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CITY & GUILDS OF LONDON INSTITUTE

FOR THE ADVANCEMENT OF TECHNICAL EDUCATION.

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Central Institution,
Exhibition Road, London, S.W.

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My dear Fitzgerald

Fleming in a paper that was read last week and of which the first part appears in last Friday's Electrician put forward the view that the loss in the open magnetic circuit of a transformer was due to eddy currents.

I am very doubtful whether that

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is the case as Swinburne tells me that ever since Thomson read his paper at the B. A. he has used stranded wire for the thick or secondary circuit.

In any case the idea is your own as stated in your letter of March 11th 1891 to Perry and myself, and I propose, Thursday next the 1st, to read that letter of yours in the discussion.

But there is one point that I am not clear about and I should feel much obliged if in a letter to me which would reach the College

by a before Thursday Dec 1st you
could make it clearer to me. You
say: "There is no eddying except
when actual lines of force exist e.g.
inside a ring coil and not outside.
"Though there is induction outside
round a circuit enclosing the ring
there is no eddy production in a
"mass that does not surround ring."
This is in favour of closed magnetic
"circuits in transformers &c"

I am not clear what exactly
you mean by "though there is induction
outside round a circuit enclosing
the ring" or by "a mass that does

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not surround ring" 16/60

I conjecture that you mean
of the primary than ^{wire} will be next
to the iron in a closed magnetic
circuit transformer there will not
be eddying in the thick ^{wire} secondary
circuit wound outside the primary.
But of so I do not understand why -
as I should imagine that in the
generation of the lines of force inside
the iron core (which is surrounded
by both coils) the lines might be
regarded as huge circles coming
from infinity and crowding ^{as}
short curves into the iron. But as
the lines would cut through both