

**The Carolinian...  
... Science Corner**

**N**ICHOLAS COPERNICUS (1473-1543), the famous German ecclesiastic, became the founder of a new astronomy. In his pioneer work, "On the Revolutions of the Celestial Spheres" he succeeded in proving -- contrary to the beliefs of

ersity of Cracow he studied mathematics. Afterwards he went to Bologna, Italy, where he changed his study of church law with studies of the stars. A few years later he studied medicine at the University of Padua. Then he went back to Poland, where he became a member of the cathedral Chapter at Frauenburg. His learning in canon law made him one of the foremost authorities of his land. He found

by Rev. Fr.  
**M. RICHARTZ, S.V.D.**

# STAND, SUN...

a thousand years — that the earth is not the center of the universe, but the sun stands and does not move. On a monument erected to his memory in Saint Anne's church at Cracow, you find the inscription: "Stasol, ne moveare" (Stand, sun, do not move). This word, taken from the Bible (Josue 10, 12), expressed his ardent desire to prove that the sun does not move. And the more he studied "the godlike circular movements of the world, the course of the stars, their magnitudes, distances, risings and setting", the more he was convinced that "the sun stood still in the midst of heaven" (Josue 10, 13).

### COPERNICUS' LIFE.

Copernicus, the scientific name for "Kopernigk", has been claimed by Poland, but it has been proved that he was of pure German origin. He was born in 1473 in the West Prussian town of Thorn, which then belonged to the Kingdom of Poland. The scientist's father is believed to have come from Upper Silesia or Cracow, both then predominantly German. His mother's family had lived in Thorn for several generations but is thought also to have come originally from Silesia.

While Copernicus was still a child, his father died and his uncle, a Catholic bishop, looked after the education of the boy. At the Univ-

ersity of Cracow he studied mathematics. Afterwards he went to Bologna, Italy, where he changed his study of church law with studies of the stars. A few years later he studied medicine at the University of Padua. Then he went back to Poland, where he became a member of the cathedral Chapter at Frauenburg. His learning in canon law made him one of the foremost authorities of his land. He found plenty of time to devote to the medical service of the poor. But he dedicated a major portion of his life to the study of mathematics and astronomy. His reputation of being a great astronomer was such that, in 1514, the Lateran Council, con-

voled by Pope Leo X, asked for his opinion on the reform of the ecclesiastical calendar. His answer was, that the length of the year and of the months as well as the motions of the sun and moon were not yet sufficiently known to attempt a reform. The incident, however, spurred him on as he himself wrote to Pope Paul III, to make more accurate observations; and these actually served, seventy years later, as a basis for the working out of the Gregorian Calendar. Copernicus laid the groundwork for his he-



This picture was taken by Rev. Fr. A. v. Gansewinkel, S.V.D. during his last days in the University of San Carlos just before he took over the rectorship of the St. Paul's College, Tacloban.—He tried to catch the sun in the landscape by using a special device for reducing its brightness.

# DO NOT MOVE

liocentric theory between 1506 and 1512, and brought it to completion in "De revolutionibus orbium coelestium" (1543).

### THE COPERNICUS SYSTEM

Prior to the work of Copernicus, (Turn to next page)

it was universally held that our earth is afixed and immovable body, situated at the center of the universe, about which all heavenly bodies are in revolution. To account for the apparently complicated motions of the planets among the fixed stars the so-called 'epicycles' had been introduced. That is, each planet is moving about the circumference of a small circle the center of which pursues a larger circular path about the sun. This older system was devised as early as 140 A.D. by Claudius Ptolemy.

The new system was based on two fundamental principles: (1) The diurnal motion of the heavens is not real, but only apparent, being due to the rotation of the earth on its own axis. (2) The sun remains at rest, while the planets, including our own globe, revolve around the sun. Since Copernicus retained the ancient postulate of uniform circular motion, he was not able to place the sun at the center of any of the planetary orbits. And he had to add a few epicycles to account for certain disagreements between the computed and the observed motions. The new system was then by no means perfect; its harmonious working was disturbed by many grave anomalies. Under these circumstances it is not surprising that the heliocentric theory won its way slowly to being accepted as a truth. It was fully a century after the death of Copernicus before the simplicity of the new theory finally overcame the older, very complicated system of Ptolemy. At the present time many direct observational proofs are available for the essential truth of the Copernicus theory.

