. 2 Michael's little girl. Visited Schwesinger in the afternoon 5^h downpour. Picked up 2 pineapples from Lammert. Samoans steal them from him at night says his boy's wife. Schwesinger not at home, comes ½ 7. Ate there. Then 9 ½ Mulinuu. In the morning Tenila there with aunt.

1902 NOV. 28. Friday night deaf again. Early Lemuta. But still numb at night. Out again after table. Then Schwesinger ear examined, says that eardrum looks a little dull and not tight, but seems to be only small inflammation of the outer ear. In the evening plates laid {in}¹⁹⁵.

1902 NOV. 29. Saturday morning after readings Matauta and 2 of his girls photographed in and in front of house. 6 large, 12 small plates. Apparently too warm for this variety of "Imperial" during development. Diffluence partly. Then visited¹⁹⁶ Schwesinger; ear was better at night. Olive oil in, sprayed out; After table mail.

Letter of thanks from Captain von Oterendorp posted as printed matter for 2 cents, costs me, who open it in Traub's presence, 1.45 postage penalty. His photograph good. Took a shower bath in the evening instead of the long-desired bath. Received Michael's relatives, together with Tamasese.

1902 NOV. 30. Sunday morning Lemuta. Then read the post, spoke to Tenila's father after dinner, who, like herself, wants to wait for Miss Schulze's return. Then fetched pineapple at Lammert's, as horse has eaten 4 esi again, which I have chosen as my morning snack, then visited Miss Marschall, then Mrs. Schlüter again to church. Vailima, where I gave Mr. Conrad the vegetable seed from Sydney; – Salesa also gave me a pineapple, met her on the drive with her father. –

Tomorrow Mr. Kunst is to come, Hufnagel's wife is going to Auckland, as is Knacken¹⁹⁷ from the company, who had lunch with Niedringhaus, also an ear patient with Schwesinger. The ship arrives from Sydney at 7 am. Still a bit unwell, but hopefully normal tomorrow. Only finger from hand looking even worse

¹⁹² [inserted]

¹⁹³ [transcription uncertain]

¹⁹⁴ [meaning of the abbreviation unclear]

¹⁹⁵ [inserted]

¹⁹⁶ [transcription uncertain]

¹⁹⁷ [transcription uncertain]

\	Wind	\	Dynamite house	Schultz Frölich
	Itinerary			
	Copies			
	Clock comparison			
	Disease			
\	Dog	\		Schwesinger Hugo Schmidt Tofarono Pilot
	medical treatment			
	Bearing compass			
	Gift			
	Tide Tables			
\	Disease	\		Tunufai Schwesinger
	Development			
	Photographs			
	Pineapple			
	Theft			
\	Disease	\		Schwesinger
\	Photographs	\		Mataafa Schwesinger
	Development			
\	Penalty postage	\	Mail	von Oterendorp Traub Tamasese Enossi Schultze Valesca Lammert Marschall Conradt Selessa Kunst Hufnagel
	Shower bath			
\	Pineapple	\		Vailima
	Essi			
	Vegetables			
\	Disease	\		

1902 DEC. 1 – Monday morning Lemuta. Mataafa sends me bunch of bananas. Laundry is fetched by Tenila's mother. Later letter asking for money (to borrow). After table I go there. Give her £1 for a boy's trip to Tonga, also £1 for a wedding dress on Thursday. – Fetched money from Schmolck: 600 M + 56 for trip to Savaii. Further calculated tide for 1902 with Funk. First bath in 2 weeks. Lemuta in the evening.

At noon also change of stripes. Tamasese's man von Tiedemann is now Lemuli.

