

Know the truth about fluid mechanics

What is the foundation of Fluid Mechanics? How did the great breakthroughs in the history of Fluid Mechanics, namely that of Isaac Newton (with the *Philosophiæ Naturalis Principia Mathematica*) and George Stokes (with the paper "On the steady motion of incompressible fluids") come about? From their own writings, and from their own mouth we find the answer:

Isaac Newton

In 1687, while sitting in the Lucasian chair of mathematics at Cambridge University, Newton writes (in the *Principia*):

This most beautiful system of the sun, planets, and comets could only proceed from the counsel and dominion of an intelligent and powerful Being... This Being governs all things not as the soul of the world, but as Lord over all; and on account of his dominion he is wont to be called "Lord God" ... or "Universal Ruler." ... In him are all things contained and moved; yet neither affects the other: God suffers nothing from the motion of bodies; bodies find no resistance from the omnipresence of God... Blind metaphysical necessity, which is certainly the same always and everywhere, could produce no variety of things. All that diversity of natural things which we find suited to different times and places could arise from nothing but the ideas and will of a Being necessarily existing ... And thus much concerning God, to discourse of whom from the appearances of things does certainly belong to Natural Philosophy.

The fact is that Newton discerned truth about physical nature, from truth of spiritual nature. In other words, he understood the physical world by understanding the metaphysical. It was by understanding that there is a Lawgiver that ordains the movement of all things, that he could then try to mathematically describe the way the Lawgiver ordains the movement of all things. (*Read the General Scholium to Isaac Newton's Principia mathematica from <http://hss.fullerton.edu/philosophy/GeneralScholium.htm>*)

George Stokes

Almost 200 years have passed since the *Principia*, and a man named George Stokes, sitting in the same Lucasian chair of mathematics at Cambridge University, takes Newton's laws of motion and applies them to fluid motion, the so-called Navier-Stokes equations, which describe the motion of fluid as a continuum. At the 1891 Gifford lectures on natural theology, Stokes said:

"...the laws of nature are carried out according to His will..."

What made Newton and Stokes so successful? From their own mouth, they both contribute their understanding of the physical nature to the foundational truths of the metaphysical nature. We too should evaluate all science based on the fact that a Universal Ruler ordains the motion of all things. The fundamental assumption of all science is God. This is the reason that Theology was once considered the "King of the sciences". The apostle Paul said:

"...for in Him we live and move and have our being..."
Acts 17:28

Similarly, Paul writes:

For by him were all things created, that are in heaven, and that are in earth, visible and invisible, whether [they be] thrones, or dominions, or principalities, or powers: all things were created by him, and for him: And he is before all things,

and by him all things consist.
Colossians 1:16-17

Similarly, it is written:

"God, who at sundry times and in divers manners spake in time past unto the fathers by the prophets, Hath in these last days spoken unto us by [his] Son, whom he hath appointed heir of all things, by whom also he made the worlds; Who being the brightness of [his] glory, and the express image of his person, and upholding all things by the word of his power, when he had by himself purged our sins, sat down on the right hand of the Majesty on high;" *Hebrews 1:1-3*

Lewis Fry Richardson

Lewis Fry Richardson is considered the father of Computational Fluid Dynamics(CFD). Richardson essentially invented computational fluid dynamics before computers existed. He used human computers to do thousands of calculations, from which he published the landmark book "Weather Prediction by Numerical Process" in 1922. Richardson is also the namesake for the famous Richardson number in the theory of turbulence. Moreover, he penned one of the most famous definitions of turbulence:

Big whorls have little whorls that feed on their velocity, and little whorls have smaller whorls and so on to viscosity.

Richardson was also a lifelong Quaker, believing the Holy Scriptures is the word of God. He believed that the God who made the Bible created all things, and we were created to bring glory to Him. Despite all of his achievements in science, he believed that:

... science ought to be subordinate to morals

The truth

So what is the foundation of Fluid Mechanics? The foundation of all science is truth. Before sentencing Jesus to death by crucifixion, Pontius Pilate said to Jesus the Christ, "Quid 'est veritas?". This is street latin for "What is truth?" (John 18:38). All science is built on the foundation of truth. However, science today has shifted from being built on "the truth", to rather finding a naturalistic explanation for all phenomena. What if this is not true? Then, we have built our science on false assumptions, which means we will ultimately arrive at false conclusions.

Jesus said:

*"I am the way, the truth, the life,
no man cometh unto the Father,
but by Me."
John 14:6*

*"And ye shall know the truth,
and the truth shall make you free."
John 8:32*

More information concerning those spiritual truths that Newton and Stokes (and many other leading scientists at <http://www.msstate.edu/org/sacs/scientists.html>) believed so dearly, can be found at: