

B

Southern Journey 1911-12

The object of my lecture tonight is not to lay down a definite plan for the future but rather to discuss the details of the problems with a view to giving complete consideration to them before a definite plan is made.

The Southern Journey involves the most important ~~part~~ object of the Expedition - that object is not only important in itself but in its relation to all other objects.

One cannot expect to be blind to the situation, the Scientific public as well as the more general public will gauge the results of the Scientific work of the Expedition largely in accordance with the success or failure of the main object. With success all roads will be made easy, all work will receive its proper consideration. With failure even the most brilliant work may be neglected and forgotten at least for a time.

It follows that every member of the Expedition must not only have a personal sympathy <sup>with</sup> but also a personal interest in the achievement of <sup>our</sup> main object and should be prepared to make sacrifices for it as well as to help it forward by every means in his power.

I believe that everyone here realizes this fact & therefore I will not dwell further upon it except to say that I propose to act with a sole eye to the achievement of the object without fear or favour.

In making up the various parties and selecting those who are to go forward & those who are to go back

2000th Street January 1911-12

P/1

The paper of my lecture tonight is not a definite  
 plan for the future but rather a discussion of  
 of the problems which I find myself confronting  
 I then hope a definite form is made  
 The business of my lecture is not important  
 of the lecture - that is, it is not important  
 itself but in the lecture is all other things  
 The main object of the lecture is to  
 scientific method as well as the more general  
 general in result of the lecture work of the  
 in accordance with the object of the  
 object. It is not all work will be made  
 all work will seem to be a definite  
 from the most definite work may be expected  
 at least for a time  
 It follows that my lecture of the lecture  
 has a general object, but also a general  
 in the achievement of the main object and shall be  
 prepared to make decisions for it as well as to help  
 it forward by my means in the future  
 I believe that my lecture will help to  
 I will not dwell further upon it except to say that  
 purpose to act with a view to the achievement  
 of the object. I believe that my lecture  
 in making up the lecture, but I believe that  
 who are to be forward to them who are to be

I shall be guided only by <sup>the observation</sup> ~~a sense~~ of <sup>the</sup> fitness <sup>displayed</sup> for the work in hand and by no other consideration.

There must inevitably be disappointments when choice is made ~~and~~ <sup>having regard to the</sup> ~~from~~ ~~such~~ excellent material ~~as~~ one possesses ~~but~~ <sup>and there may be</sup> ~~do believe as with~~ differences of opinion on the wisdom of such choice but I believe that no serious difficulties can arise if one is honestly intent on making the best decision possible but that everyone will loyally accept the situation as it affects him.

And here & now let me correct any misconception there may be on an important point - I have carefully avoided making any promises as to the service of the future. There is no one who can say he has any promise to be in the advance party or anything of that sort - I have kept my hands free & shall continue to do so until the necessity for decision arises.

And now before proceeding to discuss the details of the Southern problem let me add that I shall welcome all thought given to this matter. At any time during the winter I shall be most happy to talk it over with anyone who has formed ideas which differ from my own - I want the plan of campaign to be founded on the soundest principles and I realize the value of suggestions and therefore the desirability of the freest discussion.

The characteristic of the ...  
of comparison to be founded on the ...  
which differ from ...  
tells us we will compare who has found ...  
them during the ... I shall be most happy to  
address all things from this ... at any  
the ... I shall be ...  
has now before presenting to ... the details of  
decision ...  
I shall continue to do so until the ...  
as a part of the ... I have kept ...  
he has ... to be in the ...  
source of the ... there is no one who can ...  
carefully ... and ... as to the  
there may be an ... part - I have  
and have ... and ...  
The ... as it affects ...  
possible ... Mr. ... will ...  
me is ... in ... the ...  
believe that no ... can arise if  
of opinion in the ... of ...  
persons ...  
is ...  
these ... to the ... when chosen  
work in hand and by no other ...  
I shall be ... by ...

To come now to the problem before us.

The distance to be covered to the South Pole and back is about 1530 geographical miles

It is a very long way - by far the greatest distance which has ever been covered by a sledge party.

In considering the journey to the Pole, I have from the beginning divided it into 3 stages

You will see on the Chart how I have ~~decided~~ divided these stages

I have counted the first as approximately from Hut-Point to the foot of the Glacier - to a point where one may reasonably hope to take some form of transport. The second from this point to the parallel where ice disturbances appear to cease a very varied stage as you will see

and the third from this limit to the Pole - a stage lying wholly on the interior Plateau

It is obviously desirable to have a basis from which the performance of these stages can be calculated and it is equally clear that it is best to select as that basis the actual performance which has been made.

