fruit and a seed? Between simple, aggregate and multiple fruits? 5. Give examples of accessory fruits. What tissue comprises the edible part of each? Chapter VII has the following questions: 2. What are the distinguishing features of true bulbs? 3. In what way does a true bulb resemble a dormant bud in structure? 14. How do the sweet potato and the Irish potato differ in structure?

Those of us familiar with duplications in agricultural college courses can readily see from the nature of the questions cited that students will have had the same questions asked in general botany and elementary horticultural courses before they get to a special course on propagation. Though the criticism is offered, the reviewer knows no solution. Books on "Floriculture," "Pomology," "Vegetable Gardening," etc., usually carry a chapter or more on propagation of plants involved in the particular field. Whether or not such conflicts can be ironed out the reviewer is unable to say.

This book has a large store of compiled information, and the authors have made an effort to bring it up to date.

P. W. ZIMMERMAN

BOYCE THOMPSON INSTITUTE

INDIAN CORN

The Origin of Indian Corn and Its Relatives. By P. C. MANGELSDORF and R. G. REEVES. 315 pp. 93 figs. 40 tables. Texas Agric. Expt. Sta. Bull. 574. 1939.

LIVING in an obligate relationship with man and having covered its evolutionary tracks most successfully, the Indian corn plant presents an unusually interesting problem of origin and relationships. It is undoubtedly closely related to the two American grasses, *Tripsacum* and teosinte, but the exact relationship is obscure, and the picture of the wild ancestral form is wholly theoretical.

One theory makes teosinte the ancestor and assigns to the Indian the role of plant breeder, another has corn, *Tripsacum,* and teosinte develop from a common ancestor; and a third proposes a hybrid ancestry between teosinte and some other grass of hypothetical nature. Each of these has some shortcomings, but none of them can be entirely disproved.

By an ingenious technique, Mangelsdorf and Reeves have hybridized corn with *Tripsacum,* and the nature of the hybrid, supplemented by other data, suggests to them that teosinte originated, probably very recently, from a natural cross between these genera. The technical analysis, full details of which are given in an excellent manner, shows a close relationship between the characteristics of the various segregates and the presence of certain *Tripsacum* chromosomes, and teosinte is pictured as essentially corn to which certain genes of *Tripsacum* have been transferred.

This removal of teosinte from consideration in any ancestral relationship extends the possibilities as to the place in which corn originated, and attention is again turned to South America, where the highly developed agriculture of the Incas and the reports of early explorers are thought to afford promising evidence.

This addition to our collection of theories about these plants makes full use of important new data but does not necessarily preclude any of the older theories. It hardly fulfils the implication of the title of the book, for it adds nothing to our knowledge of the wild corn plant except to cast some doubt upon the claims of teosinte. To assume, as this theory does, that pod corn is the most promising lead back toward the wild ancestor leaves us exactly where we have been for a long time. Pod corn has primitive characters, but it is difficult to know whether they represent original or derived conditions, and, at best, it is not sufficiently different from the naked-fruited varieties to answer the requirements of the self-supporting wild plant.

PAUL WEATHERWAX

INDIANA UNIVERSITY

REPORTS

A STATEMENT TO THE BOARD OF TRUSTEES OF THE MUSEUM OF SCIENCE AND INDUSTRY, CHICAGO

FACED with a demand by the newly elected president of the Museum of Science and Industry for my resignation, a demand which he termed "irrevocable," I prepared the following statement dated August 22 for the Trustees for their meeting of August 26, 1940. Letters in regard to my appointment to the directorship are omitted and several minor alterations in the text have been made. Deletions are in general indicated by leaders, additions by enclosure in brackets.

Since 1 May 1937 I have served as director of the Museum of Science and Industry with singleness of purpose toward its welfare. I have held steadfastly to the aim that its exhibits should show primarily the dependence of our modern civilization on science and on its application in industry. Not only that this understanding be driven home, but that there should be clear presentation of the methods by which science approaches its problems, the attainments, the methods of application, the way of progress, what problems are pressing for solution. Moreover that there should be created an atmosphere of vivid alertness and inspiration.

This purpose was held in view as the interior construc-

tion progressed, it is woven into the very structure of the building. The theme is epitomized in the legend at the base of the great central dome: "Science Discerns the Laws of Nature—Industry Applies Them to the Needs of Men." It appears also in the panels of the great doors at the main entrance and in the sculptured plaques in the entrance lobby, conceived by the director, developed by staff members, and executed by staff artists. Inspiration may come also from the names of great men of science, invention, industry, which appear as a decorative frieze about the whole length of the four great halls. Throughout the whole Museum, in every hall, the plan is revealed in clear-cut exhibits of meticulous scientific accuracy, many visitor-operated, and many of high artistic merit.

Naturally, in the last three years the expenditures have mounted for, first, the operating part of the Museum was moved from the unfinished central section to the West Pavilion, then, with the completion of the building, space became available for the definitive installation of exhibits. Shop crews were greatly increased; additional carpenters, machinists, electricians, painters, laborers, were employed. Also, the number of demonstrators was increased, and additions were made to the boiler room crews, and to the force of janitors. Purchase of furniture and fixtures and equipment, of special exhibits, such as The Periodic Table of the Elements, services to exhibits (electricity for light and motors, gas, compressed air, water, drains) hundreds of feet of exhibit cabinets and supports and railings added to the cost.

