Dear Tom,

My parents moved safely to 18, Homestead Drive, Wakefield on Dec 27th, and over the next two days I was able to drive to Oakham and then down here quite easily. Now my car is stuck in deep snow in the Hall grounds.

Here now are a few chance gleanings from my notes taken over the vacation.

1. Mrs Hall, Ripon, was busy in her large drapery store. She has had several operations to her feet and can no longer dance. It is clear that I shall be able go get more information from her later when she has had time to think about things. In the mean time I only learned that she things only two ladies at a time reel in the 5-some; the shuffle off for the better dancers was doubled (as in Scottish double shuffles)   1. Hop on L.F. a.a.a. Beat 3(or 4) times with RF   2. Drop on to R.F. etc.   She could not do it (she said it needs clogs), and nor can I. Finally I prompted her about the sword dance and

she said that step-hop across the point was the first step. Then she offered a step in which you hop on LF in one corner and point R toe in other 3 etc. (very confused), and one in which you jump across points landing both feet on ground alternately LF in front of RF & RF in front of LF — do this contining at 1st point then somehow on to 2nd. It is impossible! Her husband is going to work on her to get her to recall more. Incidentally — her dancing partners name was Robinson. ~~I'll~~ I shall visit her again at Easter. Let me know if there are any more questions you want me to ask her then.

I did not manage to get to Wharfedale.

2. Bankfield Museum. Halifax

Playbill   (A.P.M. 39)

Bacup Mechanics Institute

Mon + Tues March 11th + 12th 1861

The Female Christy's Minstrell

Dances by the Ethiopian Tagliani.

When did the Bacup Coconut dances start?

The last question was frivolous when I wrote it — but having looked up some 'authorities' it is now quite serious. You probably have in the library

Edward ~~Bailey~~ Baines : History of the County Palatine and Duchy of ~~Lancashire~~ Lancaster , New Edn 5 vols Manchester 1836. Can you see what reference to dancing in Rochdale it makes in vol II p 635?   (Reference from
JEFDSS   1960   pp 10 = 28).   If there is a reference to coconut dances there , my ugly suspicions   will be dispelled. However, Alford 'Intro to English Folklore' p 105 says we are asked to believe that they held their 'Jubilee' in 1907.   1857 is near enough to 1861   to be worth serious investigation.

3.   Ripon corporation museum.   Collection of playbills. The usual dances.

   Also (a) Tuesday   November 28th   1854
         Hornpipe ,   6 legs 60 ounces in weight, Mr Palliser.
   (b) Wednesday December 27th 1854
         Grand Christmas Treat.   Includes
         Prize Dance . A splendid leg of mutton will be given to the best step dancer.

4.   I have just found Chapter I 'Step Dancing in Scotland from 1750 to the present day'.   I have copies of Early Highland Games, Social Dancing in Scotland and Dramatic Jigs.

5. Playbills in Wakefield Museum and library

(a) Friday September 12th 1788.

At the end of the play a Dance called the Highland Laddie in which will be introduced a Scotch Reel by Mr + Mrs Lassels and Miss Sully.

(b) Thursday June 28th 1821

Witch's Bairn.   In scene 2   A Besom Dance.

(c) Thursday September 7th 1820

[Madame S Fergi] will introbor introduce ... an admired Guracha Dance.

            Can't find a reference to this anywhere, Tom, and have forgotten when it was introduced — will you remind me please?

(d) Monday August 28th 1843

Grand Celtic Entertainment.

Pipes and dancing alternate.   Archibald M'Don? Donald M'Dougall and S. Campbell dance Cameronians Rant, The Original Strathspey Step, Marquis of Huntley's Highland Fling,   Gillie Callum, Highland Reel, Highland Laddie, Highland Fling, The Original Reel of Tulloch, The Original Tullochgorum, Gillean a Neilludh or the lads with the kilts, Marquis of Huntley's Scotch Reel.

            Photo copies ordered.

6. Now a bit of mathematics. I decided to look up differentials while the subject was still in my mind, and it is a good job that I did for I misremembered what we talked about. I thought you told me that Dieudonné dealt with differentials, but I see that he doesn't. Can you remind me who does it satisfactorily?   The situation seems to me to be that if $f: E \to F$ is differentiable so that $f': E \to \mathcal{L}(E;F)$ then the differentials at x_0 are the independent and dependent variables of the function $f'(x_0)$ and we have $[f'(x_0)](dx) = dy$.   By the way, why did you reject the notation $\left[\dfrac{d \sin x}{dx}\right](x_0)$? It appears to be better than $\left[\dfrac{d \sin x}{dx}\right]_{x_0}$ and is certainly better than $\left[\dfrac{d \sin x}{dx}\right]_{x=x_0}$.

Now in the theory of differential equations one wishes to free dx and dy of their dependence on x_0. It appears to be necessary to restrict oneself to the case where E is one-dimensional, say the reals R. Then $f'(x_0): R \to F$ can be identified with a vector, say $\bar{f}'(x_0)$ so that the mapping $f': R \to \mathcal{L}(R;F)$ is identified with the mapping $\bar{f}': R \to F$. Moreover, the vector dx can be identified with a number dx. Then the function image $[f'(x_0)](dx)$ is identified with

the product $dx.\bar{f}'(x_0)$. ~~In this case~~ ~~dx and dy are~~ ~~related to $\bar{f}'$ and so are freed of their dependence on~~ ~~x_0.~~ Now dy is not the image of $\bar{f}'$ but of the function $\mathcal{F}: R \times R \longrightarrow F$ defined by $\mathcal{F}(dx, x_0) = dx.\bar{f}'(x_0)$.

If $g: R \longrightarrow F$, set $\mathcal{G}: R \times R \longrightarrow F$ ~~set~~ $\mathcal{G}(dx, x) = dx.g(x)$. A solution of the differential equation $dy = dx.g(x)$ is a function f such that $\mathcal{F} = \mathcal{G}$.

In case $g: R \times F \longrightarrow F$, a solution of the differential equation $dy = dx.g(x,y)$ is a function $f: R \longrightarrow F$ such that ~~$\mathcal{G}(dx,$~~ $\mathcal{F} = \mathcal{G}$ where $\mathcal{G}(dx, x) = dx.g(x, f(x))$.

I do not see any way define dx and dy so that $dy = dx.g(x)$ is a differential equation in the function sense. So far as I can see the differential equation is $\mathcal{F} = \mathcal{G}$, and this is equivalent to the differential equation $\bar{f}' = g$ (in the simple case). How have you dealt with it?

Best wishes

Frank