I have therefore selected taken Shackleton's journey as a basis

Shackleton made his actual start from Hut-Point on Nov 3<sup>rd</sup> and though I cannot touch for their accuracy I think the following figures represent his performance

To come over to the fountain before us.  
The distance to the ground to the left of the fountain is about

is about 1230 geographical units  
It is a very long way - up for the fountain. Distance  
What has been covered is a single part.  
In considering the fountain, I have from the beginning  
divided it into 3 stages

You will see in the chart that I have ~~divided~~  
divided these stages

I have divided the first an approximately four feet  
Part to the first of the fountain. I have seen  
are very remarkable before I take some form of  
transport. The second from this point to  
the fountain where the distance appears to be  
a very long stage as you will see  
and the third from this point to the fountain. A stage  
up which on the fountain platform

It is obvious that I have a long way to go  
the performance of these stages can be calculated and  
it is equally clear that it is a long way to go  
the actual performance which has been made

I have therefore divided these stages into four stages  
basis

Reckoning made in actual fact from the fountain in 1873  
and though I cannot <sup>say</sup> for <sup>the</sup> accuracy of their  
the fountain figures represent the performance

(4)

The essential points to be considered are the number of days occupied by a stage and the average rate of travel, all delays such as from Higgards included

The first stage being considered as 361 miles

S. performed it in 32 days

an average of 11.2 miles per day.

The second stage being considered as 165 Geo miles

S performed it in 21 days

an average of 7.9 miles per day

Note - there were no Higgards during this stage

The third stage being considered as 240 Geo miles

S did not perform it but taking the distance to his last camp claimed to be in 82.7 S he did

127' in 14 days an average of 7.8 miles per day

Continuing on this average it would <sup>take</sup> 31 days in all to

complete the third stage

To sum up it would take a party marching on S's averages 84 days to reach the pole

So much for the outward journey - In considering the homeward I think it is wise to combine S's figures for the 2<sup>nd</sup> & 3<sup>rd</sup> stages

The mounted points to be considered are the number of days occupied by a stage and the average rate of travel, all being based on from Higgins's records

The first stage was completed in 301 miles  
2 performed it in 32 days  
an average of 11.2 miles per day.

The second stage was completed in 165 Geo miles  
2 performed it in 21 days  
an average of 7.7 miles per day  
Note - this was no Higgins's stage

The third stage was completed in 240 Geo miles  
2 did not perform it but taking the distance to  
his last camp shown to be in 80.72 he did  
127 in 19 days an average of 7.8 miles per day  
Continuing on this average it would <sup>take</sup> 31 days in all to  
complete the third stage

To sum up it would take a party consisting of  
20 men and 8 pack mules to reach the pole

So much for the ordinary journey - to consider the  
possibility of taking it a more to consider 20 figures  
for the 20 or 30 stages



They then stand as follows: -

	Average
3 <sup>rd</sup> & 2 <sup>nd</sup> Stages a distance of 292' covered in 18 days	16.2
1 <sup>st</sup> stage from glacier to Bluff depot - 79'	
a distance of 270' covered in 27 days	10 -

Now supposing S's average to have been 15' a day for the unperformed part of the <sup>return</sup> journey (the ~~third~~ last part of the 3<sup>rd</sup> stage 113') it would have taken him nearly 8 days

26 days

To sum up the homeward journey a party travelling at S's average would take 53 days to reach the Bluff depot. The whole journey to Pole & back <sup>to Bluff</sup> on this average = 137 days

I will leave these figures for the moment to consider the transport arrangements at our disposal more especially here with regard to the 2<sup>nd</sup> stage of the journey

It is within the bounds of possibility that either ponies dogs or motor sledges <sup>can be taken up the glacier</sup> but I think that it will be agreed that it would be unwise to arrange a plan which assumed that either of these agents could be employed on the glacier or above it

I shall have more to say on this point, for the present I merely point out that the safest plan must depend on the performance of the 2<sup>nd</sup> or 3<sup>rd</sup> stages of the journey by men alone

The problem under these circumstances ~~because~~ be stated as follows: -

S was 53 days away from food depots - I.E. from point of commencing man haulage to returning same. Every day depends on his able to carry 7 weeks food for man.

