ZULF DECLARES WAR AGAINST ALL WHO DENY GREAT WORK OF THOMAS SIMPSON AND DARE TO CALL THE ROOT FINDING METHOD NEWTON-RAPHSON METHOD

ZULFIKAR MOINUDDIN AHMED

I, Zulfikar Moinuddin Ahmed, will not tolerate people's great works being attributed to others. I declare war on those who dare to deny credit to Thomas Simpson, who is the true genius behind the method that has been referred by many people as *Newton-Raphson* method.

I will demand that henceforth all people of Earth refer to the method as *Simpson's method of iteration*. I will bring justice to this world.

I have my reasons. I never want credit for my great *Four-Sphere Theory* to go to various other people as Bill Gates is plotting. And I believe that one has to be conscientious about other people's great works to.

It was Nick Kollerstrom who in 1992 discovered this horrible fate of Thomas Simpson. This man, who struggled in his life as a weaver, who put in effort to produce one of the most valuable efforts in history of science, the iterative scheme

$$x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$$

which has been doing the work of so many millions of people's need to solve $f(x) = 0$, has had one of his greatest original contributions that literally changed all of science, disposed of his claim to his own work because various people were negligent, and this must change today!

Zulf is completely outraged by this horrible treatment of Thomas Simpson. Thomas Simpson's method worked for general non-linear functions. I have used the iteration scheme for decades and I am just outraged to find that it is work of Thomas Simpson from 1740 and Isaac Newton and Joseph Raphson did not consider anything but polynomials.

I fail to understand how heartless you have to be to deny a man like Thomas Simpson credit for his great work.

I want this to change right away.

1. CONCILIATORY TONE TOWARDS ENGINEERS

I first learned of the so-called Newton-Raphson iteration method for finding roots later in life than many of you, Engineers, do. It was in 1995, when I was 22 years of age. I was not interested in engineering at Princeton at all. I learned of it from the book *Numerical Recipes In C* by W.H. Press, B.P. Flannery, S. A. Teukolsky, and W.T. Vetterling. More precisely their Chapter 9, *Root Finding And Nonlinear Sets of Equations*. I had never known about any of these methods at all, and I just

considered the authors of this book to be experts. As a result, their 9.4 Newton-Raphson Method Using Derivatives just thoughtlessly became my canonical place for reference.

In hindsight, by 1995, I should have checked the history, as Nick Kollerstrom's paper [1] was published in 1992. I did not think to do this at all. I was guilty of simply accepting the credit of the method to Isaac Newton and Joseph Raphson. I was guilty and I feel horrible now. My heart breaks to see the struggles in the life of Thomas Simpson, who was not as wealthy as Isaac Newton, and who joined mathematical associations as a weaver to teach mathematics, following his own interests, and published the general iteration scheme for nonlinear functions in 1740. This is tremendous genius that he displayed, and it is truly heartbreaking to be in a world where massive numbers of people all around the world benefit from his gift of genius and yet do not give him proper respectful gratitude for his great gifts to us.

But it is better to correct one's path late in life, now, than never, and when I became aware of this horrible denial of credit today, I decided to write about it immediately.

You see, it all happened from working on Cambridge Tripos IA 2001 Problem 11D. The problem does not name the scheme, but it is Simpson's method for finding roots. The problem setup is that $f \in C^2(\mathbf{R})$ and both $f'(x) > 0$ and $f''(x) > 0$ on $[a, b]$ where $a < 0 < b$. Then the iteration scheme is introduced without any mention of where it is from:

$$x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$$

from the right side,

$$x_0 = b.$$

The problem is to prove that the sequence is *decreasing*, that there is a limit, and to determine the rate of convergence of the scheme converging.

This is truly a wonderful problem because I was not aware that any rigorous results could be obtained for the Thomas Simpson's 1740 iteration scheme.

But something horrible happened in the credit, and it has been called the *Newton-Raphson Method* by so many people that Thomas Simpson's due and rightful credit had been lost. This is simply intolerable to me, and the world does not benefit when great genius is not acknowledged for all those who benefit from them. Today it is Thomas Simpson who has passed away and people have forgotten his 1740 work. Tomorrow it will be myself, and you, whose work will be used by the entire world and you and I will not have our justly deserved immortality.

References

[1] Nick Kollerstrom, Thomas Simpson and the 'Newton's method of approximation': an enduring myth, *British Journal for the History of Science* 25 (1992), 347–354.