party willing down the gallen, to that ugly cut out to Q. C. I showed him the saw cuts & will like left in working the affer Att bosses oversed out of K.C. wall. We also examined the fin. ludes for after in to see if there was anything left in them like the bitumen in D2. We found a lot of hand brown matter, which Iso what think between Karnich will ust melt I bring a fice to home for examination by some organic change Very 4 ain, welft the A deame down to truth for a weal of of them by daylight went of trace the 13 carring of bosses on granite; also to the touch with canon hines ruled over the figures, Athen I saw him of bour . Put things tright, & to bed Sleft from I to 4, & then up yearting letters. Sunday 20 march homy after woon walk I saw the beafror ratter banking - 1 chips of an Enormous extent 5 of A2, Halso the merony of the wall on that side, which with as if only of heaper stones, but is really built, & Alisay faced with fine limestone, which trabs have dry in one place to take out. monday 21 march Had top & both for Ali, whom I found just coming up with a traveller from the Spling. He carnied my boses out to \$3 other left me to the care of the Sand, who though intelligent, summe attention them his father, comments understand a word of English, Shiel is awherend for an attendant in surveying. However I took a simuther from two Stations

partly rolling down the gallery, to that ugly cut out to Q.C. I shewed him the saw cuts & drill holes left in working the coffer, & the bosses dressed out of K.C. wall. We also examined the pinholes for coffer lid to see if there was anything left in them, like the bitumen in Δ^2 . We found a lot of hard brown matter, which I do not th think bitumenous, & which will not melt. I bring a piece wit home for examination by some organic chemist.

<Saturday 19 March>

By 4 a.m. we left the Δ & came down to tomb for a meal, &c. & then by daylight went off to see the Δ^3 casing & bosses on granite; also to the tomb with canon lines ruled over the figures, & then I saw him off home. Put things to rights, & to bed. Slept from 8 to 4, & then up & writing letters.

Sunday 20 March

In my afternoon walk I saw the heaps - or rather banking - of chips of an enormous extent S of Δ^2 , & also the masonry of the wall on that side, which looks as if only of heaped stones, but is really built, & Ali says faced with fine limestone, which Arabs have dug in one place to take out.

Monday 21 March

Had to go & look for Ali, whom I found just coming up with a traveller from the Sphinx. He carried my boxes out to Δ^3 & then left me to the care of Abu Saud, who though intelligent, & more attentive than his father, cannot understand a word of English, which is awkward for an attendant in surveying. However I took azimuths from two stations.

march 22 Very list in mittle of day, so hwent into John of the smeller As by A Junesment it. Then give et up

Tuesday 22 March

Very hot in middle of day, so I went into the middle <one> of the smaller Δs by Δ^1 & measured it. Then in aft^n took out 10 inch theod, & did azimuths of one station, & then set it up hoping to take Polaris azimuths but I was rather late for greatest elongation, one signal ble <lamp> went out, & the wind continually blew out my lantern, so I had to give it up.

Wednesday 23 March

Measuring North one of the small Δs .

Took azimuths of station in front of $\Delta^1,$ with 10 inch as alt-azimuth to see air channel mouth. Found that form so very awkward, as the telescope & alt-circle, continually come in the way of the azimuth micros, that I decided it to be impracticable for night work on Polaris; so took up 4 inch at sunset to try it: but then night came on cloudy & I could not do anything. .

Much fuller in next journal-

[The previous two paragraphs of this page are crossed out diagonally, probably by Petrie's mother who also added the note 'Much fuller in next journal'-.]

This joins to journal received I think, so I need not rewrite farther.

Cairo, XIV-

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hearday 22 warch books hos anything in surreging in more; and was notearly. So took measure from each station works faringth trenches as would be some without sigging; them got cause rement into Small A 5. He parrage is nearly blocked by braks throwing in large tomes; & since Hound Vyre they niffed out wort of the carry Atten clamber, & left all one end offor covered with piece completely hiding the sandphagus. I measured it all as well as I could . Then out & to tomb by 3, started of to so as aim atter from station believed 12; got through it titerably; other moved over home ofthe touts blake Plans Berrations went have you lamps, & set them up; but owing treveral Islays I will udget back till too late forgreatest slongation . * then one candle burnt out smithly, other Cantern was continually blowing out as I had supposed that the climines would sufficiently protect it & left two side planes out. So how obliged to pack up tretum with nothing but seperience for tomorrow. after safter newling Is in Hooking through both the See what points have not been sufficiently Berown on soas tree that were is wanted. Is hed abt 12, aler! _ this was rather better to day, but left me fruity considerably to Abu Saud's care. bedresday 23 march. ho moon went into A4. His a spreeze togeting, the passage being nearly blocked with stones. hearing all the inside, but the humber is in as bad a state, orworse, that of At the living all tom out of piles up anyhow & covering the floor at all angles ATIN . I could not see anything either of floor or

Tuesday 22 March

Too hot to do anything in surveying in morn; as I was not early. So took measures from such station marks of azimuth trenches as could be done without digging; then got candle & went into small Δ^5 . The passage is nearly blocked by Arabs throwing in large stones; & since Howard Vyse they ripped out most of the casing of the chamber, & left all one end & floor covered with pieces completely hiding the sarcophagus. I measured it all as well as I could. Then out & to tomb by 3, started off to do azimuths from station behind Δ^2 ; got through it tolerably; & then moved over to one of the tombs to take Polaris observation. Went home & got lamps, & set them up; but owing to several delays I could not get back till too late for greatest elongation; & then one <signal> burnt out quickly, & the lantern was continually blowing out, as I had supposed that the chimney would sufficiently protect it, & left two side glasses out. So I was obliged to pack up, & return with nothing but experience for tomorrow. After supper reducing obsns, & looking through book to see what points have not been sufficiently observed on, so as to see what more is wanted. To bed abt 12, alas! -Ali was rather better to day, but left me pretty considerably to Abu Saud's care.

Wednesday 23 March.

In morn went into Δ^4 . It is a squeeze

to get in, the passage being nearly blocked with stones. I measured all the inside, but the chamber is in as bad a state, or worse, than that of Δ^5 ; the lining all torn out & piled up anyhow & covering the floor at all angles [\Re]. I could not see anything either of floor or sarcophagus; the lining has been beautifully finished, & the insertion

one. In both these small As there is a curious corner in the outrehamber to tuen the scenesphages on + inthis A there is a big levele in floor 7.3 diani ! 0 if & a groom in wall believe it criterity for some machinery for lowering sarelpho into lower chamber, ornor the sloping passage between the chambers. In bably a stout post ofwood, with afer twons frope round it, suck as a sailor would use now. I then came out, & after various proporations went of to station.

Spirite A sutrane to take assimults, with big theod, arranged as alt-azim, asit will not go over 14° alt in the ordinary use. found it as then before, so very an known to use, owing to the wirch of the teles upe coming in the way of the lower eigh micro? that I decided it to be impractuable for night work, 420 unstfall back on 4 or 5 inch theod. He natival fault is in having the eirch toturn instead of the micro arms; there should be fixed to the come of upper altitude circle so as to read easily, when there would be no difficulty, the circle being fixed tothe theretog stand. It would not be a very bed jet to alter the instrument. Then left of by 5, so as there good time to arrange for Polaris Speriations, but back to tout, got the finch theod. planterus; but the latter of believed the signals, took theor. up to big truth believed A vset it up by twilight; a bank of clow has been gathering sure it spread over the N. shy so much that by dusk it was unpossible tose anything but news, & I found it lipeless again to do this. I tried working on the signals, x they did very well; but one ofthen blew out, though the

of blocks in faulty parts of rock in the outer chamber is finely done. In both these small Δs , there is a curious corner in the outer chamber to <u>turn</u> the sarcophagus <[\approx]> in [\approx] & in this Δ there is a big hole in floor 7.3 diam^r & a groove in wall behind it evidently for some machinery for lowering sarcoph: into lower chamber, down the sloping passage between the chambers. Probably a stout post of wood, with a few turns of rope round it, such as a sailor would use now. I then came out, & after various preparations went off to station opposite Δ entrance to take azimuths <up to air channel> with big theod. arranged

as alt-azim as it will not go over 14° alt in the ordinary use. Found it, as I had before, so very awkward to use, owing to the circle & th telescope coming in the way of the lower circle micros that I decided it to be impracticable for night work, & so must fall back on 4 or 5 inch theod. The radical fault is in having the circle to turn instead of the micro <vernier> arms; these should be fixed to the

cone of upper altitude circle so as to read easily, & then there would be no difficulty, the circle being fixed to the three $\frac{\log}{\sinh \pi}$ stand. It would not be a very bad job to alter the instrument. Then left off by 5, so as to have good time to arrange for Polaris observations, went back to tomb, got the 4 inch theod. & lantern; put the latter up behind the signals, took theod. up to big tomb behind Δ & set it up by twilight; a bank of clouds had been gathering & now it spread over the N. sky so much that by dusk it was impossible to see anything but Venus, & I found it hopeless again to do this. I tried working on the signals, & they did very well; but some of them blew out, though the

wind was not very much; it was the lanten without chime I had some thought Juring a circumpolar star for sworgh from put to be seen within my alt, so as to use 10 inch and ; 32 cephe is the only one for this, at NPD 20°; this therefore mores 5, in I see: Y in absence of any second been truth time, the Mumato telesche judicionaly Scould hardly nechon on going neaver them 2 see = 10", which Levels do with 4 wich then by coreful work on poleris; hereit is und worth while. Then back to tout, Lad supper, restrict Bereations which are not satisfactory; Just gooverit with 4 inch & find that is wrong in air chound weamers. In any case if Touly use 4 wich, good to 10" say, this will fix haund mouther to zinch, which on Sovo in or so folipe, will give augh to I slipe framing to 20" about Muriday Sandy day. Just as I finished breakfast the walked in with he machinesis wallet, the m. soon followed . Loouse remember if I said that Was a letter from him before he went up tile, saying that he should come here today, Kashing un truethin if I would; so has looking out fortime. after a little talk Iprofosed by tree the winds of 2 w +3 -45, ash had seen ther things here, & ho and tree 3 h. On our way he sund he lever Brasil & Ris, & then I found that he knew the sweets well, & to in fact had necessived some Mis ites on the Pyramin, he affarently from It's B. Jourst hour selylitis to find that we had an other mutual strend than Drf. of took him of anone hearthy than before. We went all over in side of A2; then to A3 crawled in Voans that . The great front room in that is very inforessive; it is as heartifully

wind was not very much; it was the lantern without chimney. I had some thought of using a circumpolar star far enough from pole to be seen within 14° alt, so as to use 10 inch arch; β^2 Cephei is the only one for this, at NPD 20°; this therefore moves 5" <great circle> in 1 sec; & as in absence of any second observer to note time, & to illuminate telescope judiciously, I could hardly reckon on going nearer than 2 sec = 10", which I could do with 4 inch theod by careful work on polaris; hence it is not worth while.

Then back to tomb, had supper, reduced observations which are not satisfactory; I must go over it with 4 inch & find what is wrong in air channel measures. In any case if I only use 4 inch, good to 10" say, this will fix channel mouths to ½ inch, which on 5000 ins or so of slope, will give angle h of slope of casing to 20" about.

Thursday 24 March

<A windy sandy day.> Just as I finished breakfast Ali walked in with M^r Mackenzie's wallet, & M^r M. soon followed. I do not remember if I said that I had a letter from him before he went up Nile, saying that he should come here to day, & asking me to meet him if I could; so I was looking out for him. After a little talk I proposed to go & see the inside of 2^{nd} & $\pm/<3>^{rd}$ Δ s, as he had seen other things here, & I wanted to see 3^{rd} Δ . On our way he said he knew Brasil & Rio, & then I found that he knew the Bevest's well, & \pm in fact had received some of his ideas on the Pyramid, &c, apparently from M^{rs} B. Of course I was delighted to find that we had an older mutual friend than D^r G., & took him up more heartily than before. We went all over inside of Δ^2 ; then to Δ^3 crawled in & saw that. The great granite room in that is very impressive; it is as beautifully

wrought though with large, as the King chamber; of the cut out ; a forced hollow shews that the grante slife roof is inserted in a rock claube with a flat roof over it thus free her intales willow forced from intales twee being in fact the only way to introduce the roof beaus into a rockent chamber on the top of the walls. Un Uppersons of the beaus have exactly the same grooves across them as the big beaus ofthe King Chamber; & guit agree the de of their being bone listes to regulate the clearage. Having seen this we went out to 20 1 temple, down to spline, other back to tout. Willis neuralgia in bead type was troublesome. After a miscellaner med, I went outside & found that two men had brought the part for statue with inscriptions, found at Abuser, for me I see on claner of purchase, hught take it for B. Me, but it is wary zeurt; finely cut bowever in hard limeston with being like serpentine; it is just the hures & hands of a figure hueling sholving a shrine of Phthah. Then he hi. bother over dlig stock & took \$ 2 worth ofthings; I rather disunded him from having such a lot of carabei as they were not untract types but he strek to them. He also was glad there has falf of browses I took the ther day. Then after some talk of aching up he went of this carriage & drove of. He ashed to ha aboves, which Igave him, your own also: he is going to H. Pulestine um, athen Haly, & Joes not Expect to be in England for there months or so. The I went have had suffer & booked over marrettes little book on Egypt, Suil his kindly goo then whying in scription for or wielenaun, withthis of the about 18%.

wrought, though not so large, as the Kings Chamber; & the cut out curve roof is striking $[\Re]$; a forced hollow shews that the granite slope roof is inserted in a rock chamber with a flat roof over it, thus [♠]; this Kings hollow forced open in later times being in fact the only way to introduce the roof beams into a rockcut chamber on the top of the walls. The upper sides of the beams have exactly the same grooves across them as the big beams of the Kings Chamber; & quite agree to the idea of their being bore holes to regulate the cleavage. Having seen this we went out to $2^{nd} \Delta$ temple, down to Sphinx, & then back to tomb. M^I M's neuralgia in head & eye was troublesome. After a miscellaneous meal, I went outside & found that two men had brought the part of a statue with inscriptions, found at Abusir, for me to see on chance of purchase. I might take it for B.M., but it is nearly ½ cwt; finely cut however in hard limestone with green veins like serpentine; it is just the knees & hands of a figure kneeling, & holding a shrine of Phthah. Then M^I M. looked over Ali's stock & took £2 worth of things; I rather dissuaded him from having such a lot of scarabei as they were not interesting types, but he stuck to them. He also was glad to have two of a lot of bronzes I took the other day. Then after some talk & packaging up he went to his carriage & drove off. He asked to have M^{rs} B's address, which I gave him, & our own also: he is going to Palestine now, & then Italy, & does not expect to be in England for three months or so. Then I went home, had supper, & looked over Mariette's little book on Egypt, which M^r < M.> kindly gave me; then copying inscriptions for D^r Wiedemann, wrote this, & to bed about 10/<1> ½.

Cairo, XV.