1902 DEC. 2 – Tuesday morning Lemuta. Then seismic resumed. Screws all tightened after setting everything to neutral point. Then Songi tide for Laiden¹⁹⁸ Mission 1903 calculated to end, with Doctor Funk helping a little. In the time Kunst appears there, I have to go in with him. 2 Misses, Neumann and Walker, he has them for amusement. Ms. Schlueter is also there regardless of this. Calculations are finished by noon. Le Muta after dinner. Visited Tamasese, {has seen his father's star decoration}¹⁹⁹ he wants to finish the last house soon. Bathing. Conrads with Traub. Bill paid. Michael wants Circus school cathol. to, I li²⁰⁰

1902 DEC. 3 – Wednesday morning Lemuta with Partsch's boy (Hans Siemsen) who collects the horse borrowed for 3 weeks. After readings seismic. Then 11 Songi send for Tenila and Tulua with carriage (Jenny), go back soon as busy. Seismic again after table. Writing scaffold started to be put on. Tamasese sends his people, they cut palm leaves around the weather square for the pola of the last house. Two younger palms standing in the east flaked down to bud; shaded rain gauge and weather house too much. Bathing. Lammert comes back Aeto. Miss Heimrodt driven home. Afterwards visited Captain Frölich, paid 100 M for the New Guinea things. Lemuta. Wagon drawbar completely broken.

1902 DEC. 4 – Thursday Lemuta. Seismic somewhat improved, first levers placed perpendicular to each other, jointed by turning the dampers. Then bill paid. Carriage Curry Landells. Met Again ~~English~~ American from Savaii with Moors, since first spoken to. ~~In the afternoon~~ Kunst with his 3 young ladies (Bells) sits with Niedrighaus, I talk something with them. Rathke for house pp. 91.50. Samoa Ges.²⁰¹ for [...] ²⁰² 20.35. Partsch for horse 3 weeks 28 M. Gebauer for ice 5.– cheese 1.–. Post anv.²⁰³ Harrington for plates etc. 46.53, Roever for telegram Georg 12.27. Postage 80 pfennig. Landells for carriage repair 21.– Curry for carriage & shoe repair 19.50. Packages collected from Wiechert 20. VIII and Stolp 20. IX. Company landing bill returned, duplicate.

Afternoon Lemuta. Seismology continues. In the evening Doctor Funk helps me determine time.

1902 DEC. 5. – Friday. Early Lemuta. Wires (torn) inserted in damper and writing arm.

Noon [...] ²⁰⁴ out with boat, & again Frau Zimmermann & ~~women~~ {ladies}²⁰⁵; in the evening with Schaaffhausen

Suatele. Pilot died early this morning, buried in the afternoon. 78 years old. Spoke 9 days ago.

¹⁹⁸ [transcription uncertain]

¹⁹⁹ [inserted]

²⁰⁰ [entry apparently incomplete]

²⁰¹ Samoa Gesellschaft [German Samoa Society]

²⁰² [illegible]

²⁰³ [abbreviation uncertain, probably: entrusted]

²⁰⁴ [transcription uncertain]

²⁰⁵ [corrected by overwriting]

	Gift		Mataafa
	Bananas		Tunufai
	Laundry	Tonga	
	Travel expenses		Schmolck
	Flood season		Funk
\	Bathing	\	Enossi
	Change of stripes		Tiedemann
\	Seismograph	\	
	Flood season		Funk
			Kunst
			Neumann
	King's chain		Walker
	Storage room		Schlüter
\	Circus	\	{Conradt, Traub} ²⁰⁶
			Mikaele
			Partsch
			Tunufai
			Tulua
			Tamasese
	Horse		
	Carriage 1		
	Seismograph		
	Palm leaves		
	Weather hut		
	Rain gauge		
	Palm tree		
\	{Aeto} ²⁰⁷ Payment	\	Heimrod
	Carriage 2		Frölich
	Seismograph 1		
	Payment		Curry 1
			Landells 1
		Central-Hotel	Moors, Rathke
D.S.G. = Deutsche Samoa Gesellschaft ²⁰⁸			Kunst \ D.S.G.
	Horse	Mail	Bartley
			Röver
	Röy Telegram		Harrington
			Landells 2 Curry 2
	Carriage		Wiechert Partsch
\	Silver bromide paper	\	Company
	{seismograph 2} ²⁰⁹		Funk
	Time determination		
	Seismograph		Carpenter
			Schaaffhausen
\	Boat	\	Suatele
	Death ²¹⁰ , funeral		Pilot

²⁰⁶ [inserted]

²⁰⁷ [inserted]

²⁰⁸ [German Samoa Society]


