card and book bibliographies, will it be possible to complete more and more the card bibliography, the value of which has been explained above, without having to meet difficulties concernnig the solvency of the subscribers. Such a time will come, and it will then be a great advantage for zoologists and general biologists to find a card catalogue ready for them, going back over thirty and forty years, as is that of an institution which the British scholar Stephen Gaselee in his "Petronius Bibliography" (Transactions of the Bibliographical Society of London, 1909) called "the zoologist's wonderful Concilium Bibliographicum," regretting that they had no such institution in letters.

In the meantime the value of an institution like the Concilium Bibliographicum consists in the consideration of the above-mentioned anticipatory and preventive functions of bibliography and in the maintenance of a continuity which in this domain is of more value than in any other.

J. STROHL,
Director of the Concilium Bibliographicum
ZURICH, DECEMBER, 1925

CARLOS WERCKLE

COSTA RICA has been favored by nature beyond all other parts of Central America, and she has been fortunate also in the development of her resources. Secluded in her upland valleys, which are fertile and temperate, and possess a climate almost ideal for human existence, she is barred on the north from the rest of Central America by high mountains and uninhabited lowlands, and from Panama on the south by a still higher chain of mountains, and by almost impassable forests. Secure in her economic position, Costa Rica has been little affected by the occasional turbulence of outside politics, and has been able to develop in peace and independence.

As one result of this happy state of affairs, more attention has been devoted to education in Costa Rica than elsewhere in Central America. Here there have lived and still live men of eminent scientific achievement, who have made signal progress in the study of the natural features of Central America. It would be erroneous to infer that there has been no progress in other Central American republics; but Costa Rica, as her neighbors are the first to acknowledge, has made greater contributions to science than any of her sister states.

In large part this advance is the result of the residence in Costa Rica, for long or short periods, of foreigners with scientific interests. Among these may be mentioned such men as Frantzius and Polakowsky, of the middle of the nineteenth century and later, and the famous Danish botanist, Oersted. At the end of the same century definite plans were adopted for improving the public school system of Costa Rica, and several Europeans, chiefly Swiss and French, were employed by the government, and resided in the country, some of them for many years. Chief of these, from a botanical standpoint, were Henry Pittier, who published numerous papers dealing with Costa Rican botany, Pablo Biolley and Adolfo Tonduz. The last collected more specimens of plants than any collector who has worked in Costa Rica and to his labors are due in very large part our actual knowledge of Costa Rican botany.

The Costa Rican government believed that with the encouragement gained by employing European teachers and scientists it would be possible to stimulate in its citizens an interest in pedagogical and scientific matters, an assumption that has been fully realized. The country has developed a superior system of public schools, and there have been educated a considerable number of men who have made their mark in the scientific world. Among those of the present generation who are interested in botanical as well as in other branches of natural history may be named Anastasio Alfaro, Alberto Brenes, Rubén Torres Rojas, Otón Jiménez and Juvenal Valerio, all of whom have performed excellent work in the botanical field and have tried to instil in others an interest in natural history. It may now be expected confidently that in Costa Rica natural science will become self-perpetuating, a condition highly to be desired for all the Central American countries.

One of the men of European birth whose name will ever be associated with Costa Rican plants was Carlos Werclé. Born at Wiebersweiler (Vivverville), Arrondissement de Chateau-Salins (Department Meurthe), Lorraine, in 1860, he emigrated to Costa Rica about 1890. Regarding his personal affairs he was always extremely reticent, and no information is available concerning his early life. He was very proud of the fact that he was a German subject, and during the late war is said to have stated always that he was a German. This attitude will be appreciated by those familiar with conditions in Central America during and after the war, when there were no Germans to be found, but only Swiss, Alsatians or Dutch.

There is no doubt that Werclé received a good education, and he was evidently a man of exceptional native talent. He spoke English with great perfection and fluency, likewise Spanish, French and German, and he is said to have read Latin, Greek and Hebrew with ease. His skill as a cartographer was utilized by the Costa Rican government upon more than one occasion.

