

### 6.3 *Personality Focus.* James Maxwell

James Clerk Maxwell's theory of the electromagnetic field is probably the most important theory of physics created in the last 200 years. As discussed in Section 6.2, all of our modern technology is based on it, including electric power, radio communications, telephones, lasers, computers, and so on. The success of his theory led directly to Einstein's theory of relativity; in fact, one can say that Einstein's theory of relativity is simply the completion of Maxwell's theory—the two theories are taught together at most universities in a unified subject called *relativistic electrodynamics*.

Maxwell also developed foundational theories for the field of thermodynamics, including the deduction of Maxwell-Boltzmann statistics, discussed in Section 4.19. Not only a theorist, he also did his own experiments and founded the Cavendish Laboratory at Cambridge University, which has remained one of the top experimental physics labs in the world to this day.

Maxwell was also a devout Christian. An elder in his Presbyterian church, he read the Scriptures each night with his wife Katherine, discussed various Scriptures in his letters, and had almost the whole book of Psalms memorized. He was known by everyone as a sincere, humble, and poetic professor with a twinkle in his eye. The following are quotes from his letters to his wife:<sup>1</sup>

What a field for ambition there is—for climbing up, or rather, being drawn up, into Christ's love, and receiving into our little selves all the fulness of God. Let us bless God even now for what He has made us capable of, and try not to shut out His spirit from working freely.

The more we enter into Christ's work He will have more room to work His work in us. For He always desires to be one with us. Our worship is social, and Christ will be where two or three are gathered together in His name.

Think what God has determined to do to all those who submit themselves to His righteousness and are willing to receive His gift. They are to be conformed to the image of His Son, and when that is fulfilled, and God sees that they are conformed to the image of Christ, there can be no more condemnation, for this is the praise which God Himself gives, whose judgment is just. So we ought always to hope in Christ, for as sure as we receive Him now, so sure will we be made conformable to His image. Let us begin by taking no thought about worldly cares, and setting our minds on the righteousness of God and His kingdom, and then we shall have far clearer views about the worldly cares themselves, and we shall be continually enabled to fight them under Him who has overcome the world.

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<sup>1</sup>Letters from Maxwell to his fiancée and eventual wife are reprinted in L. Campbell and W. Garnett, *The Life of James Clerk Maxwell*, (Macmillan, London, 1882).

Maxwell also saw no contradiction between his faith and his scientific practice. He set himself to question his faith and establish its truth rigorously:<sup>2</sup>

Now, my great plan, which was conceived of old, and quickens and kicks periodically, and is continually making itself more obtrusive, is a plan of Search and Recovery, or Revision and Correction, or Inquisition and Execution, etc. The Rule of the Plan is to let nothing be wilfully left unexamined. Nothing is to be holy ground consecrated to Stationary Title, whether positive or negative. . . .

Now I am convinced that no one but a Christian can actually purge his land of these holy spots. Any one may profess that he has none, but something will sooner or later occur to every one to show him that part of his ground is not open to the public. Intrusions on this are resented, and so its existence is demonstrated. Now, I do not say that no Christians have enclosed places of this sort. Many have a great deal, and every one has some. No one can be sure of all being open till all has been examined by competent persons, which is the work, as I said before, of eternity. But there are extensive and important tracts in the territory of the Scoffer, the Pantheist, the Quietist, Formalist, Dogmatist, Sensualist, and the rest, which are openly and solemnly Tabooed, as the Polynesians say, and are not to be spoken of without sacrilege.

Christianity—that is, the religion of the Bible—is the only scheme or form of belief which disavows any possessions on such a tenure. Here alone all is free. You may fly to the ends of the world and find no God but the Author of Salvation. You may search the Scriptures and not find a text to stop you in your explorations.

He saw the laws of nature and the laws of the Bible as both giving glory to God:

I have to tell my men that all they see, and their own bodies, are subject to laws which they cannot alter, and that if they wish to do anything they must work according to those laws, or fail, and therefore we study the laws. You have to say that what men are and the nature of their actions depends on the state of their wills, and that by God's grace, through union with Christ, the contradictions and false action of those wills may be settled and solved, so that one way lies perfect freedom, and the other way bondage under the devil, the world, and the flesh, and therefore you entreat them to give heed to the things which they have heard.<sup>3</sup>

I think that men of science as well as other men need to learn from Christ, and I think that Christians whose minds are scientific are bound to study science that this view of the glory of God may be as extensive as their being is capable of.<sup>4</sup>

<sup>2</sup>Letter to Rev. L. Campbell, 1852, in Clark and Garnett, *ibid.*

<sup>3</sup>Letter to Rev. L. Campbell, 1857, in Clark and Garnett, *ibid.*

<sup>4</sup>J. Maxwell, Letter to the Victoria Society, 1875, in Clark and Garnett, *ibid.*

Maxwell died in 1879 at the age of 38, with his dying glance fixed on his wife. In a short time, he had revolutionized the world, but he would not live to see the new technology of the revolution. While he lay dying, he quoted one of his favorite hymns, by R. Baxter:

Lord, it belongs not to my care  
 Whether I die or live  
 To love and serve Thee is my share  
 And that Thy guard must give.

Years earlier, while a student at Cambridge, Maxwell had written a hymn of his own with these lines:

Give me wisdom so to use these brief hours of thoughtful leisure  
 That I may no instant lose in mere meditative pleasure  
 But with strictest justice measure all the ends my life pursues  
 Lies to crush and truths to treasure, wrong to shun and right to choose.

**Thought Questions:**

1. Have you ever been told that devout (“Bible-believing”) Christians always opposed science? Why do you think that is?
2. Do you agree with Maxwell’s statement that Christians whose “minds are scientific” have a duty to study science, in order to glorify God the most?

**For Further Reading:**

- Dan Graves, *Scientists Of Faith*, (Kregel Christian Books, Grand Rapids, 1996).
- E.C. Barrett and David Fisher, *Scientists Who Believe: 21 Tell their own Stories*, (Moody Press, Chicago, 1984).
- Nancy Pearcey and Charles B. Thaxton, *The Soul of Science: Christian Faith and Natural Philosophy*, (Crossway Books, Wheaton, 1994).