²⁰⁹ [inserted]

²¹⁰ [inserted]

1902 DEC. 6 – Saturday. Early Lemuta. Captain Frölich asks me to give time to pilot shot 12^h. I therefore calculate the last two time determinations in Songi. In between to Schwesinger, cuts me something from corn under ball of right foot; visited ear, which was worse again. Invitation from Hufnagel to noon tomorrow, Schnee to Monday evening, Riedel to New Year's Eve 'costume party'. Pilot trip with boat. Captain not there, pilots first German barque. Melle. Niedringhaus. Dinner. Lemuta boat. Hockett sent calendar, misprinted. I had not given high water times for one day of each month where moonrise was near midnight. These he would have filled in with the following, so the high water time of 31st December had advanced to 19th December, fantasised the last 12 days to it; watched tennis match there. Heydebrand and Netzler at Roberts. Samoa roof newspaper. – In the evening Doctor Funk, fetched glass for springs to seismograph Tali and Albert go out with me, Lemuta, Albert then given envelopes and paper for seeds.

1902 DEC. 7 – Sunday. Early Lemuta. Rainy weather. Borrowed Lammert's carriage. 11 again Lemuta then changed and Vailele. Breakfast. 1 o'clock there, Kunst with his two misses meets me. 2 o'clock at table. von Mellenthins Hiversation²¹¹ Funks, Schultz, Hanssen, Dietzes and me. Mosberger my neighbour. 4 ready, 5 departure. 6 Bathing, 7 at home. {About Lemuta}²¹² thick barque in the evening, Lammert follows, Funk gets barometer at 2 o'clock.

f 1902 DEZ. 8 – Monday. Tooth ulcer becoming bad at night. Lemuta in the morning and at noon, otherwise mostly to bed. Change of strip 12 o'clock. Ate only fruit bread and in the evening 1 porridge soup. Schnee [...] ²¹³ at noon.

1902 DEC. 9 – Tuesday. Early Lemuta. Mrs. Tamasese finished the pola of the small gatehouse yesterday. $350 \text{ Lau} = 3 \frac{1}{2} \times 2 = \$7 = 28 \text{ M} + 16 \text{ Pola} = 1/8 \text{ } 100 = \frac{1}{2} \$ = 2 \text{ M} = 30 \text{ M.} + \$4 = 16 \text{ M for building} = 46 \text{ M, rest } 26 \text{ M.}$ Still too much swelling. In the afternoon Hammrell, feather at seismograph broken at noon, is putting it over.  ²¹⁴ Mrs. Conradt.

1902 DEC. 10. Wednesday. Attempted translation of the earthquake maps. Hockett flood time converted to a.m. Finished calculating at Mrs. Conradt's, then brought Hockett. Seismographs worked a little. Not quite back to freezing²¹⁵.

1902 DEC. 11. Thursday. Better. Ate at Niedringhaus's again; adjusted seismograph all morning and afternoon. The vertical position of the holding arms not to be reached, from the weight pin in the centre of the hole of the plate. Replaced a spring that was bent (0.075). Sent Schnee prints for selection for albums. Lammert wants volcano photograph for report. Adams puts sooting apparatus in usable condition.

²¹¹ [transcription uncertain]

²¹² [inserted]

²¹³ [illegible]

²¹⁴ [drawing above the line]

²¹⁵ [transcription uncertain, meaning unclear]

	Midday shot		Frölich
	Calculation		
	Time determination		Schwesinger
	medical treatment		Hufnagel
	Boat		Schnee
	Bark		Riedel
	Mission calendar		Melle Hamilton
	Flood season		Hackett
			Heydebrand von d. L.
			Netzler
	Seismograph		Roberts
			Funk / Tuli
\		\	Albert Jensen
	Rain		Lammert
	Carriage	Vailele	
			Kunst
	Breakfast		von Mellenthin
	Disease		Funk 1, Schultz
			Hanssen, Dietze
\	Barometer	\	Funk 2
	Disease		Lammert
	Change of stripes		
\		\	Schnee
			Vaainga
	Storage room		
	Obs. ²¹⁶ Construction costs		
	Disease		Hammrell
\	Seismograph	\	
	Disease	Central-Hotel	
	Seismograph		
	Copies		Schnee
	Report		Lammert
	Sooting		Adam

