Center tribute of Jesuit genius

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To be able to gather all the data they need, the Manila Observatory has a host of sensitive instruments. A majority of these are electronic equipment.

These equipment do not come complete as they are. Even if they were available as such, the cost is more than what the Observatory can afford. The Manila Observatory, it must be known, is a private research enterprise.

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Of course, it gets support from foundations and some help from the governments of the Philippines, the United States and the United Kingdom. But basically it is a private non-government institution.

Most of the equipment in use are "developed and fabricated" in the observatory electronics shops. The

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instrumentation of the different laboratories is a tribute to what genius can do with junk and surplus material. It is true. Some of the instruments in use were practically picked up, reconditioned and put together to form intricate equipment virtually from the salvage heaps of Clark Air Force Base.

Some of the basic instruments like the ionosonde are on loan from the US government. But Fr. James J. Hennessey, the director, almost rubs his hand with a miser's glee when he points to a roomful of varied equipment and spare parts, mostly junk, which he and the tireless staff will fashion into instruments of their own invention and development.

For example, just outside the door of the electronics shop, is a dismantled surplus searchlight. The lenses and the lighting assembly has been removed. It has been replaced with circular grill of iron bands. Looking at it now it is unadulterated junk.

But this hunk of rusting steel is going to be a radio telescope. This instrument gives the earthbound scientists a wider window with which to view space. With the optical telescopes, he can only see the light radiations from the sun. With the radio telescopes, he may scan the radiations from outer space and the so-called radio universe.

It was radio telescopes that enabled scientists to learn that meteors are as much prisoners of the so-

veries of heavenly bodies never suspected before. Cygnus A, for example, one of the strongest radiation emitting stars, was barely discernible through regular optical telescopes.

It's location was pinpointed by a radio-telescope which detected its radio emissions. The radio telescope actually guided the optical telescope where to look for Cygnus A.

Radio telescopes become more important because it has been found that hydrogen atoms, which are the basic components of most stars including our sun, emit radio waves with a wave-length of 21 centimeters. With the study of these emissions, radio astronomers were able to map out the distribution of hydrogen (and matter) in our galaxy and its movement in space. This is how we learned that the Milky Way, our own galaxy is spiral in shape.

As said earlier, the Manila Observatory helps in the gathering of geophysical data which it sends out to AGIWARN, the compiling center. In return, it also receives data from observatories all over the world. And it is open to any body interested in scientific research. There is a special reading room and a sound-proof room for researchers provided with typewriters which they could use in taking down notes without disturbing the readers.

A research library, it specializes in physics and applied mathematics. Its books on math occupy a shelf as three men and stretching the length of a room — some 15 me-