#### THE FATE OF PUBLICATION

Copernicus, in 1530, had finished his great work, but hesitated a long time to publish it. His friends who had become interested in the new theory prevailed on him to write at least an abstract for them. Therein he stated his theory in the form of seven axioms, reserving the mathematical part for the principal

### Sanity's Last . . .

(Continued from page 20)

will still be here. Not as an existence, not as matter, not as force, emotion or feeling . . . but love as love, as love is. Immaterial, insensible, incomprehensible . . . without life, without meaning, without purpose — it will be here in its rawest form — untouched and undeveloped by man.

Undeveloped by man's evil mind. What is a mind but a contraption to get a result that is already there. Just like fire. Always hot — never cold — never sweet — always hot — always hot, monotonously hot. Man is stupid to rely on such a foolish machine — man is insane and thoughtless. How could he bear to bear sons with nothing but stupid nothings inside his head to guide him, to teach him — so he could judge for his well-being.

Why couldn't we be more sensible and sane? Why don't we stop everything for betterment?

Stop breathing, stop thinking, stop feeling, stop time by stopping the Sun, stop night, stop dreams, stop love — stop the pelting of water, the warmth of heat. Stop here, stop there, stop tomorrow, stop now . . . stop everywhere . . . stop . . . stop . . . stop . . . stop.

Stop this infernal sound that is wracking my brain so — stop this pain, this painful pain, this painfully painful pain, painful pain, painful pain, painfulpainpainfulpainpainpainpin. Stop this mumble and jumble of words, this rigmareole of endless carousel. Stop this colors and prisms dancing and prancing and dancing and prancingdancing. Stop this pain, this painful pain, this painfully painful pain, thispainfullypainfulpain, thispainfullypainfulpain.

work. This was in 1531; since then the doctrine of the heliocentric system began to spread. But all urging of friends to publish his discovery was in vain until, when feeling the weight of his sixty-eight years, he surrendered his manuscripts for publication. The first copy of the "Six Books on the Revolutions of the Celestial Orbits" was handed to him the very day he died, May 24, 1543.

Fortunately for him, he could not see what Osiander who took care of the publication had done. This reformer, knowing the attitude of Luther and Melancthon against the new system, introduced the word "hypothesis" on the title page, and replaced the preface of Copernicus by another in which Osiander made Copernicus propose the heliocentric theory as a mere hypothesis or mathematical fiction. In addition he omitted the references to Aristarchus which Copernicus had made; this omission brought upon Copernicus charges of dishonest plagiarism. The dedication to Pope Paul III was, however, retained, and the text of the work remained intact.

There can be little doubt that Copernicus was convinced of the truth of his theory. Opposition was first raised against the Copernican system by Protestant theologians for Biblical reasons. On the Catholic side a clear statement about the interpretation of Biblical texts was already made by Nicolas Oresme in the 14th century: The scriptures speak according to a common mode of speech. From the statement in the Bible that the sun was stopped in its course one is no more entitled to draw the scientific conclusion that the heaven moves and that the earth does not than one is entitled to draw from phrases like "God repented" the conclusion that God can actually change His mind like a human being. — For nearly three quarters of a century no difficulties were raised; neither Pope Paul III, nor any of the nine popes who followed him, nor the Roman Congregations raised any alarm. Trouble arose when Galilei proclaimed the truth of the Copernican doctrine with stubborn persistence. Although there were as yet no sufficient proof of the system, no objection was made to its being taught as a hypothesis which explained all phenomena in a simpler manner than the Ptolemaic, and might for all practical purposes be adopted by astronomers. What was objected to was the assertion that

(Continued on page 42)

## STAND, SUN . . .

(Continued from page 22)

Copernicanism "appears to contradict Scripture".

On March 5, 1616, the work of Copernicus was forbidden by the Congregation of the Index "until corrected", and in 1620 these corrections were made known. Nine sentences, by which the heliocentric system was represented as "certain", had to be either omitted or changed. This done, the reading of the book was allowed. In 1758 the book disappeared from the revised Index.