Wercklé arrived in Costa Rica in company with a sister, and went to Cartago, where he engaged in the growing of flowers and vegetables. One of the most delightful features of the Costa Rican towns is the great number of gardens where flowers are grown for market. About San José there must be dozens of them devoted to growing such flowers as roses, gladioli, dahlias, carnations and callas, as well as orchids and other less common sorts. It is surprising to a visitor to learn that there is a market for such large quantities of cut flowers, in even the smaller towns, and to see how lavishly they are used. Upon the occasion of the funeral of a prominent man a dozen or score of carriages will be filled with wreaths and other formal pieces.

Many of these gardens are conducted by foreigners, and it was such a *jardinería* that Wercklé established. Later he moved to the capital, where he remained for most of his residence in Costa Rica.

He visited many parts of Costa Rica in study of the native flora, for he seems to have had a deep natural love for plants. He explored the most remote mountains for rare species, and carried in his head a wealth of intimate and curious detail regarding them. Orchids were perhaps his favorites, and at the home of Dona Amparo Zeledón, in San José, he brought together a rich collection of them, from which many new species were described.

As a collector of herbarium specimens Wercklé did not distinguish himself, although it is true that a good many specimens of his collecting are found in herbaria. His favorite way of preserving an interesting plant was to roll it into a bundle and stuff it in a pocket, where it remained indefinitely. It is thus only too easy sometimes to recognize in the herbarium his specimens, without even looking at the label. Another group that appealed to him were the Bromeliads, one of the most fascinating families of Costa Rican plants, about which we have only fragmentary knowledge. Bromeliads are well adapted to this sort of collecting, and a number of new species have been based upon Wercklé's specimens.

Horticultural subjects had perhaps the deepest appeal for him, and he took a delight in introducing into cultivation new plants and in performing experiments in their culture. Last year at El Coyolar, on the Pacific slope, where he lived for some time, I saw about the house he occupied numerous trees that he had grafted. Noteworthy, too, were some curiously grafted cactus plants that still survived, in spite of neglect.

Wercklé was not a voluminous writer upon botanical subjects, but among his articles may be found one upon the Bromeliaceae of Costa Rica (*Torreya* 1, 146, 1901), notes upon edible fungi and observations upon orchids. His most pretentious work was entitled "La Subregión Fitogeográfica Costarricense," a large octavo pamphlet of fifty-five pages, published at San José in 1909. In this he gives a vivid picture of the phytogeography of a highly interesting area of Central America, based upon first-hand knowledge. He is reported to have prepared two general works upon botany and agriculture, with special application to Costa Rica, but these manuscripts were lost and efforts to find them have been unavailing.

A correspondent has written the following concerning his other interests:

> He stated to me that his work as naturalist was of no importance in comparison with a piece of philosophical investigation that he had begun at a very early age, which would fully justify his mission upon earth. It was called "The Philosophy of the Absolute," and was written in German. But once, after a prolonged period of dissipation, he learned to his great grief that his manuscripts had been stolen from his room and sold to a *pulpería*, where they were used for wrapping soap and candles! Now that he no longer had any object for which to live, since he was too old to rewrite his work, he stated that he hoped to die as quickly as possible, and this end he sought through the agency of alcohol. A rare method of applying to himself his own philosophy!

Perhaps it was the lack of dependents that robbed him of a sense of responsibility, else it is hard to understand how a man of such natural ability and sensibilities could give himself so completely to dissipation. During the last years of his life his surrender was complete, and only a hardy constitution could have resisted so long and so well the indignities to which it was subjected. Even shortly before his death Wercklé was a man of striking appearance, strong and well built, and showing little outward effect of his indulgences. Yet at this time he had only one interest, a passion for drink. His abandon was not the result of lack of friends, for he had numbers of them, and influential ones, who did everything in their power to assist and restrain him, even resorting to forceful measures to this end; but all this availed nothing. He died suddenly on November 24, 1924.

