

# Problems of Scientific Work in the Philippines

By LEOPOLDO B. UICHANCO  
*Dean, College of Agriculture*

In greeting the College of Forestry on its Emerald Anniversary, I cannot escape entertaining a feeling of possessiveness. We are familiar with the fact that this College had its inception in the College of Agriculture, when on June 12, 1910, it was created as a department of the latter. For six years, until April 1, 1916, this unified existence obtained. The College of Agriculture during that time was not merely playing host to Forestry, for Forestry was part and parcel of its being. It is a source of pride to recall that, as pointed out by Dean Copeland, Forestry then constituted the strongest department of the College of Agriculture. Incidentally, the two earliest graduates with the degree of Bachelor of Science in Forestry are not alumni of the School or College of Forestry but of the College of Agriculture.

Although separated for some thirty-five years, in a sense that separation has been mainly physical. In fields of interest, zeal to maintain a high level of scholarship in both the faculty and students, free exchange of information and facilities and in numerous other ways, the two colleges, together with the Division of Forest Investigation of the Bureau of Forestry, have many things in common. Instinctively members of a particular unit have felt that they share with the other units common satisfaction or grief in any success or failure that may be met with, as well as common responsibility to carry out and make effective the duties for which each unit was created.

One of the most noteworthy features which from the beginning has characterized our community in Los Baños has been the emphasis placed on active prosecution and pro-

ductivity in research. The spirit has been inculcated in our youngest students from the time they enter the gates of our campuses. The result is that our community has come to be recognized as a strong center of research in the Philippines and has become favorably known by its output all over the civilized world. An impartial analysis of the contributions in the natural sciences from the different laboratories of the Philippines as well as membership of the workers in selective scientific organizations here and abroad will readily make patent the standing of our community in the sphere of research. No claim is, of course, implied for any extraordinary ability or special attribute that would set workers in Los Baños apart from other workers in the country. If any factor is to be singled out, credit, I am sure, more properly belongs to the tradition set by earlier workers such as Copeland, Baker, Fischer, and Curran and the prevailing atmosphere which puts a high premium on research and creative scholarship. The happy situation certainly is one that calls, not for self-congratulation, but rather for added determination that we do not waver in the task which we find imposed on us and which we owe it not only to the country but also to the world at large to keep unabated.

What little contribution was made in science during the three centuries of Spanish occupation of the Philippines was largely either by resident Spaniards or by chance visitors among foreign scientists. Filipino participation was almost nil, because the native element was either discouraged or purposely kept out of scientific work. The earlier decade of the American regime introduced little or no improvement, when near-

ly all responsible scientific positions were occupied by Americans, with no opening for Filipinos except that of laboratory technician or field collector. A shining exception in those days, however, was our community in Los Baños, where Filipinos were purposely trained and actively encouraged by the American administrators to assume responsible participation as fast as they were prepared. The important part that American research workers made in promoting scientific growth was, and still is, generally acknowledged and appreciated. At the same time, it was realized by the Americans themselves who were in charge at Los Baños that it was not for the best interest of science to pursue a policy of exclusion, whereby the great reservoir of prospective research manpower in the native material should remain untapped.

The accusation is sometimes voiced in certain quarters that agriculture is the enemy of forestry. In the Philippines to be sure the charge finds justification, where forests are ruthlessly sacrificed, particularly through the prevalent practice of *cañgin* agriculture. The combined effect of some hundred generations of man's activities in clearing the land to plant his crops has, as is generally known, resulted in the devastation of about half of the original forest cover of the country. The destruction is unfortunately still going on and, it is feared, at an even more accelerated pace during and after the last world war. It is difficult to realize that the small regard and even active antagonism of our people toward the forest is apparently ingrained, as witness, for instance, the following classical lines from the prince of Tagalog poets, Francisco Bal-tazar:

“Malalaking kahoy ang inihahandog  
 pawang dalamhati, kahapisa't lungkot,  
 huni pa ng ibon ay nakalulunon  
 sa lalong matimpi't nagsasayang loob.  
 “Tanang mga baging na namimilipit  
 sa sanga ng kahoy ay balot ng tinik,  
 may bulo ang bunga't nagbibigay sakit  
 sa kangino pa mang sumagi't malapit.

