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THE EULER-DIDEROT ANECDOTE

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No anecdote with regard to a mathematician is better known than the story of the discomfiture of Diderot by Euler. The story was first told by Thiébauld [1]; it was later retold, with additions, by De Morgan [2]. Since then a great many authors, all following the more highly colored version of De Morgan, have repeated the story. It is the purpose of this note to show that one addition by De Morgan—the addition which really gives point to the story—is manifestly absurd, and that the credibility of the original story by Thiébauld is open to suspicion.

It will be sufficient to give the De Morgan version, noting what he added:

“The following story is told by Thiébauld, in his *Souvenirs de vingt ans de séjour à Berlin*, published in his old age, about 1804. This volume was fully received as trustworthy; and Marshall Mollendorff told the Duc de Bassano in 1807 that it was the most veracious of books written by the most honest of men. Thiébauld says that he has no personal knowledge of the truth of the story, but that it was believed throughout the whole of the north of Europe. Diderot paid a visit to the Russian court at the invitation of the Empress. He conversed very freely, and gave the younger members of the court circle a good deal of lively atheism. The Empress was much amused, but some of the councillors suggested that it might be desirable to check these expositions of doctrine. The Empress did not like to put a direct muzzle on her guest's tongue, so the following plot was contrived. Diderot was informed that a learned mathematician was in possession of an algebraical demonstration of the existence of God, and would give it to him before all the court, if he desired to hear it. Diderot gladly consented; though the name of the mathematician is not given, it was Euler. He advanced toward Diderot, and said gravely and in a tone of perfect conviction: *Monsieur, (a+b^n)/n=x, donc Dieu existe; répondez!* Diderot, to whom algebra was Hebrew, was embarrassed and disconcerted; while peals of laughter rose on all sides. He asked permission to return to France at once, which was granted.”

This differs from the Thiébauld account in three respects:

(1) The formula is slightly different; this affects neither the validity of the proof nor the credibility of the story.

(2) It identifies the mathematician as Euler.

(3) The expression “to whom algebra was Hebrew” is an addition. Thiébauld says: “Diderot, voulant prouver la nullité et l'ineptie de cette prétendue preuve, mais ressentant malgré lui, l'embarras où l'on est d'abord lorsqu'on découvre chez les autres, le dessein de nous jour, n'avoit pu échapper aux plaisanteries dont on étoit prêt à l'assaillir.”

Since then the story has, as I have said, been repeated many times. To cite only two instances—both of them by authors of popular books—we find Hogben

beginning his *Mathematics for the Million* with this story, but with the substitution of “Arabic” for “Hebrew,” and Bell in his *Men of Mathematics* giving a modified version, but with “Chinese” for “Hebrew.”

That is the story, and it is a very good story, except that it isn't true. To Diderot algebra was neither Hebrew, nor Arabic, nor even Chinese. Diderot was a very good mathematician, and prior to his Russian trip, was the author of five creditable memoirs on mathematics [3]. To mention only one of these, in the second memoir, *Examen de la développante du cercle*, Diderot shows that if, instead of the Euclidean tools of ruler and compass, we assume a circle and its involute, which last is easily constructed mechanically, then the classical problems, trisection of the angle, duplication of the cube, and quadrature of the circle, may be easily and neatly solved. In proving this, Diderot shows a complete mastery of algebra, geometry, and the calculus.

The anecdote as told by De Morgan and by all who have followed him, is thus seen to be absurd. But it may be noted that Thiébauld's story is not so unskillful as to aver that Diderot could not reply; it merely says that he sensed the hostility of the audience. The Thiébauld story *may* have been true; and the mathematician *may* have been Euler, who was in Russia at that time. What evidence is there for the original story? Thiébauld, writing many years later, says merely that the story was believed throughout the north of Europe. No one else tells the story, in particular there is no known Russian source for the story. On the other hand it is known that Frederick the Great, King of Prussia, was a bitter enemy of Diderot. Several sources indicating that stories about Diderot at Saint Petersburg emanated from Berlin are cited and summarized by Tournoux [4].

The alternatives seem to be, first, a rather pointless incident as told by Thiébauld; second, and more probable, a canard, inspired by Frederick the Great or by his courtiers.

Bibliography

1. Mes souvenirs de vingt ans de séjour à Berlin; Paris, 1801, 5 vols; there were several later editions.
2. A Budget of Paradoxes, 1872; 2nd ed. edited by David Eugene Smith, 1915.
3. Oeuvres; Paris, 20 vols., 1875–77. The memoirs are in volume 9.
4. Diderot et Catherine II; Paris, 1899. I am indebted to Dr. Arthur M. Wilson, Professor of Biography at Dartmouth College for this last reference, and for his advance of the second alternative mentioned above.