1

Friday 25 March

As all the survey that I can do alone (for accurate levelling with long staff I feel hopeless with Ali only) is now done except a few brief bits, & what may be necessary after excavation; & as excavation I am postponing until visitors have disappeared for the season, <& in hopes of the new rules being brought out in time for it, so as to get official leave,>

I now begin to think of doing Sakkara <&c> before it is too hot to move. So determined on going to S. on Monday for a few days with Ali, taking a stock of food, stove & blankets on a donkey, & walking down the valley the 10 miles or so, which is not more than going into Cairo. So I dele settled to go to Cairo today, to tell D^r G. & Messrs Loftie & Wiedemann, so that no one should come out expecting to find me here. Ali has not got another donkey yet, so I walked in; had got fortnights letters at Post; for which many thanks both to home & to Miss Marston. Then had dinner, & while at it saw Dr Wiedm pass, as the only way out of his Hotel is past my restaurant; so I bolted out, & gave him the inscrip^{ns}, & told him that I should be away next week. Then had hair cut (not done since new year's day, quite often enough, as they charge 2 francs!), & to D^r Grants; had a talk on various matters. It seems that the Photographer will not do it come here to take 5 or 6 views & give only 2 copies of each under £10; & I do not consider the results would be worth it. It is not worth reducing the cost a trifle by only taking a single view; & or in other words, he asks too much for one view, & i.e. for

Fiday 25 march As all the survey that I can to alone, accerate leveling with longstaff Iful hopeless with it! is now I'm except a few brief but, Hubertunay he receiving of the Excavation : & as Excavation forthours att visiting have desappeared for the for a pew days with the, taking a stock of food, stone Ablankets on a Souther, I walking down this alley the 10 so I has settled by trains today, totall or g Loftie & wielemann so that we one should come out safeeting thind me here. He has whigh werther Jouley get, so healter in the st fortughts letter han, as the only way out of his Hotel is past my next answert so Its this out & gave him the inscrip is atill him that smae new years day, guite often swough, as they charge 2 frances. of bor frants; had a talk a various anothers. It seems that the Phtopopher well sut to come here thate sort view year only regine of such under \$ 10; 4) To not counter the result would be worth it, It is not worth nidwing the coat a triple by only taking a singh view; or in other words, he asks to wend for one veer Die for

coming at all; as extra plats would with any matter of casing are nequest if any (You general from above with several courses a possible destant view is us good, as the howevert would must be all cleared trushe it Effective) (2) a close view in post with sun shings obliquely down the stone token it surface (3) a side view exactly in line of corner to shew augh. Then (4) the rock cutting for eage planeaut war NW come, (5) NW socket, not cleaned in CB. S. plato. So I said that if the man came out to do a party here, is is not very uncommen, I would give him \$ 1 a plate or so for wheet I wanted, taking the negatives; & Dr G. approved, Isaid thather would mention it to him . If course the (4) V(5) are our own affair, X are worth having I think as being the only extra subjects beyond what CSP. S. did here, except the caring. I hope her Hall will not be very much disappointed at my betermention, but as I have every datum recorded about the stones, I shall bring exactly similar pragment of their low carrier stones, sharing the texture, it is purely a matter of taste of feeling, tou which grounds my own restrictes would not carry me beyond £ 2 or so for them; i.e. I cannot reconcile it as "worth while" try Everounced soul: or in ther words for mon effect in payment for executation, can be got out of \$10. Then hourt street to get an makin alter

coming at all; as extra plates would not be any matter of difference between us I expect. I should say that 3 views of casing are requisite, if any; <(1)> one general from above <on rubbish heap>

with several courses <& strip of pavement> (a <u>front</u> distant view is no good, as

the pavement much must be all cleared to make it effective) (2) a close view in front with sun shining obliquely down the stone to shew its surface (3) a side view exactly in line of corner [\mathbb{R}] to shew angle. Then (4) the rock cutting for edge of pavement near NW corner, (5) NW socket, not cleared in C.P.S. photo. So I said that if the man came out to do a party here, as is not very uncommon, I would give him £1 a plate or so for what I wanted, taking the negatives; & D^r G. approved, & said that he would mention it to him. Of course the (4) & (5) are our own affair, & are worth having I think as being the only extra subjects beyond what C.P.S. did here, except the casing. I hope M^r Hall will not be very much disappointed at my determination, but as I have every datum recorded about the stones, & shall bring exactly similar fragments of other low casing stones, shewing the texture, it is purely a matter of taste & feeling, at on which grounds my own aesthetics would not carry me beyond £2 or so for them; i.e. I cannot reconcile it as "worth while" to my economical soul: or in other words far more effect, in payment for excavation, can be got out of £10. Then I went to get an Arabic Atlas

for Abor Sand, but ume were at the turnian himinon, chang A front recommended in ty. There drew \$ 10, Thick will hope we affort for about 5 or 6 weeks; in which time I hope to do a good deal more worth having than half a dopen photos. Hen walked down to bridge took downhey expressly to the Pyramid for 2 frames; got some aways; herd whyom for before the wehin who drove wants to transdonkey (I cannot say trans slips) we to the much worse beaut of a man riding this way. House Irefused; then highthe man along sid to pester for ballistist; but finding withing forth coming, he dropped that game at last. The reading a group framages waiting for sports men mar a village, he stopped the Touten just beyond & said it was wanted there; my only nefly was tother tong seat stell him tops on. Then he began topet up a sobbing soccount his wors in heing taken out so for to some men inthe fields; but I know mak boy can be lackrymore on occasions; so bouly kneed the touly ahead. At last guine tears came at seeing the sun fairly down, & he hails too countrymen going their over home I called them in as arbitration. as he was demanding 4 praces won & Lespected a botter when I did Dixmiss him, I appealed to one of the wen who was a sensith bodhing fedlah. He said 4 frames was not wrong, as it was going on beyond Dunset; but as I said

for Abu Saûd, but none were at the American Mission, where Dr Grant recommended me to go. Then drew £10, which will keep me afloat for about 5 or 6 weeks; in which time I hope to do a good deal more worth having than half a dozen photos. Then walked down to bridge took donkey expressly to the Pyramids for 2 francs; got some oranges; had not gone far before the urchin who drove wanted to trans-donkey (I cannot say transship) me to the much worse beast of a man riding this way. Of course I refused; then he got the man along side to pester for bakhshish; but finding nothing forthcoming, he dropped that game at last. Then reaching a group of carriages waiting for sportsmen near a village, he stopped the donkey just beyond & said it was wanted there; my only reply was to stick to my seat & tell him to go on. Then he began to get up a sobbing & recount his woes in being taken out so far, to some men in the fields; but I know Arab boys can be lachrymose on occasions; so I only kneed the donkey ahead. At last genuine tears came at seeing the sun fairly down, & he haild^{sic} {ed} to/<w>o countrymen driving their oxen home, & called them in as arbitrators; as he was demanding 4 francs now, & I expected a bother when I did dismiss him, I appealed to one of the men who was a sensible looking fed/<l>lah. He said 4 francs was not wrong, as it was going beyond sunset; but as I said

that the Day had agreed for two for at the bridge, which he did not deny the man altered his finion. To being within a wile shows I offered bretth with I printeres, instead of P, which Hurmfine agness was good. So left the unfore seeing boat to finish his cry is he rode back in the desh . & shouldered my bags up home. I just this down as a sample of the thoughtlesmen of for the least arriveration would show that it must be busk by reaching here) - I the wearisoniness of having to do with, the common natives. Then had supper, read Pub Sps, worth this, the but about 12, after a debasel fa while fortught news. Saturday 26 march out before breakfast Italy a simulting from a station before it was tookst. That gove there before, but there were necessitated owing to the points not being convenient from Mur station which their intender. There thus fixed the sair clausel, or the tip of the arms of each corner of the case of 12; these will give a cross defining its centre fearing rapex, & also shew by prolongative where they the amin would come on socket floors. Then back just before moon. It was a lovely day to Oserve, a cool but slight N. wind keeping the cloud less sure from heating things up too much. then has brighfast, & reduced Asis, Then at 2 out & collected van signal, left astrag lately. home but except the other ine. Then took out sind theod to check bigthered ziel aich Now on Nair channel, & to practice with it before toying Polaa sim. Finish about 5 = then to tout fetcher (aletern, furthem of took of their to big tout is of A. I selected the

that the boy had agreed for two fr. at the bridge, which he did not deny, the man altered his opinion. So being within a mile of home I offered to settle with 7 piasteres, instead of 8, which the umpire agreed was good. So left the unforeseeing brat to finish his cry, as he rode back in the dusk; & shouldered my bags up home. I put this down as a sample of the thoughtlessness of (for the least consideration would shew that it must be dusk by reaching here) - & the wearisomeness of having to do with, - the common natives. Then had supper, read Pub Ops, wrote this, & to bed about 12, after a debauch of a whole fortnights news.

Saturday 26 March

Out before breakfast to take azimuths from a station before it was too hot. I had gone there before, but these were necessitated owing to the points not being convenient to do from other stations which I had intended. I have thus fixed the S. air channel, & the tip of the arris of each corner of the casing of Δ^2 ; these will give a cross defining its centre of casing, or apex, & also shew by prolongation where they the arris would come on the socket floors. Then back just before noon. It was a lovely day to observe, a cool but slight N. wind keeping the cloudless sun from heating things up too much. Then had breakfast, & reduced obs^{ns}. Then at 2 out & collected various signals left astray lately. None lost except the stolen one. Then took out 5 inch theod to check big theods <u>7 inch</u> circle obs on N air channel, & to practise with it before trying Polaris again. Finished about 5 1/2, then to tomb, fetched lanterns, put them up & took up theod to big tomb W of Δ . I selected, this

station for Polaris Por as it is one comer ofthe big Varound A ; where is most closely connected with it, heads having it a simultar work- accountly betwained in connection with they (pul coros ± .45 & ± .25). Look a set of obrus fartly before & after writer clougation; being this took tim on Consopus time & I on trough sides: Dividing these with aich right & circle havrit theods; lifting teles ape out & replacing aprile of then tom 1800, xit is done ineversing Minuten Mal having the lance on the stone without the trucking theod Jack, & keeping one hand enjoyed with the tangent ser the the belo the lanten at arms length to Mun field friend by the Brieck glass, Sich was very fatyen the arm. However the result on fiver than I evil have expects; average coror on a signal & , average some on Planis 3", from verniers only reading to 1' x very coarsely divided. The forball sorror the vesults are, on separ ± 4 4 ± 5, 4 on Planis ± 1". I wish that taken more signal dos is now, but I did not imagine the plans Do would come out so well. The time by Compray agrees within 5 secs of the time by Cairo affarent won gran, which probably less than my watch nath correinter altoyether we have the a smuth of the While transpilation now certainto 5". Then home by o'i or so, had suffer tretuced dos in till fires astonished to find it 2 aim. Then worth this & to had. Ali has here good again boday, 4 seems infroved by the propect of Salhar

then turn 180°, & it is done; <thus> reversing collination cradle, & transit errors as in a transiting theod <but not cradle error>; the only disadvantage being a risk of shaking theod, <But I find that I corrected all these errors so closely by scraping, that the whole is only 13" at 30° alt.>. It was extremely awkward having to balance <sitting> on the stone, without the touching theod in the dark, & keeping one hand engaged with the tangent screw, while the other held the lantern at <full> arms length to illuminate the field of view by the object glass, which was very fatiguing to the arm. However the results are finer than I could have expected; average error on a signal 8", average error on Polaris 3", from verniers only reading to 1' & very coarsely divided. The probable errors of the results are, on signals \pm 4" & \pm 5"; & on Polaris \pm 1". I wish I had taken more signal obsns now, but I did not imagine the Polaris obs would come out so well. The time by Canopus agrees within 5 secs of the time by Cairo apparent noon gun, which is probably less than my watch rate error in the interval. Altogether we have the azimuth of the whole triangulation now certain to 5". Then home by 8 ½ or so, had supper, & reduced obsns, till I was astounded to find it 2 a.m.. Then wrote this & to bed. Ali has been good again today, & seems improved by the prospect of Sakkara, which I did not at all expect.

Sunday 27 March

After breakfast attending to sundry matters in tomb, & reading. About 2 ½ went off over the heaps to see what wh was going on. My coming is generally the signal for some of the lads digging earth to break off, & wander about shewing me all sorts of scraps of pot, in hopes that something may suit me. I found another piece of a stove-plate in my wander, & was soon so loaded with pot that I had to return to tomb. Then went off round the NW side of the hill, where I had never been yet. There was nothing particular to see, except the desert, which is always refreshing in its expanse, unbroken by any of the petty walls or ditches of human work. Strolled over to the West hill, & then down towards sphinx. Ali met me & shewed me a lot of fine jars, which had all been smashed up by the men digging for the museum: they would have been fine examples, if uncovered by any one who wanted anything, but mere loot. I tried in vain to put together one whole one, but carried off the most perfect, & fragments illustrating the other forms. Then had supper, & put things together for going, off early tomorrow to Sakkara: wrote this & to bed about 10 ½.