the two 2' lines as follows: -

average

2.0 2' stages a distance of 200' across in 18 days 10.2

1st stage from station to Bluff depth 20'

a distance of 200' across in 27 days 10

proposed 2' average to have been 12' a day for the

proposed part of the journey (the <sup>initial</sup> last part of the

3rd stage 110' / 11 days would have taken in 11 days 8 days

20 days

To sum up the proposed journey a party would take

2' average would take 23 days to reach the Bluff

depth - The whole journey to take back on the average

= 137 days

I will now turn figures for the proposed to compare the

transport arrangements as an object of comparison in

with regard to the 2' stage of the journey

It is within the limits of possibility that the latter figure may

be better adapted for the purpose of the latter figure

that it would be necessary to arrange a plan

which answered that - but of this nature could be

perhaps a the figures as above

I shall now turn to the point for the

present I merely point out that the latter plan

must depend on the performance of the 2' & 3'

stages of the journey as above

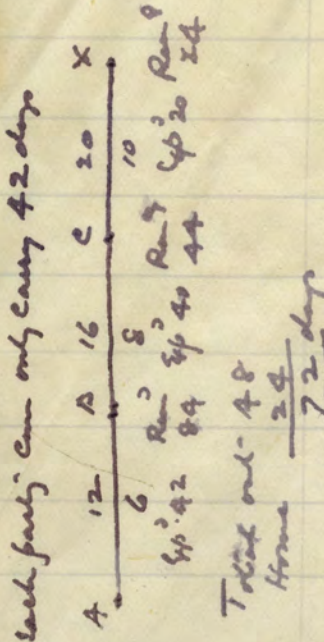
The problem under these circumstances appears to be

as follows: -

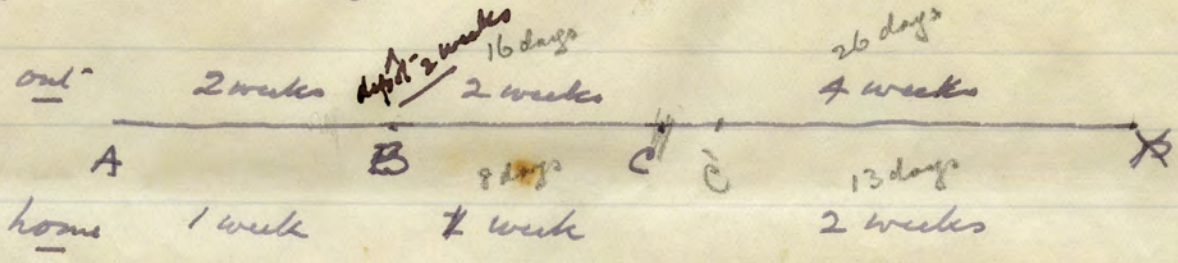
vertical lines on the right side of the page, possibly representing a scale or measurement.

How can the distance travelled by Shackleton with four men be exceeded by employing a greater number.

Calculation on this basis and with S's data brings us within view of the Pole but only by employing 3 units of men



Let us suppose that we start at the bottom of the glacier with 3 units of men each dragging 7 weeks food or 21 food units in all



Mark point -  
 From C advance party  
 hand-carry 8 weeks food  
 ∴ C advanced by 2 days beyond back.

- At B the first party turns back  
it will have consumed by return 3 units
  - At C the second party turns back  
it will have consumed 6 1/2 6 units
  - At X the last party turns back  
it will have consumed 11 1/2 12 units
- Total 21 units

The above allows an allowance of 84 days for the last party for the 2<sup>nd</sup> + 3<sup>rd</sup> stages of the journey. Turning now to the figures derived from S's averages we find that it should take outward 52 days homeward 26 or a total of 78 days to reach & return from the Pole to A.

For each the distance travelled by the particles with  
four times the velocity of the particles  
number.

Calculation on this basis and with 20 data  
groups as within term of the total but only by  
multiplying 3 units of mass

Let us suppose that in each of the bottom of the  
flasks with 3 units of mass each dropping 2 units  
foot or 21 foot units in all

Mr. A	1 unit	1 unit
Mr. B	2 units	2 units
Mr. C	3 units	3 units
Mr. D	4 units	4 units
Mr. E	5 units	5 units

Mr. B Mr. first part - time back  
 It will have consumed 3 units  
 Mr. C the second part - time back  
 It will have consumed 6 units  
 Mr. D Mr. last part - time back  
 It will have consumed 12 units  
 Total 21 units

The above shows an amount of 84 days for the last  
 part for the 2 + 3 days of the period  
 turning over in the figures given for 20 groups  
 in fact the total time consumed 84 days  
 as a total of 78 days to reach a return from the  
 Part 2. A

Vertical text on the right side of the page, possibly a page number or reference.