“Ang mga bulaklak ng nagtayong kahoy  
 pinakapamuting nagungos sa dahon,  
 pawang kulay luksa at nakiki-ayon  
 sa nakaliliyong masangsang na amoy.<sup>1</sup>

Ancient traditions and beliefs make the forest the haunt of evil spirits and impute to it the origin of miasma that produces fever and insects that plague the farms. The forest is an unfriendly place to be shunned or to be cut down and burned to give way to cultivated crops. Every forester is all too familiar with the cumulative effect of this widespread popular antagonism in the waste presented by unprofitable cogon growth gaining mastery over about ninety per cent of the clearings, with man succeeding in holding permanently under cultivation barely six per cent of the land he had devastated. Despite warnings issued incessantly from informed quarters, public consciousness has not fully awakened to the resulting evils of flood and soil erosion, to say nothing of the valuable forest resources wantonly squandered. Scientific agriculturists are well aware of this important question, with which they feel that they too are vitally concerned. They recognize likewise, that many of the problems of forestry are to a greater or lesser extent equally the problems of agriculture.

Forest studies and research concern themselves with the great problems of restoring the forest cover on the vast cogonal wastes and conservation and wise utilization of existing forests. Also, the rich

<sup>1</sup> The following is a translation:

The lofty trees bring naught  
 But pangs of poignant pain,  
 Even songs of birds weigh on  
 Merry souls that care disdain.  
 And the bough-entangling vines  
 Are with prickly arms beset,  
 While their prurient pods make ill  
 Daring men who close may get.

Borne amidst the foliage lush,  
 The gloomy mass of woodland bloom  
 Seems funeral and in tune  
 With its noxious breath of doom.

wealth in species found in the Philippine forests represent many forms which, quite aside from their purely biological interest, are of great actual or potential value in numerous ways other than as raw material for lumber industry. A question was once asked by a foreign visitor whether it is true that among the wild plants of our forest there are at least 85 species which are good possibilities for agricultural exploitation if brought under cultivation. There are probably many more than that number, and they will doubtless be adopted by the Filipino farmer whenever the demand is sufficient to warrant the venture. A case in point is the recent request from several sources in the United States for seeds of local species of *Strophanthus*. Considerable interest has been aroused by the discovery in the United States that the seeds of an African species of *Strophanthus* offered a promising source of the scarce new drug, cortisone, which holds bright hopes as a cure for arthritis. Upon receiving the request, Professor Mabesa lost no time to locate these plants in the forest and watch them so he could gather the seeds when these are ready to harvest. In the meantime accounts of *Strophanthus* and cortisone were reproduced in the local press, a certain section of which went farther and asked editorially what the Filipino scientists were doing and why they were not working on cortisone. This instance is cited as a good illustrative material on how scientific problems should or should not be handled.

A noteworthy feature of scientific work is the spirit of co-operation prevailing among scientists in the way of assistance in material or information, often resulting in mutual advantage. The fact that cortisone can be produced from the seeds of *Strophanthus* is already known. Whether the discoverer is an American or a Filipino is immaterial to that knowledge. To do the work here over again and thus have Filipino scientists do something about it would be putting us in a situation such as that delight-

fully told in a Russian drama. A man was proudly displaying an umbrella and proclaiming to all who would listen that he was its inventor. "No," protested one of his friends, "That can not be true; the Chinese had first invented the umbrella ages ago." "Well, then," countered the man, unabashed, "in that case, I am the first one to invent the umbrella for the second time."