> Cairo XXI 1st half

Sunday 27 heard After breakfast attending to sundry
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Monday 28 March

Got up at 5 ½, had a scrap of rice & coffee, & then packed donkey, & off with Ali & Abu Saûd driving, at 6 ¾. Had a look at Gill's base which he measured for the Gov¹ Survey, the Arabs have torn out the terminal I saw, & taken up or broken most of the intermediate stones, & Dr Grant told me that it has never been used. Then looked at a site of Roman village, full of pot. Then saw the fossil shell hill; but did not carry anything from these sites at present. Then walked on to Abusir Pyramids. Saw there a site of brick buildings, being dug for earth; they had turned up fragments of early tombs, which had been used by brick builders; two good pieces of figure sculpture, some among them carrying standards; I copied the hieroglyphics; & also off another bit I saw, <many flint hammers &c as at Gizeh.> Then on & looked at the Sakkara tomb of Ti; the outer court of it, inside being locked up. Then on to Mariette's house, a groundfloor building, with large covered terrace on N side. The caretaker or reis said I could not have a room, or even sleep on the terrace though Baedecker^{sic} {Baedeker} mentions both. So I put my things <u>pro-tein</u> in the corner of the terrace, put some water in my kettle, boiled up, (as it is filthy muddy here) & had some chocolate, cold rice, & biscuit. Then about noon went off leaving Ali with the things, & looked where M^I Loftie told me for the newly opened Pyramids but could not find any opened there: there must have been some mistake between Brugsch & him, then went down the hill edge, & into sundry tombs, some of which I measured: others were so rough, fallen in, built up with mud walls to support the roof, full of dust, & broken that I left them. I had a nap in one, for the long walk

monda, 28 march fry at 5 is, had a scrafe free telfer, other bucked Junkey, Joff with the & Aba Sa and driving at 63/ce Had a look at fills base which he mercend for the for the Arabs have toon but the terresimal from I taken up a bishen most of the internisorate stones, & Arbrant tola me that it has ever been used, their looked alt a sit of Roman village, full of pot. Then saw the proil shell hill; but did noteany any thy from there sele, at orean Then walkedon to Abusin Byramins, Souther a set of brick building, being day for south; they hastered of praguen having tomby which had been used by lisit buildes; two go Jestind the hieroffins; & also offanthamens to agat find. Then on I looked at the Salehara touch of Ti; the seits course oft, inside bring brehed up. There on to maniettes house a crown Thor building, with large covered tenrace on Niele. The caretaker or see said feould het have a govern or ever I self on the tenonce though Is and when went transboth, Sol pest my things pro tem in the come Alta terroce, put some worth in my with foiled up fant is filtly newdy here that Jour chilate At rice Abjent. This but noon west If leaving Ali with the things, slooked where her Lifter till me forthe aren'ty sheard Poranis but will not find any Spenier there; there must have been some mistate between Porngsch thing, then went down the hill edge tout sounds tombs, some polach measured; Their were so rough, faller; built up with muid walls to support the roof, full of Just & broken that I left them. Then a respin one, for the boy walk

in the Zem after getting up saily made me sleepy. Then had a look over the late (Roundvilleye; & of the slife promised; had a both at it would up it easily though Boudecher says its is purported danger for as account without the help of the Medawin". It is far safer there going along the face ofthe front Brown. Her sen was just setting, the view is interesty, though mothing habe softriling as that from the G.A. I then come down, storland at the make of it; of has aviden bem built in couls of each step they covering our than Mich vises above it; dat SEL a piece of fin isludcaring loft or so ligh is experied of time the person to Which is grough that I think bean cased. He came up in said that the man was not settled, severely not betweene any part of house or sleping convenient neighbour touch. Is Iwent up to home, found the reis very civil but he said be had anders most lespeople use even terrace but from the seguel I south it. After much tally in which the reis inference on us with the most appalling gesting the dangers of election and locked up sape, I insisted that we ought by oron other viller & ferbuty hrown friend flis who would change have sounds the & lagreen to take the tout , so we carried the things in; but the neis propened to be should (all this is fridge, as Buedeales writer of sluting out as a natural thing there & Mered to let us use the Tomb of To, one of the show places, but soon

in the sun after getting up early made me sleepy. Then had a look over the late (Roman) village; & up to the step pyramid; had a look at it & went up it easily, though Baedecker^{sic} {Baedeker} says its <ascent> is (/<">not without danger & on no account without the help of the Bedawin". It is far safer than going along the face of the Great Pyramid. The sun was just setting, & the view is interesting, though nothing like so striking as that from the G Δ . I then came down, & looked at the make of it; it has evidently been built in coats [♠] each step being covering over that which rises above it; & at SE $[\Re]$ a piece of finished casing 10 ft or so high is exposed 8 ft <u>inside</u> the present outside, which is rough, & has I think been cased. Ali came up & said that the man was not settled, & would not let me have any part of house or sleep in a convenient neighbouring tomb. So I went up to house, found the reis very civil, but he said he had had orders not to let people use even terrace, but from the sequel I doubt it. After much talk, in which the reis impressed on us with the most appalling gestures the dangers of sleeping not locked up safe, & insisted that we ought to go down to the village I (probably to some friend of his who would charge handsomely) Ali & I agreed

to take the tomb <near>: so we carried the things in; but the

writes of sleeping out as a natural thing there) & offered to

let us use the tomb of Ti, one of the show places, but soon

reis preferred to be shocked (all this is fudge, as Baedeckersic {Baedeker}

Changed , trail we right have a room; thin profelly resulted from his seeing that we were going blake care fourselves, Lall bathshirt slepping away from him. So we would back tout a room; where I soon settles in, and suffer wrote this the att 9. herden 29 march, In reis whool stifferd him (slubing on one wooden sopa, the on author suggestion a thing) but hadufe two man to sleep on the terrace all in blessed authorfulion of balebaich. I got up about 8, had breakfast (on wasting fractitis here) having a run out to see the frains that has been from by the stip proposed, while the hetel Foiled . I found it had been shit fait bestrages by therowing down a blums of it to over the cutowie your, to pealow is Dougsel of any information. Then Spirite Ali Hoshed at another from lately opened, they was also blocked up your then to martaba et Firacem (or Pharvalis tomb) of 5th Jan .: then heavethe hard opening, but her, blocked it up with four luge stones, beside sand to. The when at author prairie close but, which they are now dyging, the there proving are writeliedly built more retaining weeks frough street 4005 in thick each strong without even mund filed together in side, Swoting

changed, & said we might have a room; this probably resulted from his seeing that we were going to take care of ourselves, & all bakhshish slipping away from him. So we wound back, & into a room; where I soon settled in, had supper, wrote this & to bed abt 9.

Tuesday 29 March.

The reis not only slipped himself, (sleeping on one wooden sofa, Ali on another, & myself on a third) but had up two men to sleep on the terrace; all in blessed anticipation of bakh/<s>hish. I got up about 8, had breakfast (no washing facilities here) having a run out to see the pyramid that has been opened by the step pyramid, while the kettle boiled. I found it had been still farther destroyed by throwing down a lot more of it to cover the entrance again, so jealous is Brugsch of any information. Then off with Ali, & looked at another pyramid lately opened, this was also blocked up again, then to Mastaba el Firaun (or Pharaoh's tomb) of 5th Dyn.: this Mariette had opened, but has blocked it up with four huge stones, beside sand &c. Then looked at another pyramid close to it, which they are now digging. All these pyramids are wretchedly built, mere retaining walls, of rough stones, 4 or 5 ins thick each, daubed with mud, running through the building, & loose stones without even mud, piled together inside, <(but fine Mokattam casing & lining)> nothing

anyther by weamon appearently, as the wall, all have abatter, I are in egulo in tout Then as it was a Glat day tratter (attell for this morning) Heft fli in shade of mastable as Did not espect twantowned, swent of light with Coat Houly 3 Attether measures a bit Jeansh in pochet I a few matches in man. body, bent has mules one the desert to the by pround of boolestier. His is the largest west to the two of fisely & is better work than any about here, as good or better than so youles inferior to 1 +3. In cutrance is about halfway of it, so I clambered up, sevent in. The parages leads to a linge chamber with II overlapping, remote like frais Collery; then having measured this. into the west here while one among the stony knowling about above and I as hour unaway of the mucher tractione of the beauty thou nothing but then meaning god two one welling his retreat without investigating the laure; it is probably ont single behingen or run dury speak the place of were rungh distribut by my cante. Then out to ou about 2 farther the doubt slike A I estremly interesting as it haster carring only somewhat This is the only Example of a A with the coor perfect

anyhow by measure apparently, as the walls all have a batter, & are irregular in & out [♠] in some cases. Then, as it was a cl hot day & rather close & moist, (a thick fog this morning) I left Ali in shade of Mastaba, as I did not expect to want much; & went off light, without coat, & only 3 of the thin measures, a bit of candle in pocket, & a few matches in mem. book, went two miles over the desert to the big pyramid of Dahshûr. This is the largest next to the two of Gizeh, & is better work than any about here, as good or better than Δ^2 , & only inferior to $\Delta^1 \& 3$. The entrance is about halfway up it, so I clambered up, & went in. The passage leads to a large chamber with 11 overlappings, much like Grand Gallery; then having measured this, I went into the next <chamber>; here, while measuring, I heard the stones knocking about at one end, & as I was unaware of the number & nature of the beasts, & had nothing but thin measuring rods, & no one within two miles, I beat a retreat without investigating the cause; it is probably a jackals lair <but might be hyaena, or run away slave.>. Owls inhabit the place & were much disturbed by my candle. Then out. & and on about $\frac{34}{4}$ <1 ½> mile farther $\langle to \rangle$ the double slope Δ [\Re]. This is most extremely interesting as it has the casing, only somewhat ragged about the bottom, but perfect round the door. This is the only example of a Δ with the door perfect,

I I climbed of the foot bades broken in coming to it to seamine it covefully. The casing is broken out below it I one gotrup the doorway has two large tilles a but the side, have rout ortside willout any alteration; the floor . Beside this the roof has been out small find hote in it, farther in their Altogether I think there was a flash door of stone with metal pivot was lifted outword type in; then inside that a · door proof on verteel pivor. Twent down go feet foremost weighing over the big stones & sand Which fill it not seeing ahead except in clear places. I one of the owl world not went at the end but come flying up, so I lay flat, theld my candle low, the flew over just clear five of as Heny; the other was more timed & she tried & squeeze in wide a stone when I came news the and ; seeing it filled I crowled up again. Fortale Total The other, freut & which I went with was similarly

& I climbed up the foot holes broken in casing to it to examine it carefully. The casing is broken out below it & one goes up on one side [**] The doorway has two large holes as if for pivots of a swing door <one> on each side near top [**]

but the sides have run <to> outside without any alteration; the floor has been torn up apparently, & the roof is cut away somewhat thus [*]. Beside this the roof has been cut having inlet

& a small pivot hole in it, farther in, thus
Altogether I think there was a flap
door of stone with metal pivots
which filled up flush outside when at rest, &
was lifted outward to go in; then inside that a

first door of wood on vertical pivot. I went down passage, two owls flying away in front of me from their nest just by the door, but found the passage was blocked close to bottom; it is all encumbered <in lower part>, about half full from floor up & half full from W side, so that one has to go feet foremost <(in ¼ of the section of it)> wriggling over the big stones & sand

which fill it, not seeing ahead except in clear places. $\frac{1}{2}$ One of the owls would not wait at the end but came flying up, so I lay flat, & held my candle low, & he flew over just clear of me $\frac{1}{2}$ as I lay; the other was more timid & she tried to squeeze in under a stone when I came near the end; seeing it filled I crawled up again. $\frac{1}{2}$ was glad to $\frac{1}{2}$ oth The other, Great $\frac{1}{2}$, which I went into was similarly

Grandbean Shick made it the more awher and to have with my breast one wight find, wit was a slow matter to more set all. Iwas glan to do these, in ile work, from 14 4 about, though the walk to them was steering alrow in the desert. Then recovered on fruiting similar work meaner, not knowing Brugach & manit passion for exclusivelees; but finding all blocked I had by on, or so nothing . He passage of the hus been filled in ancient times, notwith weene Jebois, as now how been broken apound the mouth nor with blown saw, but perfecely (by builders?) with fragments of limestone desert flints saw, which must have been correct up otepped in on propose. I while trop hierozlythe scribble on the lange sites of meanters later, then went back to the , not expecting that there would be anything that I could see or examine in the two mund much pyrains though I should have liked to see them closer. On getting back we went down past a ancient village which fraudiced to Somewells yesterater vious tomatoes which were refreshing, I rather astonished the man New I did all the crock formy lips, as I pulled away at a great or so at one sip, Then of to bolled at another & Which Brought There , I closed again immediately, booker at another

encumbered, which made it the more awkward to manage with my beast one might find, & it was a slow matter to move at all. I was glad to do these, inside work, from 1 to 2/<4> about, though the walk to them was stewing at noon in the desert. I had reckoned on finding similar work nearer, not knowing Brugsch & Marriettes passion for exclusiveness; but finding all blocked I had to go on, or do nothing. The passage of the [♠] has been filled in ancient times, not with mere debris, as none has been broken around the mouth. nor with blown sand, but purposefully (by builders?) with fragments of limestone desert flints & sand, which must have been carried up & tipped in on purpose. I copied two hieroglyphic scribbles on the passage sides & one or two later. Then went back to Ali, not expecting that there would be anything that I could see or examine in the two ruined mud pyramids, though I should have liked to see them closer. On getting back we went down past an ancient village which I examined, to some wells & got water, & some tomatoes, which were refreshing, I rather astonished the man when I did get the co crock to my lips, as I pulled away at a quart or so at one sip. Then up, & looked at another Δ which Brugsch opened, & closed again immediately, s/<l>ooked at another

site frillage; of them to a forthet lately opened, the 13 passage frhich has been blocked again, but the chamber has been bother with from the tip, I have to examine it more to hearrow. Then back Kmariette, house in rush, had suffer with this the about 101 sleeping Is an inua room on atable. Humen have been atmy things, the jam scraped out with a knife, the charlet licked out? Wednesday 30 march Off after breakfast to the foram Isans last night taking the rope ladder tyet down trucumvet. hom serforise Isan wow that it has a man phierogyphing in it being impact our fler two in sorted to s ofeen by bruggely What two clambers, one frelich he has blocker up your but the there being few at to be could not fill up. The roofs of With were 2 blocks deep of anormous her heattenn blocks get alfre It. It had been forces ofen of the blocks broken & + partly tron out in carlytimes, vall thiside, ofthe chambe toon int + smashed also; but the end unton ched strayely though the sareth close to one and has been split up by wedgeholes, slifted on to raised blocks tobur a fire underit to smash it. Strange to any it done not belong to Pefer who is the only king in the inseril, but to Rameric of Al whom I found on some strug full into a ringe wall leading trustance. One and After chamber is tell atmost hidden by blocks & clufor of the smasheduly sides, but a scrap sopred is also covered with in said. The isserif are all beautifully sharply cut

site of village; & then to a fourth Δ lately opened, the passage of which has been blocked again, but the chamber has been broken into from the top, & I hope to examine it more tomorrow. Then back to Mariettes house in dusk, had supper, wrote this & to bed about 10: sleeping in an inner room on a table. The men have been at my things, the jam scraped out with a knife, & the chocolate licked out?.

Wednesday 30 March

Off after breakfast to the pyramid

I saw last night <No 5 Vyse>, taking the rope ladder to get down & measure it.