²¹⁶ observatory

1902 DEC. 12. Friday. Seismograph adjusted again. Chain suspension and spring suspension do not match. Later Nussär horse shown. Greased it. Fetched mail. Schnee invites me to Sunday evening, bath before. I give Lammert 2 volcano photographs. Give Traub's finally back together with 1 volcano. Give Funk one for Krämer in the evening. Schultz not at home. In the afternoon to Vaiula. Tenila went to Papauta, I went there after a short stay at the American Consul General's, Miss Salesa with Malua Mission man etc. meet me. Without Tenila, she has not yet spoken to her. Kawau arrived this morning. Schmidt went on to Auckland because of scarlet fever with wife and child, whom he picked up. Returned Lammert's carriage. Mine ready. New drawbar. In the evening, drove to Lemuta as usual, walked back.

1902 DEC. 13. Saturday. Seismograph further adjusted. Paper rolls blackened, Adam has fixed the screen to the sooting apparatus at the bottom, filed notches at the top, in which the roller with crank is placed. It works well now, only the paper is still too low over the flame, so a small change must be made. Fetched money with Tamasese, who acknowledges, but I keep it, as he had already received it in advance and immediately after finishing [...]²¹⁷. Give him a roll of tobacco, her 2 lavalava as alofa, but she is not satisfied with either, tobacco not good, too much bast inlay, lavalava patterns do not suit her taste, Michael has chosen them.

After table Lemuta, before that horse purchase, Chinese, bought on recommendation of the Samoan chief horse expert, Mr. von Schröder, for 180 M. Shall bring it tomorrow morning. Nussär has treated Jenny and ordered cloth against flies. Michael is cutting one out of an old towel. I then drive to Miss Schulze with it, but she won't let me have Tenila. On the way back to Mrs. Conradt. The carriage is back in service, Curry puts on 2 leather eyelets for driving downhill. In the evening Schmidt goes with us to Lemuta, climbs the wind tree.

1902 DEC. 14. Sunday morning Lemuta, further adjustment. The spring soldered in by Hammrell between the weight stones and the dampers breaks again. At noon mail procured, compilation of the disbursements of the governorate treasury sent to Privy Councillor Wagner. Asked Wiechert to replace the broken spring, sent photographs to Fritz for distribution. Then from the post office to Vaiula, where I talk to Tofaeono and Tenila and get kava. Then to Schnees, with him to bathe, he hasn't bathed since the last time. Returned to his house, sunset with red in the east; perhaps from Savaii eruption, which Tofaeono heard about through mission just founded. Dinner again very good, with home-grown vegetables. Afterwards, visit to the observatory scheduled for next Sunday afternoon. Drove to Lemuta with Schaaffhausen.

²¹⁷ [illegible]

Seismograph
Horse
medical treatment
Copies

Nuszhär
Schnee
Lammert 1
Funk
Krämer
Schultze
Tunafai

Papauta

Kawau

Hugo Schmidt
Lammert 2

Carriage
Reading

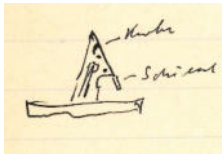
Auckland

\

\

Seismograph
Sooting

Adam



Tamasese

Advanced money
Gift
Tobacco
Lavalava
Horse 1

Vaainga

Mikaele
Chinese
von Schröder
Nusshär
Schultze Valesca
Tunufai
Conradt
Curry
L. K. Schmidt
Hammrell

Horse 2
medical treatment
Carriage

\

\

Seismograph

Mail
Government treasury

Copies

Wagner
Wiechert
Fritz
Tofaeono
Schnee

Kava
Bathing
Evening Red

Savaii

Vegetables
Visit

Schaaffhausen

[Page 206]

[Blank Page]

[Page 207]

[Blank Page]

[Page 208]

[Blank Page]

[Page 209]

[Blank Page]

[Page 210]

[Blank Page]

[Back endpaper]

[Blank Page]

[Back cover]

[Blank page]

[Spine]

[Blank page]