### VALUE OF HIS WORK.

Copernicus was not the first to realize that the apparent movement of the sun from east to west is no conclusive proof that it does actually move in this way. In the 14th century, Oresme drew attention to the fact that Heraclides of Pontus had put forward the hypothesis of the earth's movement. And it seems that Oresme considered the hypothesis of the earth's daily rotation on its axis to meet all requirements better than the opposite hypothesis. In the 15th century, Nicolas of Cusa, Cardinal, stated clearly that both the sun and the earth move, although he did not say explicitly that the earth rotates round the sun. But ordinary observation alone cannot convince anyone of the earth's rotation. As Roger Bacon, the 13th-century Franciscan, had insisted, astronomy requires the aid of mathematics.

(Continued on page 43)

## ABOUT CHAPERONS . . .

(Continued from page 41)



**ROLANDO LEYSON,**  
College of Engineering, says:

A chaperon is a dead hero — and a girl going out with a chaperon is something of a shy lass taken from out of an antique page of history. Which, I might say, is not wholesome at all. We must admit that the *spirit* of culture — or shall we say manners? — does not die with the age, but it must also be admitted that its *expression* changes with the mood and idiosyncracies of the times. In the "good old days" it was unthinkable for a woman to go out alone; it simply was against the moral temper of the day. But as often said, nothing is constant than change. Today, it is proper and fit for a woman to go out alone; after all, nobody can best serve as chaperon other than herself. I dare say, a chaperon spoils the fun and takes out the very purpose of engagement. His presence affords a man an opportunity to be what he is not.

(Continued on page 43)

## CAROLINIANA . . .

(Continued from page 41)

Buddy Qutorio is back. Registrars, Cashiers, Clerks, Mail-clerks, Librarians, professors and especially you, girls, take heed of his column, **On da Level**. Something about him: he doesn't pull his punches.

**What Do You Think About Chaperons?** A question difficult to answer but, at least, one finds fun in answering it. Erasmus Diola has seemed to have stirred a hornet's nest by this quizzer. We'd like to know how you answer this one without detriment to your allowances from Ma.

The way Shirley Evangelista treats 'em **Campuscrats** reminds us of Maria Delia Saguin's lackadaisical mood. Shirley seems to be a neophyte of this university but her qualities (literary and non-literary) simply convinced us (and adviser Faigao too) that she's really fit for campuscratting.

USC has a new basketball coach. Read BQ's **Sportscope** and RG's highball for the **sportsman** for further details. So far, he's doing all right. But how far this will go, we can't say. The team has everything (including jackets and Chuck Taylors) but **discipline**. Somebody seems to have a hard time hinting to **D. Deen** and recruit **E. Michael** that there's only one coach and playmaker in the business who goes by the initials of JA jr. Spare the rod, and spoil them children **Maestro!** Another thing: not all of the credit however, goes to JA jr. and the jackets, — Lauro Mumar (if that name means anything to you) also has to be given a lion's share on the job of whittling these ball-upstarts down to size.

Take the first "t" from **TRIOT** and what do you have? **RIOT**. Take the last "t" but retain the first. The word? **TRIO**. Try reading pages 38-39 and you'll know why the last letter "t" was added to the **triot**. Some cornball, huh!

Come October issue, the red pencil will have new fingers for its master. It was great knowing you, **Carolinian**.

## ROSS COVER'S . . .

(Continued from page 30)

On this business the umpires, gatekeepers, oafs, louts and self-styled experts are your colleagues. They give you the dopes; know who's going to fade out this year, throw you out of the gym or cry upon your shoulders. Fans yell the loudest when that bonehead of a writer doesn't include their bean-poles in his make-up. From day to day you rub against strange people. You have to be on constant guard against mental infection and collapse of the brain cells. A wag once told me he rates the ref just one notch below his most hated human being. So if people like me aren't careful they'll find themselves one day carrying a cane and sporting dark-colored glasses. A series of disintegration would set in and six moons later you could kick him on the seat of the pants to the gutters.