To my surprise I saw now that it has a mass of hieroglyphics in it, being in fact one of the two inscribed Δs opened by Brugsch. It has two chambers, one of which he has blocked up again, but the other being opened at top he could not fill up. The roofs of both were 2 blocks deep of enormous Mokattam blocks put slope [♠]. It had been forced open & the blocks broken & partly torn out in early times, & all the sides of the chamber torn out & smashed also; but the ends untouched strangely, though the sarcoph. close to one end had been split up by wedge holes, & lifted on to reused blocks to burn a fire under it to smash it. Strange to say it does not belong to Pepi <[♠]> who is the only king in the inscrip, but to Rameri [ℜ] whom I found on some stones built into a rude wall leading to entrance. One end of the chamber is still almost hidden by blocks & chips of the smashed up sides, but a scrap exposed is also covered with inscrip. The inscrip are all beautifully sharply cut

in the white limestone & colored bright grean, all the feathers details of beron the are drawn in the integles with larger Seeing limit was Iset towork teopies, with one a Grif stip tomeasure what I would, from 11 till 6; doing 4 or 5 hours more to finish what is visible. Y as mary more is still inaccernible to I do not care to do an as it will doubtles biall done at last by lovingsel to X all heart was a good let to her the character All, & for Birch & W. towark on. It was in a fuget forfeas some fthe people should come & see me copying to is will known that Bougsel wishes to keepert all to himself; but he has behave so shabbily in covering up everything, inseribu I rather relish doing him in a small way, bee any thing more, Hack tomarrette home, has suffer, with the stable abtg:

in the white limestone & colored bright green, all the feathers & details of birds &c are drawn in the intaglio in the larger hieroglp. Seeing how it was I set to work & copied, with only a brief stop to measure what I could, from 11 till 6; doing most of what is visible, about 5000 figures; it would take 4 or 5 hours more to finish what is visible; & a < s a > mass more is still inaccessible so I do not care to do any more, as it will doubtless be all done at last by Brugsch, &c; & all I wanted was a good lot to shew the character of it, & for Birch & D^I W. to work on. Ali was in a fidget for fear some of the people should come & see me copying, for it is well known that Brugsch wishes to keep it all to himself; but he has behaved so shabbily in covering up everything, inscribed or not, that I rather relish doing him in a small way. This it seems is not the greatest find, for in one pyramid close to this <6 or 8 Vyse> he found two inscribed chambers of alabaster, & sarcophagus. Altogether it is a grand turn up of inscrips. Then I left it when too dark to see anything more, & back to Mariettes house, had supper, wrote this & to bed abt 9 ½

Thursday 31st March

Up about 8 after a rather restless night on my table, which was rather too hard for comfort; three nights of it is enough. Went off, after just a drink of water, to copy inscrips &c; had another look at step pyramid, & see not only one finished casing 8 ft inside present face, but another finished case, at a rather greater angle, 10 ½ ft inside the 1st. This is all important, for (1) it shows that the Δ was not covered over with one surface of casing; like others, which are also in steps, but filled in with smaller stone in angles, thus $[\Re]$; & (2) that it was reckoned as <u>finished</u> (& not merely in progress, with successive coats put on, as Lepsius' theory is) at two dates before it was actually brought up to present state. It must have been cased in steps like the present $[\Re]$. Then down to tombs, copied all the continuous passages in one tomb, which has evidently never been done before, as it is all plastered over with mud, just as left by some Arab family. A great deal more might be copied by cleaning & washing. It is clearly of late date by the style <but very beautifully executed, like cameo cutting.>. Then to another, also late, & copied all the distinct passages of that. Then up to house again to go to Apis tombs & Ti tomb when open for other visitors; found two Englishmen just leaving Apis for Ti, so hooked on to them, & they seemed glad of such explanations as I could give, for though I had never seen it before, one gets eyes for such things, & takes in with practise the meaning of a group more readily than at first. Then went off to Apis tombs; found door ajar, so went in; they are huge galleries cut in the rock <of> which my

Thursday 31st march up about I after a rather restless with on my table, which was nather too hand for comfort; three right, of it is enougher went of, after just a drill fronter, to copy inscrips Ke has another look at stip pyramid, I see whomly one finished caring of inite present face, but unother finished case, at a ratter greater augh, 10 2 ft inside the pet. This is all important for (1) it shows that the Awas not covered over with one surface easing; like their, which are was in steps, but filled in with reckound as fairful (vintured in progress, with succession coats put in, as depoins theory is) at two dates before it was actually brought up to present state. It though have been touts, which all the continues parrayer in one touch, Ihad more night be which by cleaning two sting. It is cles late date by the style. Then to mother, who cake & copied all the distance parges of that. Thereings to bouse again to so to April tomb & Ti tomb when open for then visitors; found two hybridium just leaving Afra for Ti, so hookedon to them + they seemed glad fruit suffanction as lovely give, for though that near seen it before, one get syes for such things, & takes in with tractise the meaning of a grown more readily then at first. Then went of to this truly; found door again, s went in; they are huge galleries certin the rock talich my

one could scarcely showed bothsides, while at intervals they 222 branch, or have great necesses or chambers, in which the survey, black grant saraphysi of the bulli one placed, about 13 ft long 7 with & 11 high in one piece Agrant, with lids trenatel. The inside four is in fact a respectable little room. after sainy part of it the come in, & Hoshed at some more; but it is wha favourable place to wearing formany measons, I localed byet back this afternoon. So I left, whach to bouse, has breakfast about 12; then packed up, & she hunted for a downey but could subjet one, so sent Abre Said, who had chanced trouve over (briging his pater a stock of Eggs & some untton, ce bunch ofwhis Ali subcavourd to favour me with I som to Abusin with one Atturner to look for one; meanwhile not to love Twee , Twent of leaving the testth with the neis, as I hate the peopleted synabbles over every prastre, which are necessary here unless one showers silver ogshi too, swough to file all mouths. I measured the outer fant of the tout of Ti, other on to rock touts over Abusin, meeting Aba S. Who said that there was no follow to morrow. I found some curious little tablet fine withing in the touch, but nothing much to measure as they are all much broken & scaled of trough inside without week detail, mostly long hangerant in roch with truch st wells along the foor. Hi had passed, when Heft he wented, & I friched him up the neis was squabblesome on necessing 10/- for 3 days & brought of M the wen he had chosen to send up there to sleep, asking which of them all was than the money, a pavourite figure faction with him. He would willet Ali have his doubly which A - want so hering two wen they carried the things down to some payment

one candle scarcely shewed both sides, which at intervals they branch, or have great recesses or chambers, in which the enormous black granite sarcophagi of the bulls we/<a>re placed, about 13 ft long 7 wide & 11 high in one piece of granite, with lids to match. The inside of one <coffin> is in fact a respectable little room. After seeing part of it Ali came in, & I looked at some more; but it is not a favourable place to measure for many reasons, & I wanted to get back this afternoon. So I left, & back to the house, had breakfast about 12; then packed up, & Ali hunted for a donkey but could not get one, so sent Abu Saûd, who had chanced to come over (bringing his pater a stock of eggs & some mutton, a bunch of which Ali endeavoured to favour me with) down to Abusir with one of the men to look for one; meanwhile, not to lose time, I went off, leaving Ali to settle with the reis, as I hate the perpetual squabbles over every piastre, which are necessary here unless one showers silver, & gold too, enough to fill all mouths. I measured the outer part of the tomb of Ti, & then on to rock tombs over Abusir, meeting Abu S. who said that there was no donkey to be had, so I told him I should go on & things might follow tomorrow. I found some curious little tablets of inscriptions in the tombs, but nothing much to measure as they are all much broken & scaled off & rough inside without much detail, mostly long passages cut in rock with <irregular> tomb st wells along the floor. Ali had passed, & when I left he waited, & I picked him up. The reis was squabblesome on receiving 10/- for 3 days <besides 2 fr for one man>, & brought up all

the men he had chosen to send up there to sleep, asking which of them all was to have the money, a favourite figure of action with him. He would not let Ali have his donkey which A. wanted, <unless he had £1,> so hiring two men they carried the things down to some pyramids

of Abusin marchiel some hab were about with camels; the getting a course coming this way the things were their taken on to as halfway; Ali branched of bree about them, & all I hum is that they have come in by detachment from 7's to 83/4 & Ali himself has not appeared at all; how it all suded I keen not get. The said things were a time can fourflux ford x weint por " roll of blanket, " sach with who ladder de X = handby with pottery or , & measuring not; beside Alis' but of hat bread in an indescribable hank of derty Attoucht. It is a trial to one's stomach than a supply of brew brought, each pat withthe sign x couter sign of we this two hands, & all trusted up in a cloth in Neich useted generation of flear appear to have resided; the trabil adour of the cloth is why so wend consequence, is the bread itself smells similarly to begin with. Heft the at Whatsesus like a Roman station, two famille walls about 550 pt apart, our a back now, the then brichwork close to the and four of the great road subankments across the till vally from plante ON (airo (Roman state) & close to a Corge permanent pour. I pushed on but was very pumped The the deef sand walling; having been on rotten low ration, bitely while at Sahkara (4 bis wit + chockate Ke per Jean) Livas gaspy & Sphresse with it being very thirty as well. Iwentof to the sundry shows of, but the water was all tootherle of black and take bearable, so I had some very better towaters from the new airs of a patch left wild, tych into homes at 6 4, Soul afs. After some water vorages Hay som, glad

of Abusir near which some Arabs were at work with camels; there getting a camel coming this way the things were thus taken on to about halfway; Ali branched off to see about them, & all I know is that they have come in by detachments from 7 ½ to 8 ¾, & Ali himself has not appeared at all; how it all ended I know not yet. The said things were ¹ a tin can of surplus food & ancient pot, ² roll of blankets, ³ sack with rope ladder &c &c, & ⁴ hand bag with pottery &c, & ⁵ measuring rods; beside Ali's bundle of Arab bread in an indescribable hank of dirty cotton cloth. It is a trial to one's stomach to have a supply of bread brought, each pat with the sign & counter sign of M^{IS} Ali's two hands, & all bundled up in a cloth in which untold generations of fleas appear to have resided; the sm Arabic odour of the cloth is not of so much consequence, &/<a>s the bread itself smells similarly to begin with.

I left Ali at what seems like a Roman station, two <nearly> parallel walls about 550 ft apart, one a bank now, the other brickwork, close to the end of one of the great road embankments across the Nile valley from opposite old Cairo (Roman staⁿ) & close to a large permanent pond. I pushed on but was very <u>pumped</u> with the deep sand walking; having been on rather low rations lately while at Sakkara (4 biscuits & chocolate &c <u>per diem</u>) I was gaspy & oppressed with it, being very thirsty as well. I went up to two sundry shadoofs, but the water was all too thick of black mud to be bearable, so I had some very bitter tomatoes, from the remains of a patch left wild, & got into home at 6 ¼, done up. After some water & oranges I lay down, glad

18 toget something soft again, for my saching is a most comfortable bed: when the installment of good come in that some supper. Then with this of how about 10 2 baving order doubley tomorn for d'i for want an easy day a swaf of sculpture; as it was useless there I set il an cufty tur for, but goodutions of ablutions regim has beautiful pieces of very early trute 3 culptune, Shirt head he esed by wrichbuilders at Abusin suluch Isaw turned up on had pounded a hole through the westh feach t make it serve for a shadoof cometerpoise, They would have graced any house

to get something soft again, for my sacking is a most comfortable bed: & when the installments of goods came in I had some supper. Then wrote this & to bed about $10 \frac{1}{2}$, having ordered donkey tomorrow for $8 \frac{1}{2}$ for Cairo, as I want an easy day.

I got a wash this morn in the bottom of an ancient jar I think, which was brought in, & <(having a pointed bottom)> propped up in a corner with a scrap of sculpture; as it was useless there I set it on an empty tin pot, but evolutions of ablutions required care in such (or over such) a thing as this

 $[\Re]$

Cairo XVI

Two beautiful pieces of very early tomb sculpture, which had been used by <old> brickbuilders at Abusir, & which I saw turned up on Monday, I looked after to day; & found the wretched Arabs had pounded a hole through the middle of each to make it serve for a shadoof counterpoise. They would have graced any museum

Horgor to any that there is a piece of the filling of of the pange to duces clamber still in seter stuck to frantfolling flow. Mrs the two wfor grant plugs in ascend passage, de not rest on lower one (or ones) but there is about 4 in she between them. The end Ithe blocks were not all flat, or worked very tru where flattured; about i surface fore; left original boulder shape. many thanks for the long texplicit rifly to muse to P. If this heat is going to continue right on , I should prehafe soon; but texpedit will go over in a day or two, I be about 70 or 80°, gut comfortable. The commotor which in active work with air over blookest, let about the wish from stocke if our toes go int

I forgot to say that there is a piece of the filling up of the passage to Queens Chamber still <u>in situ</u> stuck to Grand Gallery floor.

Also the two upper granite plugs in ascending passage, do not rest on lower one (or ones) but there is about 4 inches between them. The ends of the blocks were not all flat, or worked very true where flattened; about ½ surface of one is left original boulder shape.

Many thanks for the long & explicit reply to mine to P. If this heat is going to continue right on, I should pack up soon; but I expect it will go over in a day or two, & to be about 70° or 80°, quite comfortable. One cannot do much in active work with air over bloodheat, let alone the risk of sun stroke if one does go into sunshine.

The contraction frome ony board here (on in lapland)

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The contraction of some dry boards here (dry in England) is .1 in 30.

Please send enclosed 9 sheets to D^r Birch.

Cairo XVII-

Friday April 1

Found I was short of clean fronts, so had to look up the dirty ones & take them to be got up in Cairo. Off by about 9, but the donkey (which I had to pick up with Abu Saud at about a mile off), went so slowly that I could have walked quicker; one thing was Abu S did not like to trot like Muhammed, & it was a warm close morning. So I got off at the bridge & walked into Cairo. Got to Hotel du Nil about 11 ½, found M^I Loftie in but D^r Wiedemann gone for the day. M^r L was highly delighted with the inscription of Pepi, copied a bit of it, & we talked over it full length. As I do not wish my name to appear about copying it, I gave him all the information he wanted to write a brief account to Athenaeum. I also talked over some other inscrips. He is urgent on me to get up hieroglyphics, & offers to lend me here or in England any of his books, if not wanted at the moment. I staid lunch with him, & after more talk went off; promising to lend him & D^r W. the fair copy I made for Birch. Then to D^r Grant's, had a talk over it, & other points, with him; D^r Lowe came in with a young English friend, & Dr Sherrin also turned up with a friend. They went off to look over Dr G's museum, & then I went up to D^r Sherrin's room for a chat. He & his friend were astounded at the rotten state of official antiquarianism here that I revealed; the Museum antiquities being sold out of it, & Brugsch driving a trade as a king of dealers, & valuable remains being smashed continually from the supine inefficiency of the present management, whose idea of activity is stopping anybody else from doing anything.

Friday April I found I was short of clean front, so had to look up the dist ones state them to be got in Caise. Off by about 9, but the downing (Said Had to pick up with whom Sased at about a will off went so slowly that I could have walked quicker; one thany Abor S did not like to trot like hunhammed & it was a warm close morning. So I got of atthe bridge owelled unt lains. Who that de Me about 112, found Withthe in but or wiehenous gove forthe day, but I was high! delighted with the inscription of Pepi, which a bit fit, a we talked our it full length. As I I which my name he wanted townt a brif account to other occur tather over some other inscrips. He is ungent on me of hierofylbus, & offers to lead we here or in highand This books, if introducted at the moment. I stand bunch with Dr w. the fair copy make for Direch. Then a talk over it & then muits with him. or with a friend. They went of to both over or go houseum, & it & Bougsel Driving a trade sufine in efficiency of the present Else from Jony anything.

