

# Zoological Society of London.

Regent's Park,

London, N.W.8.

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Dec 30 '35

OUR REF. \_\_\_\_\_

YOUR REF. \_\_\_\_\_

My dear Fisher

Could you help me with the following points?  
Trissier is a French zoologist who has been doing a lot of work on relative growth, but has used different terms with us words and in his formulae. We are now trying to reach agreement, & then to publish a brief note on an agreed terminology.

In the fundamental formula of relative growth,  $y = bx^k$ , where  $y$  = organ,  $x$  = standard of body, he has used  $y = kx^a$ . He says that  $k$  sh<sup>d</sup> not be used in 2 cases, & proposes  $R$  instead of his  $k$  and my  $b$ . He says that  $x$  is often used for absolute amount of growth & is therefore unsuitable. He wants  $R$  as the initial of 'rapport' or 'relation'. I don't much mind about this, tho' I see no objection to continuing

to use  $b$ , especially as it has been widely used,  
and has not any special biological significance.

As regards the exponent, he proposes to use both  
 $k$  and  $\alpha$ , in 2 rather different senses -  
 $k$  for when you are comparing adults or species  
of different size (e.g. stag beetles: different  
species of *Titanotheres*),  $\alpha$  for when you are  
dealing with actual growth (e.g. my  
liddler-cubs, *Carinus* of abdomen etc).

Now I am sure that the 2 cases should be  
distinguished by terminology; but is it wise  
to use different symbols when one & the  
same mathematical formula applies to both?

Here especially I'd value your advice. Is there  
any convention regarding Greek letters as exponents?

As regards terminology, he has always used  
depharmony for my (Pezard's) heterofony.

I feel this implies abnormality, and don't  
like it. He on the other hand says that

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heterogony has been used of certain types  
of reproduction in parasitic worms etc., &  
is confusing to continental workers -  
If that really is so, we must look for  
the purposes allometry as a substitute  
(derived from Odon's allometries, which  
are merely a case of relative growth  
in Weyl's). I dislike giving up  
heterogony, but suppose one must - what  
do you say? If so, allometry is I think  
good.

One other point where you can specially  
help. He wants to call the exponent  
the growth- or equilibrium- constant, whereas  
I have always referred to it as a Coefficient.

He says Coefficient is not good, as that implies multiplication — but (a) growth is a multiplicative process and (b) there are 2 constants in the formula. Do you see any objection to the use of Coefficient for  $k$  in  $y = bx^k$ ?

If you can help me in this, it will serve to reduce some confusion!

Are you coming up to the British Sociologists meeting here on Saturday?

Yours ever

Julian Streeby