Introduction

I have compiled this list of Catholic scientists to show students that Catholics have always been scientists, that there is nothing incompatible between science and the Catholic faith. In fact, careful study of this list will show that, at key moments, Catholic scientists have made key contributions to the various branches of modern science. Copernicus contributed to the modern understanding of how our starry universe works. Lavoisier essentially began modern chemistry. Pasteur's contributions to biology and medicine are legion. Abbot Gregor Mendel had a clear understanding of heredity that Darwin himself did not possess and even rejected when it was shown to him. Abbe Lemaitre contributed the idea of the Big Bang and how a beginning might be implied in the work of Einstein, a conclusion unthinkable to many of his contemporaries accustomed to the concept of an eternal universe. It is curious that Fred Hoyle gave Lemaitre's thoughts the name 'Big Bang' in derision but now gets credit for the discovery, just by association with this important breakthrough. Foucault produced the first demonstration of the movement of the earth and he was, as the Catholic Encyclopedia says, 'a practical Catholic,' meaning a practicing one.

I have chosen to include in this list as many scientists as I could find. I began with the Catholic Encyclopedia of 1913 but I have included de Broglie, von Neumann and several currently working scientists, who are so labeled. I want children to understand that science moves forward with many good scientists working at a problem. At a certain point, someone comes to expect data that he has not seen; he explains why he expected it. Down the road, the data is collected by someone who understands its implications; then loose ends must be gathered up, again, in view of a whole. Think of Elyuhar who discovered tungsten after its existence had been predicted. Someone had to *do the work*. Many of the scientists at all levels of the enterprise have been and still are, Catholics. This is natural, since we have an expectation of the truth and a commitment to finding it.

More information on many of these scientists can be found in the 1913 edition of the Catholic Encyclopedia. You can access it on the Internet at the New Advent website.

Information can also be found elsewhere on the web, typing in the name of the scientist on a search engine or, of course, at the local library. This list is not complete! I have included space at the end for the addition of the

men and women you discover on your own.

There are many ways to use this book. Students can organize lists according to disciplines and subject categories, such as surgeons, or physicists, or geologists, and arrange only that group chronologically to see how the discipline developed and where the Catholics were during its development. Such arrangements can help show the progression of a branch of science through time. I've included some space at the back of this book for a few of these exercises.

Another avenue to pursue is the effect that politics had on the practice of science. Germany, Italy, and France were sometimes hard on scientists, especially at the time of the French Revolution (1789) but also all through the 19th century. It helps here to realize that there is not one 'Germany' till 1870 and that 'Italy' was in the process of being constructed and secularized throughout much of the century. The persecution of Catholic scientists reflects the persecution of all Catholics during these times. Look at the lives of people like Respighi, Serpieri, Hauy, Cauchy and others. Ask why, for instance, there are very few English or Irish Catholic scientists; could it be that barring Catholics from the universities was a factor?

Young children enjoy listening to the stories of these scientists. Older children could choose a name from the list and look up more detail in the Catholic Encyclopedia or another source and rewrite the story with a little color, as an adventure for a younger sibling or as a submission to the local newsletter. The scientific accomplishments of someone like Avogadro or Pasteur are one kind of story. The adventurous life led by Antonio de Ulloa, Constantine Africanus, or Joseph Epping, is another. Jan Ingen-Housz, who liked Benjamin Franklin, and Auguste Fresnel, who helped to build better lighthouses are fun as well as important.

The geographic questions raised by trying to list the birthplace or working places of some of these scientists are tough (is this guy French or Italian or Austrian?). Get an historical atlas if you get desperate!

Why not 2000 years?

(Notes from Mary Daly)

For its first 300 years, the Church was deeply engaged in mission work and survival in the frequently hostile Roman Empire. The next 500 years were a battle for the soul of Europe. The Roman Empire fell, and with it all

semblance of order except what the Church could maintain. Her missionaries converted a Europe whose savagery is now forgotten in part because certain barbarities were too appalling to speak of.

Over the next two hundred years, holy and Catholic sovereigns occupied one throne after another -- St. Stephen of Hungary, St. Edward the Confessor of England, St. Elizabeth of Portugal, St. Elizabeth of Hungary, St. Margaret of Scotland, Sts. Henry and Cunegunda the Holy Roman Empire, "Good King Wenceslaus", and a Boleslaw V, who married St. Kinga. Saintly Catholic sovereigns meant men and women who actively pursued holiness, cared for the sick, believed all men were equal, and sought truth. These last two are necessary conditions for the flourishing of a university whose credits are based on scholarship, not nobility. Indeed, they patronized the universities.

Immediately following this era of Catholic ascendance, the cathedrals and universities of Europe were built and in them the birth of science took place. So the thousand years here are this second thousand years of the Church.

Not that science was wholly new. The draining of the swamps and the building of roads, bridges, and monasteries had gone on for years, along with the making of clocks, fortifications, and maps, and always the care of the sick -- with all the humble, orderly, and sometimes technological insight implied in such achievements.

But the systematic measurement of all things measurable, and the discovery and outworking of the basic laws of physics, were the work of the second millennium.

Let us now speak of this.