Then after a forther that to Dr f. who tells me that Pitt-Rivers found what thebes that took in a stratum of hard mobbish out through by the 18th Dynasty heaple) I left, postw letter about 5 's (having stletters in more Blufes) went to a blanchisseur, other mounted drukey, a of . But If in anotherseuse for the sattle some went round & I had to elight as well as I could, on my feet fortunately. for in home about 7's or of; har suffery ne real letters, suched papers, orthethis, & are broking- English alphabet for the Soul fales ashed un for it outherray, or Who seems andions to fich up all be can I't them to his about 12. Isettled with Ali for all expense of Sulkara trip , y gave lim a 10/- bouns in country time fit. a from ortwo given at intervals on special occasions thus, is perceived or value more than by driblets continually, or in a slight increase ofwayes; and it is just pair typice him were more than he had when a young man 16 grass ago with Saturday April 2 Has, I took of "Nature" of sein, 4 et was 2 before hear in bed. To restrup 2 early . then breakfast espiced part of inscription fair . Then about 2's went with 5 inch theod of took asimathy from two stations connected with the a simult trucky to the they fin isling them. Sunday 3 "April After breakfast doing various things in tomb xmed; then abt I out for a turn. Hew subseen the brak Executations

Then after a farther chat to $D^r S/\langle G \rangle$. (who tells me that Pitt-Rivers found up at Thebes flint tools in a stratum of hard rubbish cut through by 18th Dynasty people). I left, posted letter about 5 ½ (having got <3> letters in morn & <3> papers) went to a <u>blanchisseur</u>, & then mounted donkey, & off. But off in another sense for the saddle soon went round & I had to alight as well as I could, on my feet fortunately. Got in home about 7 ½ or 8; had supper & re-read letters, sucked papers, wrote this, & an Arabic-English alphabet for Abu Saud, (who asked for it on the way, & who seems anxious to pick up all he can), & then to bed about 12. I settled with Ali for all expenses of Sakkara trip, & gave him a 10/- bonus in consideration of it. A pound or two given at intervals on special occasions thus, is perceived & valued more than by driblets continually, or in a slight increase of wages; and it is quite fair to give him now more than he had when a young man 16 years ago with C.P.S.

Saturday April 2

Alas, I took up "Natura" again, & it was 2 before I was in bed. So not up early. After breakfast copied part of inscription fair. Then about 2 ½ went out with 5 inch theod, & took azimuths from two stations connected with the azimuth trenches &c, they thus finishing them. Then after supper <(beginning with 5 cucumbers)>, reducing observations, & copying inscrip. again.

Sunday 3rd April

After breakfast doing various things in tomb & reading, then abt 1 out for a turn. I had not seen the Arab excavations

over here for a week, of a good deal had been done . I was ensuit uncovered, & has haild by men with sundry pottery & . I received three fine profest specimens, one 40 inches girth, which would probably Murwise have been smarked for pear of that bogie here, "mooseem". Wen If for a walk beyond Iphine, saw a Roman village that I had seen going to Sakhara, I in one place found it full of Alover glass, Mit green, blue, perple tyelling, all flat pieces, what of how hardly imagine: I stuffed my product with 14 lbs of it, spicked up suntry por . It seems from the squareness the ground covered, than been the site of a courty. Then back to tombe. In Arab ashed we to see something in his bouse, but there was nothing that I wanted; though he ffend about 60 Constantines for 2 frances. Then her suffer, Abu Sand meading over his alfhabit again, Mich ? lewelum tastrught. Ali is retten against his acquiring such in tel buntings. I was tickled the other day, I ffeed this rice mould with current jelly in it, he refund ; so Ital it not to Aba S., out nushed sti tree that his offpring did not cat it because he believed (nomatter that I said) that the said jelly was wine; which as a pious Ulushim herschus. I them exclused it for a mould with marmalate, that was undejectionable; though it right have been pal Sherry! Received a not from We Lifter saying that or wied " was whole mough to orine outliere, she L. did not expect the able to come himself; but he much wishes for logue of the inscription for a day.

over here for a week, & a good deal had been done. A new inscrip uncovered, & I was hailed by men with sundry pottery &c. I secured three fine perfect specimens, one 40 inches girth, which would probably otherwise have been smashed for fear of that bogie here, "Mooseem". Then off for a walk beyond Sphinx, saw a Roman village that I had seen going to Sakkara, & in one place found it full of colored glass, white, green, blue, purple, & yellow; all flat pieces, what of I can hardly imagine: I stuffed my pocket with 1 ¼ lbs of it, & picked up sundry pot. It seems from the squareness of the ground covered, to have been the site of a camp. Then back to tomb. An Arab asked me to see some things in his house, but there was nothing that I wanted; though he offered about 60 Constantines for 2 francs. Then had supper, Abu Saud reading over his alphabet again, which I gave him last night. Ali is rather against his acquiring such infidel knowledge. I was tickled the other day, I offered Ali a rice mould with currant jelly in it, he refused; so I took it out to Abu S., out rushed Ali to see that his offspring did not eat it because he believed, (no matter what I said) that the red jelly was wine; which as a pious Muslim he eschews. I then exchanged it for a mould with marmalade, & that was unobjectionable; though it might have been pale sherry! Received a note from M^r Loftie saying that D^r Wiedⁿ was not well enough to drive out here, & M^r L. did not expect to be able to come himself; but he much wishes for loan of the inscription for a day.

Monday April 4

Copying inscripⁿ in morning; finished off by 2, then wrote M^r Loftie with it, & went off up to kiosk; found a lot of travellers, among them some ladies from Hotel du Nil, one of whom kindly promised to deliver it. I did not like trusting it to a coachman as he might delay it, or might lose it, & being 5 sheets close of hieroglyphics & a sheet of description, it was valuable. I asked M^r L. to send it on to Birch by Brindisi this week if he had done with it. Then picked up Ali & went off to $2^{nd} \Delta$ to do its NW & SW sockets with 5 inch theod. Though not so satisfactory as 10 inch, yet it is so far more convenient that I use it if possible. The largest probable error of all today is only 4"; in fact the delicacy with which one can read such a coarsely graduated thing shews that with really delicate dividing (lines of 1/10,000 inch wide) one could get all needed accuracy from a small & easily portable instrument, not over 5 inches. Ali had a bad cold, which though apparently no hindrance to buzzing about travellers peddling his antiquities, yet developed considerably over surveying, so that I had to leave him to sleep most of the time. Back to supper, gave Ali some citric acid to be taken hot, & after supper reduced observations, & copied some inscrips. wanting some "support" I opened a tin of haddock, & was astonished to see that the white dog would not touch it, but looked up as much to say "d'ye call that wittles". However some time after I saw a cats tail disappear on looking out. To bed about 10 ½. I picked up a very fine chipped flint knife yesterday, quite perfect & delicately chipped; lying at the mouth of a valley in the desert beyond the sphinx.

This tomb under

monday April 4 Whying in scrip in morning; finished If by 2, then work her light with it, & went of up to knoch. found a lit of travellers, arrowy them some ladies from Hotel on Nil, one Juliam kindly promised to deliver it. I did not like trusting it to a coachman as he might belong it, or night lose it, their 5 sheets close of hieroglybling wa sheet of description, it was valuable. Jasked We d. trend it on to Birch by Prindine this week if he had some with it. Then picked up Shi twent of to 2 to to its NW VSW cochet, with 5 inch theor . Hough wir so satisfactory as 10 inch, yet it is so far more convenient that have it if possible. The larger probable coror fell today is only 4" in fact the delicary with which me can read such a coarsely graduated thing shows that with neally delicate dividing (lines of 10,000 inch with one could get all needed recurrey from a small travily hortath in storment not over 5 inches. Ali have a how all, which though apparently no himorance to bur zing about travelles pedbling his antymition, get developed considerally over surveying, so that I had bleam him to slup most of the time. Back to suffer, gave the some cities and to taken hot, of after supper reduced Bremations, & which some in scrips. branting some "support" I few atur Meddock, owns astonished tose that the white dog would not touch it, but hotal up as much as trang " & ge call that wittles". He were " some time after I saw a cats tail disaffear on bolling or t. To bed about 10 = I picked up a very frier chippen flint buile gesterday, quite peoplet & delicately chipped; lying at the anouth of a valley in the desert by out the sphinx.

Tuesday April 5

Not up early enough to do anything before the hot part of the day; so copied various inscriptions. Considered going out at 2 ½, but it was a luxuriously hot day, in which one was only inclined to sit still; 78° in Tomb, & the air at my door, without any radiation from hot ground, was 93° in the shade: yet it was not as oppressive as 73° often is in England, being quite dry. About 4 ½ I went out with Ali to see the tomb chamber lately opened by museum people. The well is about 7 ½ ft square, and 68 ft deep t <from> the present top, which is many courses degraded below its ancient height. We rigged the ladder, & I went down; but my arms ached considerably, as nearly all one's weight hangs by them. I thoroughly examined the chamber; which is interesting as being unfinished, & shewing method of work. The whole surface of the stone is covered with minute glittering crystals of either sulphate or carbonate of lime. I copied two quarry--marks on the stones <& found a bit of a bronze pick>. Then sent up the measures, &c, by a cord, as they came down; & began the tug up myself; I had to rest three times, & I must go into training if I want to do such work, for it was rather too much for heart & arms. The ladder answered very well, without any spinning, & only an occasional turn; the only fault was that in coming up the steps get pushed up the body, & are not there for the feet; this has to be avoided.

hierday spirit & North rough swough to or anything before the Lot part of the day; so copied various in scriptures. Considered joing not at 2's but it was a hisuriously lest day, in Which one was only inclined that still; 70° in touch, & the our atmy door, without any radiation from lest ground, was 93° in the shade: get it was rub as oppressive as 73° ften in England, being guit dry. Strut 421 went out with the to see the touch chamber lately spends by awseum people. The well is about speare and 68 ft deep to the present top, which course degraded below its ancient height. We rigged ladder & twent Down; but my down ached considerably, as nearly all ones weight hangs by them. I thor Examined the chamber, which is interesting as been unfinished, Ishering method foroch. In whole surface of the stone is covered with minute phtterny copials esther sulflat or ear bonate of him. I which two pra I a cord, as they came some; & began the top up myrelf that trest three times, & hunt go unto training of I was to such work, for it was nother too much for heart & the ladder answered very well without any spining, wouly an occasional twon; the only faultwas that in coming up the steps get pushed up to by the body, & are nother for the feet; this has the avoided.

Then had suffer, words this the bed before 10. 75" in tout. widnesday 6 April the worst ofthe hit menter is that it grains all the pleas & flies into the coller tombs, hence troubles in all hours of the 24. Hear abound in the sand of the ground in polley heaps or in toutes they madily enterdain you - but Then they all notion wite the coder recesses, one has to slaught by the boxen. Of flies I country 70 in a bis out time lis, x one side of a bowl while at breakfast. It was again too lut for outdoor work, so bet about meaning the toutes all round nine. In true air temperature in the shade, by went down to 900 when the therm was laid on a roch large The touts were better only about 900, but out on surry ground was rather searching. He Mi says that only i day or two occasionally is as hopes this in the dumer; A as Backer gives 104° as the setrem occasionally in Khamsin + 95° as und magamen in Delta; Imay counte anyelf that there seen the worst in the way sheat; though the Just ofthe Khamin must be an interesting add wenton measuring tombs all day, then a run in the Juste tree what had been dry by the Analy; then had to the cool necesses from touch at 78. outside being 86° at 7.30 pm. look thing head suffer & tokar. reduced the deget value from one toute : this is a brilliant case, of 25 pelus legter marked of to place hiroglyphies in; by exac Partietis the length frod used (P falus = 23 cm) by a shiftat the 8 × 16 palm lengths. Then treating each rod by the

Then had supper, wrote this, & to bed before 10. 75° in tomb.

Wednesday 6 April

The worst of the hot weather is that it drives all the fleas + flies into the cooler tombs, hence troubles in all hours of the 24. Fleas abound in the sand of the ground, in pottery heaps or in tombs they readily entertain you; but when they all retire into the cooler recesses, one has to slaughter by the dozen. Of flies I counted 70 in a biscuit tin lid, & 30 on one side of a bowl, while at breakfast. It was again too hot for outdoor work, so I set about measuring the tombs all around mine. The true air temperature in the shade, by briskly waving a thermometer about was 100°; which went down to 98° when the therm^r was laid on a rock ledge. The tombs were better, only about 90°; but out on sunny ground was rather scorching. The a Ali says that only a day or two occasionally is as hot as this in the summer; & as Baedeckersic {Baedeker} gives 104° as the extreme occasionally in Khamsin, & 95° as usual maximum in Delta; I may console myself that I have seen the worst in the way of heat; though the dust of the Khamsin must be an interesting addition. Went on measuring tombs all day, then a run in the dusk to see what had been dug by the Arabs; then back to the cool recesses of my tomb, at 78°; outside being 86° at 7.30 pm. Wrote this, had supper & to bed. reduced the digit value from one tomb <of probably Dyn 4>: this is a brilliant case, of 25 < successive > palm lengths marked off to place hieroglyphics in; by examination,

I detected the length of rod used (8 palms = 23 ins) by a shift at the 8 & 16 palm lengths. Then treating each rod length

indefendantly, tweighting according to best mitted, Iget a mean digit value of .729 # in searthy what Head determine astrace original value of light; awithin probable sorors of the mean value that four for Egyptian digit. The hay the little comportments is also seedly so digit (with 4 sigit) gioga dejet 1 726 Shich agrees within half the to they on several the cases friender twising the worked out, but this was too tempting to be left unreduced; the Swor producouslif Istill have towark out, it seems to be about to inch; it is from the great number of repetitions Let such an accurate result. To her abt 11; the weals (that is humbarrand, & with humbarrand-this reflew - I author boy, & "Aba Sand-who finds it more amorning than stopping in the house) all sleep on the and outside, lastright, a to right: I should To the same, only the touch is still rather cooler, & a few degrees Thursday 7th April after breakfast of before 10 to Pyramid I there measured skew of floor joints to try offend me square with panage, but all invenent one were shew. eps. did with meaning their sherwith square, & is much out in his supportion ou it. Iselecte a good fine me, & laid ansaving rod along floor from it to over my statum mark fixed in triangulation on barement adje mark, Athus measured mark into connection with inside.

independently, & weighting according to best method, I get a mean digit value of .729 \pm 1 \pm ins; exactly what I had determined as true original value of digit; & within probable errors of the mean value I had found for Egyptian digit. The height of the little compartments is also exactly 5 digits (width 4 digits) giving a digit of .726 \pm 6 which agrees within half the \pm . There are several other cases of similar divisions to be worked out, but this was too tempting to be left unreduced; the error of workmanship I still have to work out, it seems to be about 1/20 inch; it is from the great number of repetitions that I get such an accurate result. To bed abt 11; the Arabs,(that is ¹ Muhammed, & ² little Muhammed - Alis nephew - & ³ another boy, & ⁴ Abu Saud - who finds it more amusing than stopping in the house) all sleep on the sand outside, last night, & tonight: I should do the same, only the tomb is still rather cooler <(76°)>, & a few degrees difference is worth having.

Thursday 7th April

After breakfast off before 10 to Pyramid.