Vertical text on the right side of the page, possibly a page number or reference.

(2)

on the showing of the figures it is possible therefore for a party to reach the Pole if properly supported by two equal parties

It does not greatly matter for the figures whether each unit consists of 3 or of 4 men

Theoretically units of 3 should be able to go as far as units of 4

But it does make a very considerable difference whether the units are 3 or 4 when we come to consider the 1st stage of the journey which we will now proceed to do

First of all let us calculate the total weights to be transported for the southern party on a basis of 3 units of 4 men + 3 units of 3 men

From our figures each party will require  $8\frac{1}{2}$  food units to reach the glacier + return from it. Total  $25\frac{1}{2}$  units beyond that point it will require as we have seen 21 units

We have therefore a grand total of  $46\frac{1}{2}$  food units or allowing 70 lbs per unit. ~~total weight for 4 man unit~~  
55 lbs per unit for 3 man unit

	4 man unit	3 man unit
total food weight	3255 lbs.	2557 lbs
add permanent weights at 170 + 140	<u>510 lbs</u>	<u>420 lbs</u>
	<u>3765</u>	<u>2977 lbs.</u>

In the drawing of the figures it is possible therefore

to a point to reach the top of the figure

supported by the least portion

It does not yield under the pressure whether

each unit consists of 3 or 4 men

Theoretically units of 3 should be able to do so

for a unit of 4

But it does make a very considerable difference

whether the units are 3 or 4 when we come to

consider the 1st stage of the journey which we

will now proceed to do

Part of all we are calculating in total weight of 4

is ~~the weight~~ for the 2nd part in a unit of

3 units of 4 men + 3 units of 3 men

From our figures each part will require  $8\frac{1}{2}$  foot units

to reach the ground & return from it. Total  $22\frac{1}{2}$  units

regard the point it will require as we have seen 21 units

We have therefore a grand total of  $46\frac{1}{2}$  foot units

or allowing 20 lbs for each unit. ~~total weight~~ for 4 men

280 lbs for each of 3 men

We have

3 men units

4 men units

280 lb

320 lb

420 lb

510 lb

2977 lb

3262 lb

total for 4 men  
weight  
add 100  
weight of 100

These would represent the <sup>men weights</sup> ~~weights~~ to be dragged at  
 start if it were not for our depôts  
 I calculate that owing to those depôts we can  
 reduce these starting men weights by 560 lbs  
 the figures then become

3205 lbs

2417 lbs

I'm afraid I must again change the subject  
 after making a note of these figures

And now I will consider the means by which these  
 weights will be transported over the first stage

We are confining our considerations at present to  
 what our experience or opinion points to as the  
 most reliable sources of energy under the different  
 conditions. In the case of <sup>the first stage</sup> ~~transport~~ it must  
 be conceded that the ponies are the most reliable  
 I shall therefore give some figures for these ponies  
 adopting as before & as I think for Shackleton's figures

I find S's ponies were killed as follows	}	1 <sup>st</sup>	18 days out	2
		2 <sup>nd</sup>	25 days out	3
		3 <sup>rd</sup>	28 days out	3
		4 <sup>th</sup>	34 days out	2

I assume that we have to kill our ponies as  
 noted marginally

These would represent the ~~same~~ <sup>new weights</sup> if he dropped it.  
 I calculated that owing to these defects we can  
 reduce the starting new weights by 250 lbs  
 for figures this become

2417 lbs

3202 lbs

In regard to weight again change the subject  
 after making a note of these figures

And now I will consider the means by which these  
 weights will be transported over the first stage

We are comparing our construction of - present - to  
 what our experience or opinion point to as the  
 best weight losses of weight under the different  
 conditions. In the case of ~~the first stage~~ <sup>the first stage</sup> it would  
 be expected that the losses are the best. I believe  
 I shall therefore give some figures for these losses  
 as before as I think for ~~the first stage~~ <sup>the first stage</sup> figures

100	18 lbs wt.	2
200	22 lbs wt.	3
300	28 lbs wt.	3
400	34 lbs wt.	2

I find 2's losses were killed }  
 as follows

I assume that we have to kill our losses in  
 best manner



(9)

From the above we have obviously the number of pony rations to be provided viz.