To the northeastward of San José runs the old cart road over which freight and travelers from the Atlantic Coast passed when the Atlantic railroad had its terminus at Carrillo. The road climbs the central Cordillera by the pass of La Palma, a classic locality for plants, in a gap between the volcanoes of Barba and Irazú. Beside this highway, as it descends the Atlantic-ward slope, along the dashing stream called La Hondura, there are thickets of a

handsome tree of striking appearance. Even over on the Pacific slope there appear here and there along the road individuals of these same trees. Sometimes they stand so close to the road as almost to strike a passing rider. The trees have large round leaves and beautiful pale pink flowers, of the size and of much the same form as hollyhocks. How is it to be explained that for two generations people have been riding along this road, where practically every botanist who ever visited Costa Rica has passed, yet none of them ever noticed these showy trees? At any rate, until Wercklé, no one called attention to them, and he was the first to obtain specimens.

A few years ago this plant was described by Mr. H. Pittier and the present writer as a new genus, *Wercklea*. The La Palma species was called *Wercklea insignis*, and it is found not alone at this locality, but at other places of similar altitude. Not far away, at Las Nubes, on the slopes of Irazú, occurs a second species of the genus, discovered by Mr. C. H. Lankester and described as *Wercklea lutea* Rolfe. This latter plant is very similar in habit, a slender tree with large round leaves, the blossoms equally showy, but yellow.

Of all the many unusual plants that make the Costa Rican flora such a fascinating one, none are more notable than these two trees that compose an endemic genus. It is altogether fitting that they should commemorate the name of this erratic botanist whose explorations revealed no small number of the plants that compose the flora of Costa Rica.

PAUL C. STANDLEY

U. S. NATIONAL MUSEUM

SCIENTIFIC EVENTS

THE RUMFORD FUND

THE American Academy of Arts and Sciences received in the year 1796, from Benjamin Thomson, Count Rumford, a fund, which has since been named the Rumford Fund, in aid and recognition of researches in light and heat, branches of science to which Count Rumford had notably contributed during his eventful career.

The American Academy constituted in 1833 a standing committee of seven fellows, to supervise the trust created by Count Rumford. More than fifty scientists have served on this committee at different times since that date. The committee recommends to the academy, from time to time, the award of the Rumford premium to distinguished investigators in light and heat. It also receives and deals with applications made for grants from the income of the fund, in aid of researches in light and heat.

Since 1839, the academy has made thirty-two awards of the Rumford medal or premium. It has also made more than 260 grants of money to researchers, nearly 120 in all, in amounts varying between $25 and $750, but averaging about $260 each. These grants have been for apparatus, material or experimental equipment. They are also made towards costs of printing in the publication of researches. Only in very rare cases, however, have grants been made towards the payment of assistants in carrying on such researches.

The subjects of research that have been aided by the Rumford Fund are (1) light and (2) heat, both from the radiant and non-radiant viewpoints. More recently, the subject of X-rays have been accepted as coming within the scope of the fund.

Recipients of grants for investigations are expected to report annually to the committee, on the progress of the work in aid of which the grant was made.

Researches carried on with aid from the Rumford Fund may be published in any place or form, with the proviso that due recognition be made in the publication, of the grant from the Rumford Fund of the American Academy of Arts and Sciences. It is also expected that a complete copy of every such publication shall be presented to the academy, for its library.

Persons making application for grants from the Rumford Fund are requested to inform the committee of any similar applications, made by them, for grants from other funds, in aid of the same research or of related researches.

Applications for grants should be addressed to the chairman of the Rumford Committee, American Academy of Arts and Sciences, 28 Newbury Street, Boston. Such an application may be made by any duly qualified person in North America, or in any of the American islands. It should specify the nature of research and the particular aid desired.

A. E. KENNELLY,
Chairman of the Rumford Committee

THE NEW METALLURGICAL LABORATORIES AT THE PITTSBURGH EXPERIMENT STATION

THE new metallurgical laboratories of the Pittsburgh Experiment Station of the Bureau of Mines, Department of Commerce, were formally opened on the evening of January 26. Members of the Metallurgical Advisory Board of the Carnegie Institute of Technology and the Bureau of Mines and others prominent in the mining and metallurgical fields were present.

The new metallurgical laboratories are the outgrowth of an agreement made in 1923 under which Carnegie Institute of Technology appointed an ad-