I there measured skew of <some> floor joints to try & find one square with a passage, but all convenient ones were skew. C.P.S. did not measure their skew with square, & is much out in his supposition on it. I selected a good fine one, & laid measuring rods along floor from it to over my station mark fixed in triangulation on basement edge [& hung a plumb bob over mark, & s/<t>

Then laid the steel take all I we We side of pange; tying to a measuring now laid auxon panage mouth: thus I near of every wall & floor joint all the way on the tope, using sufflemental measures to in vocading 100 in much need as all CP. 5 meaning were cultilate by length ofstones and ed, & measure was held by have, he there could not be any shift, & I re-read a fencil wark at bottom end after finishing, without seeing too difference. I find CP 5 got about is uch wrong in his total, whis flow are much werre than his wall measures in irregularity; meaning count Ithink have sorrer greater than those of estimation fouts. Talso connected the ascending four bortcullis in a much bitterway; as it seems to me that fram lines were not very true prolongations; Thursa plant bot from rost of ascending sperferbioularly to both floor & robjoint of sutrain pauge (ofthe him); & read place foot on stultake. Her meaned from plumbling to end of grant block. This will give connection Massages safe to -03 I sapect. I nead both here die Estrance juick to too th inch always: & used could byine squal sides illumination Then come out for author court. That left it in this had us of the sutrance, but though Paraffin it was so soft that I wild it up without a central hollow, in the turns, & encoiled again without downage! It is letter then yesterday Ithink , 4 750 mg I was almost chilly. Then measured well panage thoroughly; finished about 7. Had suffer, with this, x to bed abt 10. Tempat d'i this weining, gi's outside. 78° in touch. I counted 240 plies on edge of sheet hanging over side of the this morning. Is to bear early to morrow.

Then laid the steel tape all down W. side of passage; tying to a measuring rod laid across passage mouth: thus I read off every wall & floor joint all the way on the tape, using supplemented measures to 1/10 in & reading 1/100 inch. This was much needed as all C.P.S. measures were calculations by length of stones added, & measure was held by hand; here there could not be any shift, & I re-read a pencil mark at bottom end after finishing, without seeing 1/100 difference. I find C.P.S. got about ½ inch wrong in his total, & his floor are much worse than his wall measures in s/<i>rregularity; my measures cannot I think have errors greater than those of estimation of joints. I also connected the ascending passage & port cullis in a much better way; as it seemed to me that C.P.S. drawn lines were not very true prolongations; [♠] I hung a plumb bob from roof of ascending passage at 2/, & measured from B both vertically & perpendicularly to both floor & roof joint of entrance passage (dotted lines); & read place of bob on steel tape. Also measured from plumbline to end of granite block. This will give connection of passages safe to .03 I expect. I read both here & in entrance joints to 1/100th inch always: & used candle to give equal sided illumination. Then came out for another candle. I had left it in the shadow of the entrance, but though Paraffin it was so soft that I coiled it up without a central hollow, in two turns, & uncoiled again without damage! It is hotter than yesterday I think, & 75° in Δ was almost chilly. Then measured well passage thoroughly; & finished about 7. Had supper, wrote this, & to bed abt 10. Temp, at 8 ½ this evening 92° ½ outside. 78° in tomb. I counted 240 flies on edge of sheet hanging overside of bed this morning. I go to Cairo early tomorrow.

Cairo, XVII.

Friday 8 April

Friday 8 Mpvd Up about 5: had elight breakfast, withen by 6.40 of to melt my doubey; which this des delieving that Island be up say, had sent of the grass in his field about a ruit on the lain or mand to was a new one, young, worstrong, this bad health: so we Jid morgeton very quickly though hubaning did his best. After 6 drogging miles, Ight of at the bruize, muselled up cairs, as there is something like shade from there. It letters, but us Pul. Op. Sorry to find that my experiment (trew after sundry remoustrance about silaged letters from frenche aletter in for post has subassers, as it has rideome to hand afternutty; though containing a special request to send each by p.o.s. instead of bouls. This shews that it is best to post myself, and rick forting at more suitable times by a messenger. Then to Hotal de bel point his hofter but or weeden and head out of we was delighted with the inscription, & countered the Spering highly satisfactory, as he could test it by its sense all through; just as land test the accuracy of an illiterate Arab, by setting him to copy a pay menspaper forme. Then after a talk Bout to he L took un the neading row (a kinch in the mutth of they arden) & I hother over papers while he worth his letter to ofthemoreum; then of the meding it over, tasking a word ortwo on chatter on till lunch to Shich he presend me to stay, then a talk, of an Ivel with some antiques filled up the true tell about 3. Though his dis as Spenull said, " not it all your sort of ouden", & trafect heis of a very "advanced school" in many though, so that one count be sutisfied with him; still his

Up about 5 1/2: had slight breakfast, & then by 6.40 off to meet my donkey; which Ali, disbelieving that I should be up early, had sent off to grass in his field about a mile on the Cairo road. It was a new one, young, not strong, & in bad health <& never ridden before to Cairo, or much;>: so we did not get on very quickly though Muhammed did his best. After 6 dragging miles, I got off at the bridge, & walked up Cairo, as there is something like shade from there. Got letters, but no Pub. Op. Sorry to find that my experiment (tried after sundry remonstrations <from home> about delayed letters) from home of sending a letter in for post has not answered, as it has not come to hand apparently; though containing a special request to send cash by P.O.O. instead of bank. This shews that it is best to post myself, & not risk posting at more suitable times by a messenger. Then to Hotel du Nil; found M^r Loftie, but D^r Wiedemann had gone. D^r W. was delighted with the inscription <which the lady had duly delivered>, & considered the copying highly satisfactory, as he could test it by its sense all through; just as I could test the accuracy of an illiterate Arab, by setting him to copy a page of newspaper for me. Then after a talk I went do M^I L. took me to the reading room (a kiosk in the middle of the garden) & I looked over papers while he wrote his letter to the Athenaeum; then after reading it over, & adding a word or two, we chatted on till lunch, <to> which he pressed me to stay; & then a talk, & an Arab with some antiques filled up the time till about 3. Though M^r L. is, as Spurrell said, "Not at all your sort of man", & I expect he is of a very "advanced school" in many things, so that one cannot be satisfied with him; still he is

guest ready thear suidence, given in well & suitable Joses . Has his somewhat Non authority (revising humany guide, secretary for Quarterly, Saturday te, buside his own work & before traceties) it is important to overcome the rejudoce which the years ofthe Doites have coursed. Sol care him what Ithought a saitable talk on the occurred & nothernatural feeling ofthe Gyptians; which seemed to unpress him so well that he toto we he had a populors account of the As & A spock, in view (probably with Stanford) & that if brould join him on that part of the metter "we night make a good brosson fit. I replied, on fith times he mention it, that I should be very happy to suffly him with any facts of the formation that he right like to use & & I just mention this to show how well a see reasonable rose ofthe mathematical suchanical eich the mather was my attention to in scriptions, which is his line has made he anone inclined to hear of anything clase . We then partis Exchanging addresses, the pressing un to come up to his chubs (Savil Hourling ton) see him. They have in Kenny ton Shefield Terrace, W. Then after some shepping (it was 990 in the shade in Hotel du Vil) I went to Do grant, olad a miel chat to Dr Sherrin who farticulty asled me to come & see him before he left. He was just going in an how or so to Raulch (Alexandra) orwer out with the hear - ather to Haly , & home to kensing the about fine. He is a most quial mice fellow, & Ithink will be an aguiraction town

quite ready to hear evidence, given in mild & suitable doses; & as he is somewhat of an authority (revising Murray's guide, & writing for Quarterly, Saturday &c, besides his own works, & papers to Societies) it is important to overcome the prejudice which the vagaries of the Δ -ites have caused. So I gave him what I thought a suitable talk on the accuracy & mathematical feelings of the Egyptians; which seemed to impress him so well that he told me he had a popular account of the $\Delta s \& \Delta$ epoch, in view (probably with Stanford) & that if I would join him on that part of the matter "we" might make a good business <account> of it. I replied, on both times he mentioned it, that I should be very happy to supply him with any facts & information that he might like to use; & I just mention this to shew how well a re reasonable dose of the mathematical & mechanical side of the matter was accepted by an antiquary not at all in that line. I think my attention to inscriptions, which is his line, has made him more inclined to hear of anything else. We then parted, exchanging addresses, & he pressing me to come up to his clubs (Savile & Burlington) & see him. They live in Kensington Sheffield Terrace, W. Then after some shopping (it was 99° in the shade in Hotel du Nil) I went to D^r Grant's, & had a brief chat to D^r Sherrin, who particularly asked me to come & see him before he left. He was just going in an hour or so, to Ramleh (Alexandria) driven out with the heat; & thence to Italy, & home to Kensington about June. He is a most genial nice fellow, & I think will be an acquisition to our

"occasional" acquaintances in avery way. Has much pressed me to were obce him, or his wither if he had not neturned When I do; & Itofu his health will chable him to come Iron to browley; but; alos! he is very consumptive, has interes! out fuglant for two years, dane not well quich, should not talle week, & is in danger of breaking a bloodressed with any exertin. Then had a talk tothe Dr. on several A matter that I had aloseraed; of my view that the well was an afterthought of the original constructors; it clearly has been out through the maroung as it staws, xyet has finely world surfaces at feathery ramp, & is well lined through the grotte Thingle theither Johnich points were plunderer would of attend. Then of about 4'2 back ; by the time Ight fireh (just sports (air, 5 wiles from here) the poor southey troke som , so that to walls home , leaving him bearing my coal Atten toggery finishing ation. for in about 7, 4 as the leat was going how it was not so bad. After supper mote thin, of sometime to time has gone, sothert it is 11 2. a brisk ried from NNE has showing up now, so cook of pleasant, som to 76°; in fact when the my touch which is about 700, raised to 810 by could see . We After promised blent me estain measures Jeapauly, Juny 2 why date Whith he got a few years ago; 3 venels fitting into one another, in glazed fothing: twished in to take Vyres good of As & my it have with me, but I had no time for working at it . He ill jeely lend is rope & other books in lighand

"occassional" acquaintances in every way. His/<e> much pressed me to come & see him, or his Mother if he had not returned when I do; & I hope his health will enable him to come down to Bromley; but, alas! he is very consumptive, has wintered out of England for two years, dare not walk quick, should not talk much, & is in danger of breaking a blood vessel with any exertion. Then had a talk to the $D^{\underline{r}}$ on several Δ matters that I had observed; & my view that the well was an afterthought of the original constructors; it clearly has been cut through the masonry as it stands, & yet has finely worked surfaces at G. Gallery ramp, & is well lined through the grotto shingle, <to> neither of which points mere plunderers would attend. Then off about 4 ½ back; by the time I got to Gizeh (just opposite Cairo, 5 miles from here) the poor donkey broke down, so I had to walk home, leaving him to carry my coat & the toggery of civilization. Got in about 7, & as the heat was going down it was not so bad. After supper, wrote this, & somehow the time has gone, so that it is 11 ½. A brisk wind from NNE has sprung up now, so cool & pleasant, down to 76°; in fact cooler than my tomb which is about 78°, raised to 81° by candle & me. M^I Loftie promised to lend me certain measures of capacity, of very early date which he got a few years ago; 3 vessels fitting into one another, in glazed pottery: & wished me to take Vyses 3^{rd} out of Δs & bring it home with me, but I had no time for working at it. He will freely lend us Vyse & other books in England.

That a letter for major Fraire, who most hintly efectorised Knowthen account flyght (hartruly \$ 5) forme, tentil. as I had not Holin here. At at all worth while todo, but very kind in him, as it is 20 pages. I now have moone but & frank to sheale to in Cain, heard gen! Stone. Certainly Egypt has increased my hypit acquaintener; mayor Fracer, Willoftie D' Sherrin, his machinerie, your chester the latter 4 ale to be looked up in London; & it was only by a current that I wissed ME Hayus (a courtent leytham) & Prof. Hayter Lowis. Jent Stone toprant of may add Dr Lowe, are I fear only Rgyptions friends, though or g. tathes getting leave & coming to Sigland o earinally; being a fort phyrician he cannot under present orgalations it seems, take a long holiday. Saturday April 9 the brought in some bits he porprom a man sigging, including a pretty lettle scribes paint tray of 3 holes, one still red Atten then black. Iwas not carly being time after yesterday, & only intending to do inside to low where much about time. Took the indiarables tube you bottle fronter to level round the grante Johns . On filling thatah Hound all the plans leaked, there sutwithstanding the glass tubes slipped over them; so that to well stearme over each place Iso set it all solid with the bet of classtube. Then yours another flaw, und detected before, & this would need the fits of take to be shifted type our over it so that Then fut take down the lower 400 in 7 the panage, wheavened all jours, stretching that whe as the parage is much bothen. Then shiften it up to the beginning found falley, & meaning all the rest ofthe ascending pursage. According to this CP.S. makes the pange from the 2 to 5

I had a letter from Major Fraser, who most kindly epitomised Herodotus' account of Egypt (particularly Δs) for me, & sent it as I had not Hdtus here. Not at all worth while to do, but very kind in him, as it is 20 pages. I now have noone but Dr Grant to speak to in Cairo, beside Gen¹ Stone. Certainly Egypt has increased my English acquaintance; Major Fraser, M¹ Loftie D¹ Sherrin, M¹ Mackenzie, & M¹ Chester; the latter 4 all to be looked up in London; & it was only by accident that I missed M¹ Hayns (a constant Egyptian) & Prof. Hayter Lewis. Gen¹ Stone D¹ Grant, & I may add D¹ Lowe, are I fear only Egyptian friends, though D¹ G. talks of getting leave & coming to England occasionally; being a Gov¹ physician he cannot, under present regulations it seems, take a long holiday.

