

LETTER TO THE EDITOR

FROM PROFESSOR A. RUPERT HALL.

Since Professor R. S. Westfall in his review of the seventh volume of *The correspondence of Isaac Newton* has chosen to voice some severe criticisms of the work as a whole, with which I had the honour to be in part connected, perhaps I may claim some right of equally public reply, especially on behalf of those long dead.

In my opinion, the reviewer greatly underestimates the difficulty of publishing Newton's correspondence when the task was begun thirty years ago. The Portsmouth dispersal had taken place. There had been almost negligible study of Newton's manuscripts since the time of Rouse Ball. If we except the work of Hofmann on Leibniz, knowledge of the histories of mathematics, of mechanics, of matter-theory, and of alchemy-chemistry was still in a rudimentary state. The first editors necessarily began from first principles. That they were not perfectly equipped editors, I agree. There was no one in England (or for that matter, in the USA) at that time who combined textual, linguistic and mathematical skills in the manner required for perfect qualification. If the task were to be begun—and there was strong feeling that it *should* be begun—at that time, it is doubtful if a wiser choice than that of H. W. Turnbull as editor could have been made. Tribute might also be paid to many others who gave devoted labour to the task of assembling difficult and hardly accessible materials, only one of whom (H. W. Robinson) shall be named here. To blame these pioneers for building a rather crude log-cabin is uncharitable; it has kept the weather out, and it has many other virtues.

Secondly, and it is distasteful to make this point, Professor Westfall seems to exaggerate the merits of other great editions, in order to 'knock' that published by the Royal Society. To state some contrary considerations: the recent publications of Stillman Drake—much as Professor Westfall seems to dislike them—have shown that Favaro's long-continued and magnificent labours were nevertheless incomplete, though he knew more about Galileo than any one who has ever lived. The *Oeuvres complètes* of Christiaan Huygens, a grand monument to scholarship, are certainly not simple to consult, not least because the editors chose to conceal some important *papers* among the letters (in my view, a categorical mistake). And the indexing, though elaborate, is far from perfect. One could think of further analogous criticisms of other editions, if the task were not ungrateful. In other words, a very large edition, carried on by different editors over a stretch of time, is bound to have, besides an enormous amount to praise, some faults; inevitably, at the least, it will present some problems of information-retrieval (the point on which Professor Westfall harps) because, in an ordinary printed book at any rate, there is *no* system of indexing whatever without incompleteness and ambiguity.

I beg also to be allowed to take up one more precise issue. The reviewer objects because one cannot find in the *Correspondence* 'a discussion of the Mint, its structure, and its mode of operation'. (Nor does one find such an account of the Académie royale des sciences in the *Oeuvres complètes* of Huygens.) Professor Westfall of course knows perfectly well that the history of the Mint has been treated in general, and specifically in relation to Newton, by Sir John Craig, and that there is an extensive specialist literature devoted to the history of money and

minting in general. There may be room for more specialist study still of 'Newton at the Mint'; I do not think his *Correspondence* was the right place for it. Professor Westfall also complains because the frontispiece to vol. v refers to the treatment of the edges of coins as 'milling'. (He does not say that this frontispiece does not illustrate precisely the machinery of Newton's Tower Mint, but was taken from the *Encyclopédie*: I wrote: 'the lower figure shows the machine which impressed letters or indentations ('milling') on the edge of the impressed coin . . .'). The reviewer tells us that in Newton's day this was called 'graining', and that 'milling' was the rolling of bars. (He is himself a little at sea; *this* was called 'flating'.) He may be advised that I was writing for twentieth-century readers, and that I—rightly or not—have always spoken of modern coins as possessing 'milled edges', a usage (The *Oxford English dictionary* confirms) respectable since 1724 at least, three years before Newton's death. Professor Gillispie similarly uses the word 'milling' in his pictorial reprint of the *Encyclopédie* plates (Plate 206).

For mistakes of fact, both those alleged by the reviewer and others which undoubtedly exist, an editor can only humbly beg pardon. No one is indefatigable or omniscient or invariably in the happy position of agreeing with Professor Westfall. This editor, however, remains unrepentant about the omission of those Mint documents from the *Correspondence* which seem to have had no epistolary fruit—while admitting the possibility of errors of judgement. If Newton wrote or received letters about the rejection of his accounts for 1713, as recorded by the reviewer, we failed to find them, and accordingly did not print other cognate documents. To have edited a selection of Newton's Mint Papers would have been a different task from that assigned to us. Further, Professor Westfall speaks of the letters and memoranda which the *Correspondence* 'disjointedly presents'; his harsh expression overlooks the fact that the survival of letters (as of all documents, indeed) is capricious. An editor can hardly repair the omission from a body of letters of even a large facet of a man's life.

Finally, I beg to be allowed to remove from the reader's mind any possible mistake arising from the reviewer's opinion that it 'is not an exaggeration to treat the *Correspondence* as an extension of Whiteside's magnificent edition of the *Mathematical papers*.' It is trivial to remark that the early volumes of the former preceded the latter; to the last volumes of the *Correspondence* D. T. Whiteside most generously gave knowledge and advice. Any deficiencies in those volumes, however, are to be charged to the editors, not to Dr. Whiteside.

I am sorry that Professor Westfall could not find space for more positive comment on the light the last volume of the *Correspondence* throws on Newton's last activities, such as his role as an adviser to the Admiralty on the longitude problem, but as a surviving editor I thank him warmly for his praise of the whole as 'a great accomplishment'.

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