COMMENT ON "CRITICISM FOR RIEMANN'S THEOREM ON A SUM OF CONDITIONALY CONVERGENT SERIES"

From time of a writing of this work in 1985 year, I some times rewrited it, with the purpose to make it "more simplicity", but thus and to not spoil with details perfectly obvious for some and not so obvious to others. By the most acceptable variant, as it seems, is the removal in a separate part of questions given to me both at personal and in network dialogue. By actually principal argument, though and not stated directly but always by my opponents were implied was - "GREAT RIEMANN COULD NOT BE MISTAKEN!". On this argument certainly to object of a sense is not present, but on some concrete questions certainly it is necessary to answer.

Q no.1:

In a text-book by Bermant there is an example. Take a series

$$A = 1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \frac{1}{5} \dots$$

multiply it on 1/2

$$\frac{1}{2} * A = \frac{1}{2} - \frac{1}{4} + \frac{1}{6} - \frac{1}{8} \dots$$

then combine these serieses

$$\frac{3}{2} * A = 1 + \frac{1}{3} - \frac{1}{2} + \frac{1}{5} + \frac{1}{7} - \frac{1}{4} \dots$$

This series turns out from the first simple permutation of terms and the value of a sum has varied.

A:

This series has turned out not by simple permutation. If in an initial series a term '$\frac{1}{n} * (-1)^{(n+1)}$',

in multiplied on 1/2 '$\frac{1}{2n} * (-1)^{(n+1)}$',

then in the result of addition a common term should be '$\frac{3}{2n} * (-1)^{(n+1)}$'. That is the speech goes about different serieses and it is completely natural if they will have different sums. It is interesting that the author of the text-book, combining serieses at first has grouped together terms of an initial series

$$(1 - \frac{1}{2}) + (\frac{1}{3} - \frac{1}{4}) + (\frac{1}{5} - \frac{1}{6}) + \dots$$

geting thus series '$\frac{1}{2n-1} - \frac{1}{2n}$',

then having added to it multiplied on 1/2, has got in an outcome of "summarize"still

more other series: '$\frac{1}{2n-1} - \frac{1}{2n} + \frac{1}{2n} * (-1)^{(n+1)}$'.
Abundantly clearly that he did not understand about what writes. However it looks as a rule but not an exception. As a contra-argument to the given work L.D.Kudrjavtsev has told that in the Riemann's permutation takes an equal amount positive and negative terms. And what's more "contra-argument"was expressed in such form that I have not found intolerable to continue the further dialogue. And certainly to make comment on this "contra-argument"at all there is no sense.

Q no.2:
Well and let $(m-k) \to \infty$. What here is irregular?
A:
As the sum of a series is a sum all of its terms, and for any odd term there is an even term with the next index and for anyone even - odd with the previous index, that such difference is sheer impossible.

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