Saturday April 9

Ali brought in some bits he got from a man digging, including a pretty little scribes-paint-tray of 3 holes, one still red & the others black. I was not early being tired after yesterday, & only intending to do inside Δ I did not care much about time. Took the indiarubber tube & a bottle of water to level round the granite plugs. On filling the tube I then found all the flaws leaked, throu notwithstanding the glass tubes slipped over them; so I had to melt stearine over each place & so set it all solid into the bit of glass tube. Then I found another flaw, not detected before, & this would need the bits of tube to be all shifted to get one over it, so I had to give it up, after a lot of bother. Then put tape down the lower 2/<4>00 ins of the passage, & measured all joints, stretching the tape as the passage is much broken. Then shifted it up to the beginning of Grand Gallery, & measured all the ot rest of the ascending passage. According to this C.P.S. makes the passage from two 2 to 5

inches to short, according to the joint beroud at your and : most After corn cearing Just the troken part. It is unprosible that the stattafe can be in error in this every , or even to inch, & I write the starting point again after finishing; the top so the corror went be in the rod method think . hund comparait with it frants edy of Dixon measures; & as I took Ewall also (which ex. s. Did rut we can compare it thoroughly. Then I shifted up, & did the luceus chamber passage, only noting two or three joints just- as checks. Un difference between this & GP.S. is most curious very de mady proportionate throughout saccumulating to 4.1. greater than his at the and: though the latter part was done by rods. I took the greatest care with it, & count suppose your error on asing that afe on a flat surface; for I awided a bother price of flow , & this is which was sweembered with bits ofstone stude to it, I saw that it lay fairly flat all along. It will be as well to chain it also. Then back home by dig; had suffer, intuly to then a tim I pear, I found it to be fulchand, there was no label, only the make of the por is peculiar. I finished the whole timped, as find your not keep miely at about 800. Then copied fourfained my measures, turntities, thebed about 722. Isuthat direct levelling with staff would not be at all unprible post through H hamour lule, & Ithink that staff with 4 or 5 ft of nobber trake to carry the tevel from it al each and will better hest way of all. Sunday April 10 The fish last right sometime disagreed considerably of there been rather apost today. After brulfast or orealing Istrolled about the neighbourhood all the often wow; picked of

inches too short, according to the joints observed at lower end: most of this error occurring just after <over> the broken part <& 1 inch diff. of above that.>. It is impossible that the steel tape can be in error in this way, or even 1/10 inch, & I verified the starting point again after finishing; & the tape so the error must be in the rod method I think. I must compare it with D^r Grants copy of Dixons measures; & as I took E wall also (which C.P.S. did not) we can compare it thoroughly. Then I shifted up, & did the Queens Chamber passage, only noting two or three joints just as checks. The difference between this & C.P.S. is most curious; very clo nearly proportionate throughout, & accumulating to 4.1, greater than his at the end: though the latter part was done by rods. I took the greatest care with it, & cannot suppose 4 ins error on using the tape on a flat surface; for I avoided a broken piece of floor, & the side which was encumbered with bits of stone stuck to it, & saw that it <the tape> lay fairly flat all along. It will be as well to chain it also. Then back home by 8 ¼; had supper, intending to open a tin of peas, I found it to be pilchards, there was no label, only the make of the pot is peculiar. I finished the whole tinful, as fish does not keep nicely at about 80°. Then copied & compared

I see that direct levelling with staff would not be at all impossible past through Al Mamoons hole, & I think that staff with 4 or 5 ft of rubber tube to carry the level from it at each end will be the best way of all.

my measures, & wrote this, & to bed about 12 ½.

Sunday April 10

The fish last night somehow disagreed considerably, & I have been rather upset to day. After breakfast &c, & reading, I strolled about the neighbourhood all the afternoon; picked up

arrang Aturtungs a good searcheus. Had another took at A? caring the that the course on Shich the last piece younts reurs on each eich is the sthe this Had concluded was the much , x the ther day in an Extract pour Dear Jays the grant covered the bower 15 courses; so this - a condonation both of biod. I my our informer from very pleasant a collwind, as gesterday; in fact the coder exactly as from I sherrin fled to Alexandrie to escape the heat. This has untigated the plies of leas. It's not newenter meeting that the latter are a very prominent p A investigation; the inside abounding with them in harts so that the with for research aught well be such osciented measure realch". I fromt attributes this to the books. Ali had sent huchammed with Caris for a carys forme, as it is firsh market day; so that a grantity of mall cucumbers for Ight author ten Mutoleum, having nearly finished the first; it only cost 5/0, x it has lastwine over 3 2 months, for boiling with of ? funt twee a day of the colling besides: very little our including Cantern occasionaly. after suffer with this to had whout 70 i. April of before breakfast, as it was a half cloudy & frame in NW X SE corners of NE sochet, by their own NE comer mark; so as to fix trail of socket sides. Then trued to take azimuth of wir channel mouth, but the station sow it so skewly the mark was so small to be seen in spowertely up, to

among other things a good scarabeus. Had another look at Δ^3 casing & see that the course on which the last piece of granite occurs on each side is the 15th; this I had concluded was the top of the granite, & the other day in an extract from Diodorus, <I saw> he says the granite covered the lower 15 courses: so this is a fine corroboration both of Diod. & my own inference from the Δ . The entrance was as low as \underline{in} the 4th course. To day was very pleasant a cool wind, as yesterday; in fact the wind set in cooler exactly as poor D^r Sherrin fled to Alexandria to escape the heat. This has mitigated the flies & fleas. I do not remember mentioning that the latter are a very prominent point in Δ investigation; the inside abounding with them in many parts, so that the motto for research might well be "scrub & scratch, measure & catch". Dr Grant attributes this to the bats. Ali had sent Muhammed into Cairo for a cargo for me, as it is Gizeh market day: so I had a quantity of small cucumbers for supper. I got another tin of petroleum, having nearly finished the first; it only cost 5/d, & it has lasted me over 3 ½ months, for boiling kettle of 3 pints twice a day; & often cooking besides: very little over ½ d a day, including lantern occasionally. After supper wrote this & to bed about $10 \frac{1}{2}$.

Monday 11 April

Off before breakfast, as it was a half cloudy & cool morning, to do some outside work. Took azimuths of crosses drawn in NW & SE corners of NE socket, by theod over NE corner mark; so as to fix trend of socket sides. Then tried to take azimuth of air channel mouth, but the station saw it so skewly, & the mark was so small to be seen in 8 power telescope, that

Iwill not find it at all. Then of to rutioner, offer approximation spores) took level of much survey slation on pause floor betor s rifferent courses, oy sighting a corns the cultural gap at each care level. Then weavered in reflicate all the courses from the caring stones of to the sutrance their the taking two course levels above each step; this check is not perceived mentally while doing it, as the second measure is the reference of two readings. I willed the to himself and I hald out from the etip carpea by eighting it your the perfectly flat hella horizon, for the vertical rod could withe put close whowing trubbish. Judging by the tiffermer, I suppose ± .05 or 10 would Will be about the prob. corre; so on 16 courses ± .3 or so. The special Offect of Examining the courses about the cutrame was because That perceived that the coming was apparently the same course higher as the steps (no they supportion is Whelf ; hence we know the levels frances ofcasing, by the otifo. There by thickness of carrier below, there is seen , but in to shoot course the panage must have surger Mext, in Dashur, the pany comes out in our course hight, I of us there is a likely in A. Hence we should be able to identify pange level. It there then mything to prove this? The vertical higher between the bottom Mange on caring slipe is 37.94, & Isan in OP.S measures a course suddiedy thinker them they around it, marked 3 I wely, at appearently not far from right level. So

I could not find it at all. Then up to entrance, & (for appropriate purposes) took level of mark survey station on passage floor below 3 different courses, by sighting across the entrance gap at each course level. Then measured in duplicate all the courses from the casing stones up to the entrance, thus [€] taking two course levels above each step; this check is not perceived mentally while doing it, as the second measure is the difference of two readings. I levelled the t horizontal rod I held out from the step surface by sighting it again the perfectly flat delta horizon, for the vertical rod could not be put close up owing to rubbish. [♠] Judging by the differences, I suppose \pm .05 or .10 would be about the prob. error; so on 16 courses \pm .3 or so. The special object of examining the courses about the entrance was because I had perceived that the casing was apparently the same course height as the steps (no other supposition is likely); hence we know the levels of courses of casing, by the steps. Then by thickness of casing below, there is scarcely <no> doubt as to where/<at> course the passage must have emerged. Next, in Dashur, the passage comes out in one course height, \Re 8 no other idea is likely in Δ^1 . Hence we should be able to identify passage level. Is there then anything to prove this? The <u>vertical</u> height between top & bottom of passage on <u>casing slope</u> is 37.94, & I saw in C.P.S. measures a course suddenly thicker than others around it, marked 38 inches, at apparently not far from right level. So

I specially meaned it in view ofther , Attrough hunst take a concerdant. His course would region a caring of a thickney of about 95 onthe x 125 below; the much thather carries stone at the base being 85 " × 138 " or Exactly the same mean the diners. Hence every they fet together, a course level at the right height for mean thichurus of carring to be added, & a course subdenly introduced (thus 29, 20, 32, 38, 24, 23) of the at original carried (or 16×415) ; hence floor of substance at 669 over favewent; hence floor 1/23 inste floor of ascending parraye; & levels of intersection offloors 179, of N and from Talley 854, Q.C. floor 832, K.C. floor 1695. These are within an inch I believe. This leaves futth fills base about 4114 over K.C. floor, where from 4126 or 100 Karnah cubits as I propounded. From this connection furtrance tearing we shall get carring aughe, within 5' or so. The method for coming anyl by air channels country be applied until the lending is carried right up the A, Mich beauth do alone. lefter this I had breakfast, x stand in touch from 12 t 3 oring the heat. Then out stock duyles for planning walls believed 2 w & 3 1 As. There wolls are certainly in some (prhaps all card) built of stone, & in one place them faced with fine (? hish attam) stone though now apparently neare healer; hence their pointing interesting & the present meaning are only approximations for tim heapy state, to be ne done more accurately henever

I specially measured it in view of this; & though I must take a few more measures another day, the results are <u>exactly</u> concordant. This course <(if the passage emerged in it)> would require a casing of a thickness

of about 95 on top & 125 below; the much thicker casing stone at the base being 85 " & 138 " or exactly the same mean thickness. Hence every thing fits together, a coarse level at the right height for mean thickness of casing to be added, & a course suddenly introduced (thus 29, 28, 32/<8>, 38, 24, 23) of the right height for the passage. This is marked course 20th in C.P.S. but is really 19th; as his 79 ins ±st cours 1st & 2nd course, is really 59 ins 1st course <(pavement being 20 higher)>. The approximate measuring up, puts floor of

entrance <(at original casing face)> at 664/<9> over pavement <(or 16×41.5)>; hence <length of> floor <is> 1,123 ins to <plane of> floor of ascending passage; & levels of intersection of floors $169/<73><(4 \times 42.1)>$, of N end

Grand Gallery 852/<4>, Q.C. floor 829/<32> <(20 x 41.45)> <or 899 see next page>, K.C. floor 1695. These are within an inch I believe. This leaves (with Gills base) about 4118/<4> over K.C. floor, not far from 4126 or 100 Karnak cubits as I propounded. From this connection of entrance & casing we shall get casing angle , within 5' or so. The method for casing angle by air channels cannot be applied until the levelling is carried right up the Δ , which I cannot do alone. After this I had breakfast, & staid in tomb from 12 to 3 during the heat. Then out & took angles for planning walls behind 2nd & 3rd Δ s. These walls are certainly in some (perhaps all cases) built of stone, & in one place I know faced with fine (? Mokattam) stone, though now apparently mere heaps; hence their position is interesting, & the present measures are only approximations from their heapy state, to be re-done more accurately whenever

we may have them cleared in parts. 243 a But as they are when portant existing probably, & can be done protty warry without digging they are the last things to be opened up, x certainly not this season. Then have by 6 1/4, support, reducing About, x to bed about 70 is tilling the I intended the up early. Tuesday April 12 bolke when Junhammed was sterrup, about Jawn, but went of ashif again, two wohe by the at 6'4; very sleepy, but turned up, rafter mywash, off about ? before breakfast. Inh a zim atter from four stations with 5 inch theod to fix the walls arrand 43; a very good day with brish NNW wind, cool, but whenough to chake the theod. Beach to tout by 12 2; has breakfast, then by Jun & had about an hours sleep. Of by 3, & considering arrangement for to levelling with Ali if fromith, but it was nother too breezy to hold a staff well. Is out & finished of measuring steps of by entrance, in duplicate up to course XXVII. Corrected somewhat the figures of yesterday, & have altered results necordingly in last page. By this bottom of course XXV is 854, beging frantfally being 854 also; + Q.c. floor 833, which hors whereathy tally with any course, as top of XXIII is 821: and K (floor 1695 will not tally with 50th course, which (by my meaning 4 cms about would be 1671 top, top of II being 1699. of course this what we have already; then took a simuth of entranse panye cornel to forbably 10", from one of the Extract trianged tim states withouting to centry the theor cornectly by sighting out pauge id; but putting a for mark on floor at the of complete laurage

we may have them cleared in parts. [But they are not important probably, & can be done pretty nearly without digging, they are the last things to be opened up, & certainly not this season. Then home by 6 ¾, supper, reducing obs , & to bed about 10 ½: telling Ali I intended to be up early.

Tuesday 12 April

Woke when Muhammed was stirring, about dawn, but went off asleep again, & was woke by Ali at 6 ¼; very sleepy, but turned up, & after a/<my> wash, off about 7, before breakfast. Took azimuths from four stations with 5 inch theod to fix the walls around Δ^3 ; a very good day with brisk NNW wind, cool, but not enough to shake the theod. Back to tomb by 12 ½; had breakfast, & then lay down & had about an hour's sleep. Up by 3, & confirming arrangements for to levelling with Ali if possible, but it was rather too breezy <for him> to hold a staff well. So out & finished off measuring steps of Δ by entrance, in duplicate, up to course XXVII. Corrected somewhat the figures of yesterday, & have altered results accordingly in last page. By this bottom of course XXV <H?> is 854, beginning of Grand Gallery being 854 also; & Q.C. floor 833, which does not exactly tally with any course, as top of XXIII <XXV ?> is 821: and K C floor 1695 will not tally with 50th course, which (by my measures <to XXVII> & CPS above) would be 168/<7>1 top, top of LI being 1699. Of course this all needs levelling up Δ sadly, but still it is better than what we have already <though only stated here to nearest inch, all the measures are taken to 1/10 inch.>. Then took azimuth of entrance passage,

correct to probably 10", from one of the external triangulation stations; not trusting to centring the theod correctly by sighting out passage sides, but putting a p mark on floor at top of complete passage

whereit would be meaning from each wall, to could at the ottom, beening on the whit top, & wick of the ousle; which is as and as all the slaboration of a board with slit & louip. Then home, hear supper, I to bedut go, lufing the neally early, as the arrowing an helightfully fresh Lood. Hi set hubamin the charten eige of the haveen to forme; it only remains at the sides of the main out Atta N. face: the exche found is svibuilly that I Vyre as it is about 400 in out; but it seems to me clearly only a joint, the farther stones having been removed; both from the sugleness ofthe virtual face, as if for notaring, & the presence of planter on the nochin front of it, also from the mount in which the one of the stouts has been broken. As byce aly found it 200 or so thich alsewhere it has apparently been cheered fin some parts for certain; if this the been neurous him it ever in ancient times as all the Dand bies our it intertual without any of the tradic clifes. I shall try to see the rock surface at the same distance out as the work out by the NW come, tall if there is any minelan beduesday April 13 Offabout 6 2, 4 went with a 2 (by sinch theod, correct to 20" or so) to fix walls around Took from 5 stations, this finished it. Then back about 12 that breakfait. The word ofthe arrangements that having got a construed to go all day from 9 till 7

where it could be measured from each wall, & a candle at the bottom, observing on the white top, & wick of the candle; which is as good as all the elaboration of a board with slit & lamp. Then home, had supper, & to bed abt 9 ½, hoping to be really early, as the mornings are delightfully fresh & cool. Ali set Muhammed to clear the edge of the pavement for me; it only remains on one <at the> side<s> of the main cut of the N. face: the edge he found is evidently that of Vyse as it is about 400 ins out; but it seems to me clearly only a joint, the farther stones having been removed; both from the roughness of the vertical face, as if for mortaring, & the presence of plaster on the rock in front of it, also from the manner in which the one of the stones has been broken. As Vyse only found it 200 or so thick elsewhere, it has apa/arently been cleared off in some parts for certain: if this <it> has been removed here, it was in ancient times as all the sand lies over it undisturbed, without any of the Arabic chips. I shall try to see the rock surface at the same distance out as the ledge cut by the NW corner, & see if there is any similar trace visible.

