

Hiawatha's poem on statistics

Unedited posts from archives of CSG-L (see INTROCSG.NET)

NOTE: The poem as reprinted follows Bill Powers' transcript.

This poem is a discussion of statistics.

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Subject: For fun

[From Bill Powers (910608.1000)] --

Found this on an old disk -- just for fun.

HIAWATHA DESIGNS AN EXPERIMENT  
by  
Maurice G. Kendall

Hiawatha, mighty hunter  
He could shoot ten arrows upwards  
Shoot them with such strength and swiftness  
That the last had left the bowstring  
Ere the first to earth descended  
This was commonly regarded  
As a feat of skill and cunning.

One or two sarcastic spirits  
Pointed out to him, however  
That it might be much more useful  
If he sometimes hit the target  
Why not shoot a little straighter  
And employ a smaller sample.

Hiawatha, who at college  
Majored in applied statistics  
Consequently felt entitled  
To instruct his fellow man on  
Any subject whatsoever  
Waxed exceedingly indignant  
Talked about the law of error  
Talked about truncated normals  
Talked of loss of information  
Talked about his lack of bias  
Pointed out that in the long run  
Independent observations  
Even though they missed the target  
Had an average point of impact  
Very near the point he aimed at  
(With the possible exception  
Of the set of measure zero).

This, they said, was rather doubtful  
Anyway, it didn't matter  
What resulted in the long run  
Either he must hit the target  
Much more often than at present  
Or himself would have to pay for  
All the arrows that he wasted.

Hiawatha, in a temper  
Quoted parts of R. A. Fisher  
Quoted Yates and quoted Finney  
Quoted yards of Oscar Kempthorne  
Quoted reams of Cox and Cochran  
(Practically *in extenso*)  
Trying to impress upon them  
That what actually mattered  
Was to estimate the error

One or two of them admitted  
Such a thing might have its uses  
Still, they said, he might do better  
If he shot a little straighter.

Hiawatha, to convince them  
Organized a shooting contest  
Laid out in the proper manner  
Of designs experimental  
Recommended in the textbooks  
(Mainly used for tasting tea, but  
Sometimes used in other cases).  
Randomized his shooting order  
In factorial arrangements  
Used in the theory of Galois  
Field of ideal polynomials  
Got a nicely balanced layout  
And successfully confounded  
Second order interactions.

All the other tribal marksmen  
Ignorant benighted creatures  
Of experimental setups  
Spent their time of preparation  
Putting in a lot of practice  
Merely shooting at a target.

Thus it happened in the contest  
That their scores were most impressive  
With one solitary exception  
This, I hate to have to say it  
Was the score of Hiawatha  
Who, as usual, shot his arrows  
Shot them with great strength and swiftness  
Managing to be unbiased  
Not, however, with his salvo  
Managing to hit the target.  
There, they said to Hiawatha  
That is what we all expected.

Hiawatha, nothing daunted  
Called for pen and called for paper  
Did analyses of variance  
Finally produced the figures  
Showing beyond peradventure  
Everybody else was biased  
And the variance components  
Did not differ from each other  
Or from Hiawatha's.  
(This last point, one should acknowledge  
Might have been much more convincing  
If he hadn't been compelled to  
Estimate his own component  
From experimental plots in  
Which the values all were missing  
Still, they couldn't understand it  
So they couldn't raise objection  
This is what so often happens  
With analyses of variance).

All the same, his fellow tribesmen  
Ignorant benighted heathens  
Took away his bow and arrows  
Said that though my Hiawatha  
Was a brilliant statistician  
He was useless as a bowman  
As for variance components,  
Several of the more outspoken  
Made primeval observations  
Hurtful to the finer feelings  
Even of a statistician.

In a corner of the forest  
Dwells alone my Hiawatha  
Permanently cogitating  
On the normal law of error  
Wondering in idle moments  
Whether an increased precision  
Might perhaps be rather better  
Even at the risk of bias  
If thereby one, now and then, could  
Register upon the target.

[From Bill Powers (910611.1900)]

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Joel Judd (910611) --

Gary said to you, re HIAWATHA,

> It might be OK, but I'd want the complete reference and your verification  
of the original source that Bill has added some of his on poetry to it.--  
Gary

I think you should avoid the company of this man. He is nasty and suspicious.

The author of HIAWATHA DESIGNS AN EXPERIMENT, Marice G. Kendall, is known to me only because his name appears in my copy of this file. I vaguely remember seeing this poem when I was an undergraduate at Northwestern, in the late 1940s. It went around computer departments and appeared on bulletin boards. The copy I sent (unaltered) came from an astronomy graduate student at NU who got his degree in the late 1950s and passed the copy to me 30 years later. If that's not a good enough reference for Dr. Prof. G. Cziko, nothing will satisfy him.

Best, Bill P.

Note 2012: In this age of Googling, I found these

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1310839/?page=2>  
and  
<http://www.columbia.edu/~to166/hiawatha.html>

I'll incorporate the pdf from the first link on the following two pages. Dag

## HIAWATHA DESIGNS AN EXPERIMENT<sup>1</sup>

MAURICE G. KENDALL

(Originally published in *The American Statistician*, Dec. 1959, Vol. 13, No. 5. Reprinted by Permission).

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 Very near the spot he aimed at  
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 Of a set of measure zero).

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 Anyway, it didn't matter  
 What resulted in the long run;  
 Either he must hit the target  
 Much more often than at present  
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 Recommended in the textbooks  
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<sup>1</sup>Reprints may be obtained from the author, Scientific Control Systems Limited, Sanderson House, 49-57 Berners Street, London W1P 4AQ England.

And successfully confounded  
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With one notable exception  
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