36  
75  
84  
72

Total 267

Assuming 13 lbs as a pony's ration we have a total weight of 3471 lbs of pony food

Therefore excluding weights of sledges & pony equipment

But in this we are again helped by our depot in regard to starting weights

It took Shackleton 11 days to reach  $79\frac{1}{2}$

" " " 13 " " "  $79\frac{1}{2}$

We may then allow 12 days . . . .

If so the ponies will have consumed  $12 \times 13 \times 10 = 1560$  lbs

At the depot we have 1274 lbs.

We can therefore lighten our starting loads by this amount and the pony food at start becomes 2197 lbs.

Therefore exclusive of weights of sledges & pony equipment our starting weights should be

3 units - 4 men

5402

3 units - 3 men

4614

Assuming that the ponies pull 550 lbs each average we have a traction of 5500 lbs - can we assume such a figure?

(9)

From the above we have determined the number of boxes  
of paper to be purchased viz.

36  
72  
84  
72

Total 264

Assuming 13 lbs as a box's weight we have  
a total weight of 3471 lbs of paper for

~~the purpose of the school~~

But in this we are again helped by our deposit in

regard to blank weights

the total blank weight is 11 lbs 12 1/2

" " " " 13 " 7 1/2

we may then allow 15 lbs

if so the paper will have consumed 12 x 13 x 10 = 1560 lbs

As the deposit we have 1274 lbs

we can therefore register our blank books to the

amount, and the paper for 12 blank books

217 lbs.

Therefore volume of weight of blank & paper required

for blank weights: 1560 lbs

3 vols. 4 nos 3 vols. 3 nos

2402 4614

Assuming that the paper for 12 250 lb each volume  
we have a total of 2500 lbs - can we assume that  
a figure of

As a result I doubt if we ought to assume they will pull more than 500 lbs in which case it becomes a question of reducing the number to 3 —

Recapitulate —

Dogs : —

These may help us

Motiv sledges : —

them to use on glacier

Point out of 12 men does not mean limit of people employed on journey.

Points for us : —

we have the dogs & <sup>motiv</sup> sledges to help in the first part of the journey probably also with a large party - help to pull sledges possibility of being on further rations & therefore better able to work on summit - use of ski on homeward journey

Against

Increased number increased chance of breakdown  
- risk of accident in glacier  
- chance of something going wrong with organization which is much more complex

chance of bad season. weather.

greater time on plateau - will men stand it?

Refer to losses in autumn to previous ideas & modification which has necessitated abandonment of subsidiary plans

Confidence in value in management of ponies

we must not forget the lessons learnt - Advantage of pony snow shoes - prevention of pony snow blindness - instrument for ~~shaking~~ <sup>knocking</sup> snow off hooves - Sandpaper for runners  
Spare runners for glacier - type attachment to ponies

Finally question of date of return to England.  
& salaries

of obtaining the results L. 3  
then 2000 in which case it becomes a function  
of amount of weight of material that will fall over

Receptacle

Doeg

Factor 2 days

There are two

that is not on paper

Point out of 15 mm. from the point of paper  
inferred in drawing

Point for me

work in amount - one of the in the drawing  
providing of the in further relation to the  
front also with a large part - half L. half 2 days  
in the the days - half in the front of the drawing

Experiment

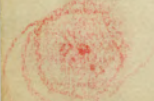
became under various cases of construction  
" rate of accident in the  
- cases of weight for work and organization  
which is much more complete

chance of bad season. weather.  
great time in relation - look over the end of?

Refer to brown in relation to position of the  
which are connected with the end of the drawing

Confusion in color in comparison of forces  
we want not forget the brown level - advantage of  
gray brown color - presentation of gray brown thickness - distance  
for <sup>the</sup> brown off paper - blank paper for brown  
2000 number for paper - this attachment L. 3

Final question of this of relation to the  
& solution



(11)

we have 84 days outward to Pole

$$\begin{array}{r} 53 \\ \hline 137 \\ \hline 7 \\ \hline 144 \end{array}$$
 - homeward from Pole to depot  
 before to Hal-Point  
144

3<sup>rd</sup> Nov to 27<sup>th</sup> March.

Faint red ink markings and scribbles, possibly bleed-through from the reverse side of the page. The markings include vertical lines, loops, and some illegible characters.

[2010.102.1]

dogs

Wed. mums ✓

pony ✓ 60 lbs.

8 Ki straps no heel binding  
harness straps weakened

Get a weight for ponies  
Common pony harness

Sh 9 - 12 snow boots - 48  
Hinges - 12 soft mounted - 82

Soft boots - 12 - 48

Leather boots - 12 - 48

82
981
441

(11)