Wednesday April 13

Off about 6 ½, & went <on> with azimuths (by 5 inch theod, correct at 20" or so) to fix walls around Δ^2 . Took from 5 stations, & this finished it. Then back about 12, & had breakfast. The worst of this arrangement is that having got accustomed to go all day from 9 till 7

willent ford or drink I find that I am not made at I for suffer after breakfast at 1. Then plotting section of 245 A sutrance courses, of air whying it. Then out about 3: to AN face; settled where hunhammed must by third what Ibelieve the paverment edge. Took planes of # faces to NEXNW sochet floor. Took a simuth, from two stations to fix I stand strend of rock ledge, for parement edge? Then by sweet now off thousand some new executions, in a most proming part alune and dosens offin truto never yet Explored, though the valuably have been rans a deed; I took with longing for what may turn up us it is an early site of 4th Dynasty; one touch of chelps architect is there, I which I which the inscriper. What we would isthe trub of the great A architect, with drawing the building trunchinery, for med probably wests somewhere. Then took planes of A faces to 5 W KSE socket flows. Home, & reduced Drs. which hetch boiled. It is being intereding to get for of that he carried did not Extend beyond the sochet edges; but hail not experient outher us I send details on back of Entrance dragram. His strange that all these measures proving the alignment of the pearing & the length of sutrance panage & thechures Jearing night all have been one by any passing traveller,

without food or drink I find that I am not ready at 7 for supper after breakfast <on 3 biscuits & jam> at 1. Then plotting section of Δ entrance courses, & fair copying it. Then out about 3 ½ to Δ N face; settled where Muhammed must dig to find what I believe to be pavement edge. Took planes of Δ faces to NE & NW socket floors. Took azimuths from two stations to fix distance & trend of rock ledge, for pavement edge?. Then by sunset ran off to look at some new excavations, in a most promising part where are $\frac{a}{d}$ ozens of fine tombs never get explored, though the valuables have been ransacked; I look with longing for what may turn up, as it is an early site of 4th Dynasty; one tomb of Cheops architect is there, of which I copied the inscripⁿ. What we want is the tomb of the great Δ architect, with drawings of the building & machinery, for such probably exists somewhere. Then took planes of Δ faces to SW & SE socket floors. Home, & reduced obs. while kettle boiled. It is very interesting to get proof that the casing did not extend beyond the socket edges; but I will not expatiate on this as I send details on back of Entrance diagram. It is strange that all these measures proving the alignment of the p casing, & the length of entrance passage, & thickness of casing might all have been done by any passing traveller,

runch more by man nevidents liter CP. S. Dixon or Vyac, & get it has been left untitied all this time. I have bestille Ali early for Abe Pouch town own so sucost go to bed sarly tought, but not before 92 1 fear. Uninday 14 April of by 64 with the & suchey trang pich tohowel (only strapped up in a sach, with excelnemarkshere); had a look at Kom at Humar again Juste character of potty more carefully, now that I him every variety will of heart, so as to appreciate booth the absence as well as presence of each sort, then on up to Abo Ross ; here we began cutting in mound of chips by theretrane where reformed trivet before; but though Lest several num payments of status, get it was all so retreatly dispersed, that though me was sure to find something in each halfhours Dy, yet there was never as find of any quantity; of the which proceeds were 6 scrafes, with less than 20 spran inches of surface altogether. The beaps show that the winds has been smarked up with the some interese hatred as is shern in the A of Pepi at Sublean. to bit of status are pounded on many parts, & the fall of the nubbil is fromthe crushed to chips of powder strent; wany but from grant turns up, & among them has pieces of sarefelagus, one 8.1, the ther 10.2 in thick, the ist euroed as if part of shoulder of a anotified for - collin . There were also bits of basult, one clip

much more by redis residents like C.P.S., Dixon, or Vyse, & yet it has been left unnoticed all this time. I have bespoken Ali early for Abu Roash tomorrow so must go to bed early tonight, but not before 9 ½ I fear.

Thursday 14 April

Off by 6 ¼ with Ali, & donkey to carry pick & shovel (only strapped up in a sack, not to excite remarks here); had a look at Kom el Ahmar again, & noted character of pottery more carefully, now that I know every variety well by heart, so as to appreciate both the absence as well as presence of each sort. Then on up to Abu Roash; here we began cutting in mounds of chips by the entrance, where we found diorite before; but although I got several more fragments of statue, yet it was all so extremely dispersed, that though one was sure to find something in each half hours dig, yet there was never s/<a> find of any quantity; & the whole proceeds were 6 scraps, with less than 20 spare inches of surface altogether. The heaps shew that the inside has been smashed up with the same intense hatred as is shewn in the Δ of Pepi at Sakkara; the bits of statue are <u>pounded</u> on many parts, & the bulk of the rubbish is granite crushed to chips & powder, & burnt; many bits of worked granite turned up, & among them two pieces of sarcophagus, one 8.1, the other 10.2 ins thick, the first curved as if part of shoulder of a modified box--coffin [♠]. There were also bits of basalt, one chip

with a worker surface, several scraps Mustattan line also lay about. I had no expectation of the Extrem unlikely find of getting any more inscription; & it would for Tooly need mouth from themover emough nibby to eith the attribution to the 2" menhava of the lists () " [] of marty 4, or to Atoens - mention of o Home [] I tyn 6: but so four as general execution You every so should put it almost certainly in Dyn 4 rather than 6. after a shell of Digging with Ali, I had breakfast; wither took another turn at it, stopping when it was troubt, about 10. But after reting sometime in the shade haves astorushed to find that somehow my head was congested though that fut hat me had taken quent come with let there she fall out my back : however the slightlet it in walking, or storking, mad un I gueer; sichish, swimmy, & don't-care-K-court-help-it-ish . By about 2 it was half cloudy so let of to a hill in the west which wither like a ruined pyramid; on gitting man it in about a mile I saw skew stralification Shich settle its natural clavacter; thurback in showow for by cloud, had another feed, then dry a little more (not finding anything); had another both over the fulting heafes, in which haves so the that as to find the good cliffed flink, & a bit of fit with a green bead in it, which fixes a maximum oge for the portery. Then packed up, I went four the long conservery, I some healer byound it from which all had brought some fattery; there

with a worked surface, several scraps of Mokattam limestone also lay about. I had no expectation of the extremely unlikely find, of getting any more inscription; & it would probably need months of work to turn over enough rubbish to settle the attribution to the 2nd Menkara of the lists ([♠]) of Dynasty 4, or to Nitocris-Menkara ([♠]) of Dyn 6: but so far as general execution & memory so I should put it almost certainly in Dyn 4, rather than 6. After a spell of digging with Ali, I had breakfast; & then took another turn at it, stopping when it was too hot, about 10. But after resting sometime in the shade, I was astonished to find that somehow my head was congested; though I had pith hat on, & had taken great care not to let the sun shine fall on th my back: however the slightest jolt in walking, or stooping, made me feel very queer; sickish, swimmy, & don't-care-&-can't-help-it-ish. By about 2 it was half cloudy, so I set off to a hill in the west, which looked like a ruined pyramid; on getting near it in about a mile I saw skew stratification which settled its natural character; then back in shadow of a big cloud, had another feed, then dug a little more (not finding anything); had another look over the pottery heaps, in which I was so fortunate as to find two good chipped flints, & a bit of pot with a green bead in it, which fixes a maximum age for the pottery. Then packed up, & went down the long causeway, to some heaps beyond it from which Ali had brought some pottery; these

were interesting as containing to port together of a characters which I had never seen mind before; apparently of mutch Roman period. Then picked up Ali at just round the till, I walked back in the duck . The auts insist and drowing thurselves in my water pots, so that I had howent for a fresh batch before mysupper. Then after suffer to bus. Friday 15 April 200 headachy tyet up early, Istill Alyed to "& believely". Looked over my batch of finds of restuday, or wrote up journal. Surgue's brother sentup a batch of things by Ali, but he wants an exorbitant forice; Leoning in som after I offered of for a few things dwanted, but he indynantly asked \$ 2, so I took nothing. Heached I freach for evins, Shich I feed to affly him with at i frame. Then in afterior out & remeasured place of planes of 5 4 W faces of A on sw sochet tosee if there was any muchan as they we so different the there, but louly made them I'm 2 in less than before, so the difference is true. Isan that both 5 & W faces are somewhat hollowed in middle, like the W. Then I holded will at the W. face tree if there was my trace for passage mouth, but did ud see aughting like it over the nikhish heap. Then up trom touts forther west smeanered till about dark. Buch truffer with this the bid att 92. Saturday 16 April aftertaking an extra reals this more Theres a sort purisellaurous shuffling tathing therething ating door, so jumping up Hoohed out year Defrants boy (who is about 10) & a stranger who proved to be a going

were interesting as containing ea pot together of a character which I had never seen mixed before; apparently of middle Roman period. Then picked up Ali at just round the hill, & walked back in the dusk. The ants insist on drowning themselves in my water pots, so that I had to wait for a fresh batch before my supper. Then after supper to bed.

Friday 15 April

Too headachy to get up early, & still obliged to "go delicately". Looked over my batch of finds of yesterday, & wrote up journal. Smynes's brother sent up a batch of things by Ali, but he wanted an exorbitant price; & <he> coming in soon after I offered 8 fr for a few things I wanted, but he indignantly asked £2, so I took nothing. He asked 1 fr each for coins, which I offered to supply him with at ½ franc. Then in afternoon out & remeasured place of planes of S & W faces of Δ on SW socket to see if there was any mistake as they were so different to the others, but I only made them 1 or 2 ins less than before, so the difference is true. I saw that both S & W faces are somewhat hollowed in middle, like the N. Then I looked well at the W. face to see if there was any trace of a passage mouth, but did not see anything like it over the rubbish heap. Then up to some tombs further West & measured till about dark. Back to supper wrote this & to bed abt 9 ½.

Saturday 16 April

After taking an extra nap this morning, I heard a sort of miscellaneous shuffling talking & lurching at my door, so jumping up I looked out & saw D^r Grant's boy (who is about 10) & a stranger who proved to be a young

hul'am (wilservin Ittimb) We Wilson, (hich Isuspect from 249 proministion); so I shot with some farments twent out: Hound there was also aparty fleeties, his hallock for unlock) come out to total teach English children under min 2.7. Whateley management, as nother closely lady extremely pleasant xuntellyent. him headlan (who was outher before with her Chester) & a wis? madean nother nother a tall active woman with plenty of shows then be perseverance, who seemed capable of managing anything. heir Schultz whom I have seen at I po tending the dilloren, but ust their negular governon think, a ferman; Ka being Francein Polerone a councally energetic lettle ferman, whose eyes seemed boat in a width of forebeard, who chattered x stand x scrambled about feer windy over toute &mening fit, swar always to seen with aplifted hand in some prominent position in her long light sill deest cloak. She belongs Their Whately minion Ibelieve. These Carris our picked up som at the fraut temph, with little fessie from to the boding over the temple, & then at the Sphing, they came back up to the knowle for breakfast about 469; Francown to touch for a wash, & got form some out bis cuit man with; then up to kinch for he welver to shew him campbells touch Alter courseway, which he had wissed before; then lifter bothing at sundry things we

Indian (civil service I think) M^I Wilson, (Irish I suspect from pronunciation); so I slid into some garments & went out; I found there was also a party of ladies, Miss Mallock (or Mulock) came out to later teach English children under Miss E.J. Wa/<ha>tely's management, a rather elderly lady, extremely pleasant & intelligent; Miss Maclean (who was out here before with M^r Chester) & a M^{rs}? Maclean, not her mother, a tall active woman with plenty of shrewdness & perseverance, who seemed capable of managing anything. Miss Schultz whom I have seen at D^r G's teaching the children, but not their regular governess I think, a German; & a Miss von Fraulein Petermann/<son> a comically energetic little German, whose eyes seemed lost in a width of forehead, who chattered & stared & scrambled about furiously over tombs & mummy pits, & was always to be seen with uplifted hands in some prominent position in her long light silk dust cloak. She belongs to Miss Whateley's mission I believe. These ladies we picked up down at the granite temple, with little Jessie Grant. After looking over the temple, & then at the Sphinx, they came back up to the kiosk for breakfast about ¼ to 9; I ran down to tomb for a wash, & got some oat biscuits meanwhile; then up to kiosk for M^r Wilson to shew him Campbells tomb & the causeway, which he had missed before; then after looking at sundry things we

form most ofthe ladies out on the brickheafs delyhter with sicking of munning; went with them to touch of members From then other up to knock there settled that him hale their maclean stoles withou would go in side A; no one going up. So has two guides pourth Sheils for the leavies, & with whi as extra we went in, I working after let wilson of calling a halt to replan matters abranious points him hurboch to was scarcely the fersuaded to grafter Grandfallery, the cut out to R.C. Looking so ugly, & swhip up a ledge 20 inches wide was alexuing to her, as-though who tall - she is sufficiently ample in other fineusions, However with Ali as well as his guids she for up, him hickon doing it easily, the is, pollowing we examined the Kings Chamber: on Sylentimon in which wewere there, bodhing very helpless Kastoneshed I after a rest stall about the well, out They then had some oranges to , Kapto a west, the other budies, bearing hum hunboch in hisrsk, went It to see the tomb W. of A Which hexplained. Then tack about 42 +th had beach, abulaide I shiplety assisted; & then they all From If about I . Then how howe, that outher, for Had had very little tett them. Then work then, & to heajon Fraser, the but about 10%. I witurd going into Course theorem.

found most of the ladies out on the brickheaps delighted with picking up mummy; went with them to tomb of members & some others & then up to kiosk; there settled that Miss Mulock & Miss Mclean & M^{rs} Wilson would go inside Δ ; no one going up. So had two guides from <the> Sheik for the ladies, & with Ali as extra we went in, I looking after M^{rs} Wilson, & calling a halt to explain matters at various points. Miss Mulock de was scarcely to be persuaded to go up the Grand Gallery, the cut out to R.C. looking so ugly, & sidling up a ledge 20 inches wide was alarming to her, as though not tall - she is sufficiently ample in other dimensions. However with Ali as well as her guide she got up, Miss M'clean doing it easily, & M^{IS} W, following my example & straddling up the holes in the side of the passage. I gave them sundry magnesium illuminations, we examined the Kings Chamber; an Englishman coming in while we were there, looking very helpless & astonished to see ladies, & disappearing soon. Then down to Q.C., & after a rest, & talk about the well, out again. They then had some oranges &c, & after a rest, then other ladies, leaving Miss Mulock in kis/<os>k, went off to see the tombs W. of Δ which I explained. Then back about 4 ½ & they had lunch, at which I slightly assisted; & then they all drove off about 5. Then I went home, & had supper, for I had very little till then. Then wrote this, & to Major Fraser, & to bed about 10 ½. I intend going into Cairo tomorrow.

Cairo. XVIII.