As to whether seeds from the Philippine species of *Strophanthus* would yield cortisone in worthwhile quantities is still to be determined. Laboratories are already functioning in the United States with experienced men trained to do this work, who have expressed their desire to do that there. We have so many peculiarly local problems demanding solution and so little money to undertake the work with, that there is no excuse in going to the needless expense and trouble of duplicating activities that others are already doing, and, because of their superior facilities, are doubtless doing better than we ever can. Pertinent to this matter is a remark made by the chairman of a visiting chamber-of-commerce group from the United States. In expressing his gratitude for their being treated to bibingka, puto, lumpia, and other characteristic Philippine delicacies, he observed that "in Manila, we were always given American food. We had to travel a long way to the Philippines only to get the same meals as we used to have at home but which American cooks could prepare a great deal better."

The criticism voiced against Filipino scientists that they are not sufficiently productive is a chronic one. It applies not alone to scientific workers in forestry and agriculture but it is a disquieting indictment of Filipino scientists as a whole. This unfortunate state has for its root cause a number of factors, some of which reside in the Filipino scientists themselves, who, it is sad to admit, must shoulder part of the blame. A very serious deterrent, however, is lack of public support particularly on the part

of those in whose hands lies the responsibility of guiding and directing the affairs of the nation. The lack of appreciation, which stands out strongly by contrast with many of the other enlightened countries, has worked very effectively to starve our Philippine scientific institutions. For years our laboratories have suffered from want of nourishment in the form of adequate material and facilities. Good scientists have left for more satisfying jobs and the scientific career has been in danger of becoming of little attraction to promising young men and women. In the years following the last world war, particularly after the Philippines was granted its independence, the country has been making brave efforts to rise again from the ravages left. The government has under way gigantic programs for economic rehabilitation, among the high spots of which are to make the country self-sufficient in food and other prime necessities, increased production of export commodities, utilization of water power, and industrialization. In these various undertakings, we are facing a highly competitive world, where the most successful nations are those who have leaned heavily on scientific assistance. To this end,

they have liberally supported scientific work and encouraged research activity in every way possible. As a consequence, their investment in science has paid high dividends. In their well-supported laboratories, there has been little or no occasion to complain of barrenness in scientific output. Because of their large appropriation, they can afford to hire and keep in the service the most able and highly trained scientists, who devote full time and attention to their work, because they find no necessity to add to their salary by taking up part-time employment, such as teaching in private schools and colleges. Also, because they are provided with adequate facilities, these scientists can do research in a more thorough way and dig deeper into the fundamentals. They do not have to restrict themselves to routine studies or to make up for lack of data by wordy dialectics. We may well recall at this juncture Samuel Johnson's stricture, "As the Spanish proverb says, 'He who would bring home the wealth of the Indies must carry the wealth of the Indies with him.'" So it is in traveling; a man must carry knowledge with him, if he would bring home knowledge."

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#### MONUMENT TO JOHN MUIR

Behind him he left for monument not only his nine books so full of free-flowing religion of nature but the trees themselves, millions of them, standing in the national forest today because John Muir started the long fight for their protection.

Because of John Muir, millions of Americans yearly enjoy national parks that might otherwise have become places of tawdry show, or spots despoiled by saw and mine shaft. Patriots we have had who died to defend their country as a nation. Muir saved it as part of the world God made; he saved the beautiful face of America. As long as the waters rush over the great stone palisades of Yosemite, as long as the tanager sings there in the safety of the treetops, there will be grateful praise of him.

—DONALD C. PEATTIE



#### WHEN THE WILD FLOWERS BLOOM

In the vast and sparsely inhabited Yukon Territory of Canada, just south of Alaska, summer begins about the middle of May. It is a warm and pleasant season. The winters are usually hard and cold, with temperatures sinking to fifty and sixty degrees below zero. During the winter the Indians of this region live in tightly closed hide huts or in earthen houses, the women attending to handicrafts and the men coming out only to hunt or fish. When summer returns, wild flowers brighten the landscape, birds flick across the skies and fox and marten, wolf and bear roam the woods again. The Indian mothers bring their infants out to show them that the world is more than semi-darkness in a smoke-filled hut. The child learns, sitting in the sun and breathing the fresh air, that the world is bright and good, and even in these rocky wilds, abundant enough for growth and strength.

—CORONET