## STAND, SUN . . .

(Continued from page 42)

Copernicus with his great mathematical ability made his lifework a success. Commencing his labor at a time when the belief in the immobility of the earth was universal, he conceived the idea of its motion, and pursued it with unwearied diligence, nor for a few years, but through the greater part of his life, constantly comparing it with the appearances in the heavens. All these observations he did a hundred years before the invention of telescopes, with imperfect wooden instruments. That is the scientific value of his work, to have opened the gate of the heavens by his precise and steadfast pursuit of the celestial phenomena, observationally and mathematically.

Kepler, the great countryman of Copernicus, has described his character in the following words: "Copernicus, vir maximo ingenio, et quod in hoc exercitio magni momenti est, animo liber". Vir maximo ingenio — his genius appears in the fact that he grasped the truth centuries before it could be proved. Animo liber — at the beginning of Book One Copernicus himself reveals to us: "A property of all good arts is to draw the mind of man away from vice and direct it to better things; these arts (i.e. astronomy and mathematics) can do that more plentifully on account of the unbelievable pleasure of mind which they furnish. For who, after applying himself to things which he sees established in the best order and directed by divine ruling would not through contemplation of them, and through a certain habituation be awakened to that which is best and would not admire the artificer of all things, in whom is all happiness and every good? — That was the intention of his labor that is the moral value of his work, the glory of God.

## ALUMNI CHIMES . . .

(Continued from page 28)

are not certain but someday we'll see him in the arena of politics. Last word from St. Joseph College, Maasin, Leyte has it that Miss Presentacion Garde is marrying the National tongue out there. This is something for one of the personnel in our Registrar to crow over. Well, good luck to you Sing. . .

AUGUST, 1955

## ABOUT CHAPERONS . . .

(Continued from page 42)



### ESTRATONICA TAN,

College of Commerce, says:

It is true that a chaperon sometimes spoils the fun, but it is also unimpeachable that more often than not he or she plays an important part in whipping our morals into line. As we see, even angels can be tempted.

Having a chaperon along has its merits and demerits. For instance, gossip is minimized, if not all done away with. Occasion to sin is eliminated and our parents who are usually left at home do not have to worry as regards our personal safety. Of course, chaperons are kill-joys no matter how you look at them. But one should also consider that joy is not always the solitary motive behind every date.

## ANYTHING YOU SAY . . .

(Continued from page 45)

Dear Editor:

I beg to disagree with Mr. Fabroz' "On Women's Hitch-Line" in the March 1955 issue of the Carolinian. I can't subscribe to his ideas. His contention that women nowadays are in a hand-to-mouth state of hooking a man (what a phrase) because they don't know their do's and don't's is unfair.

Why refer it to all women? Why not speak of those who have lowered considerably our social standards, instead? There are those whose faces are as saintly as Mona Lisa's but whose whereabouts reveal exactly the opposite of what their faces ought to reflect. This could have been the appropriate subject for him to break into print.

I believe Mr. Fabroz was only motivated by his desire to attack women for revenge. He must have been the victim of an unattained desire. Can't you be patient for a moment, Sammy? Remember: "the greater the conflict the more glorious the triumph."

NATY ILAO, College of Law

It's your right to disagree. — ED.

## GRADUATE SCHOOL FORMS CLUB

In a meeting held by the Graduate School teachers and students last July 17, the first Post Graduate School Club was formed. Fr. Cornelis van der Linden, S.V.D., the Dean of the Graduate School; Fr. Joseph Baumgartner; Mr. Alfredo Ordoña; and Mr. Sesinando Buot were among those present. Fr. van der Linden gave a short talk followed by the election of officers. Officers elected are: George Sy-chuan Guy, Praeses; Lourdes R. Quisumbing, Scriba; Esperanza Manuel, Press Relations Officer.

Man

He stands —

tough and gentle . . .

A powerful being — yet, weak in  
itself . . .

He sits —

an uncontented being . . .

a King all his own . . .

A Ruler — yet, Woman-ruled . . .

He walks —

proud with every step . . .

humbler with each defeat . . .

A mass of Atom Clay — the Man!

By:

ELSIE JANE VELOSO