Every dollar spent has been most carefully considered. Every major project was reviewed with Mr. Dawes before it was taken to the shop or placed with an outside contractor. And may I say also that all work, as it proceeded, met with Mr. Dawes' approval. In no Quarter did expenditures exceed budgets authorized in advance by the Trustees. As a matter of fact, each *approved* quarterly budget of the last two years exceeded actual expenditures by a margin of some thousands of dollars. Now that preparations are nearing completion, the major items of furniture and equipment purchased, the budgetary demands could be sharply reduced. The figure for the current quarter is $33,000 less than that for the previous quarter; this clearly indicates the trend. [The money outlay in the months when a house is being built and furnished exceeds the cost for a like period of occupancy.]

The minimum annual budget figure that I had considered is $275,000. I reviewed a summary based on such an estimate with Colonel Sprague, vice-president, then acting president. This entailed reduction in salaries, my own most of all both in amount and percentage, and some reduction in staff, but with a curator for each department, and library open. A figure of $300,000 would have avoided serious cuts in salaries except for a few of the administrative staff, and would have permitted a more ample corps of demonstrators.[1]

But now, just as the Museum was on the final lap of its preparations, when it seemed most essential that the staff should put on the final spurt, the situation has completely changed.

[1 This sum is within a reasonable span of the expected income from various sources. The existing cash reserve could bridge the gap for from six to ten years under the moderate scale of operation. In that time the Museum would have amply demonstrated that it merited support.]

At a meeting of the Trustees of 16 May 1940, Lenox R. Lohr was invited to become president of the Museum Corporation, at an annual salary of $25,000.

At a meeting of the Board of Trustees of 11 July 1940, Mr. Lenox R. Lohr was ". . . elected President of the Museum of Science and Industry to serve until the next annual meeting of the Board of Trustees and until his successor is duly elected and qualified, at a yearly salary of $25,000, said salary to be paid from the Special Promotional Fund, and payments on said salary to begin July 15, 1940."

I cite these actions, calling especial attention to the dates. Mr. Lohr was elected President on 11 July 1940, to take office on 15 July 1940.

Mr. Lohr visited the Museum on 8 July. It was my privilege to assemble the members of the staff and present them to the new president and to offer to him for myself and on their behalf a pledge of cooperation.

On 10 July, one day preceding Mr. Lohr's election to the presidency, I received from Colonel F. C. Boggs, secretary, the following communication:

My dear Fox,

Several times yesterday and today I was on the point of speaking to you on a subject which has worried me for some time and particularly so since Lohr's visit. . . .

As you probably inferred from what Lohr said, he intends to keep in direct contact with all members of the staff and hold matters pretty well in his own hands. In other words, from what he said and from my knowledge of his methods of work, I am sure he will take over practically all the work you have been doing.

The question immediately arises—is there any need in the organization for two active heads—the answer seems apparent.

For your own sake it seems that any initiative in the matter should come from you, and, best before Lohr actually takes charge. . . .

I hope you will believe me when I say that the writing of this note has been the hardest thing I have had to do for a long time and that I am doing so only in your interests and for your future protection.

Sincerely
B

I went immediately to Colonel Boggs' office and inquired directly if Mr. Lohr had instructed him to write the communication. The answer was in the affirmative. I told him that the request for my resignation was a shocking thing, received without any forewarning, without recognition of need either budgetary or otherwise, that I must take time for consideration. I failed to see how my interests might be served or how I could be protected by committing scientific suicide, I could not take the hemlock so resignedly. I considered that since I was elected by the Trustees, only they were competent to terminate the appointment. I wished to know if the request had been made with their knowledge and authorization.

In conversation with Mr. Lohr on 26 July, he renewed his request for my resignation. Asked for the reason, he stated only that his method of working called for direct approach to the curators, that in essence he intended to carry the combined duties of president and director. He professed deep friendship for me and respect for my attainments. He stated that he had delayed his decision on

the invitation to become president for two months while he pondered the problem of the severance of my appointment as a necessary consequence of his acceptance. He informed me that he had discussed this matter with many of you, the Trustees. On consultation with the vice-president, I learned that he had no knowledge of Mr. Lohr's intention and I later learned that others of the Board were uninformed. You will know among yourselves how widely this intention was known. I stated to Mr. Lohr, and I repeat here, that if this consequence was with Mr. Lohr a *sine qua non,* this fact should have been clearly and unequivocally stated to the Board that it might have been weighed in arriving at a decision.

On 2 August twelve members of the staff received from Mr. Lohr notice of dismissal from Museum service, to be effective 15 August:

Dr. F. C. Brown	Curator of Physics
Dr. C. R. Moulton	Curator of Chemistry
J. A. Folse	Curator of Power
R. B. May	Curator of Transportation
Trent Sanford	Curator of Architecture and Civil Engineering
Helmuth Bay	Asst. Curator—Forestry
John A. Maloney	Public Relations
Miss Mary B. Day	Librarian
Erik Fenger	Staff Engineer, Electrician
Harry Berkowitz	Assistant to Mr. Fenger
Walter Baggeson	Asst. in Engineering Department
Emil Rauschenberg	Shop Foreman

I could speak a strong word for each person dismissed, for the curators of physics and chemistry, men of scholarly attainments, each with the Ph.D.; for Mr. May, who has had peculiar success in enlisting cooperation of the transportation industries; for Mr. Sanford, an architect of rare artistic taste. It is perhaps most difficult to see how Mr. Folse, the ablest and most versatile engineer on the staff, can be spared. His revision of the heating and ventilating system resulted in savings in cost of installation of many thousands of dollars and more than his salary in annual operating costs. He has served the Museum devotedly for twelve years. Similar commendation might be made of Mr. Fenger, whose careful attention to the electrical circuits has resulted in great savings.

When the first university of the world, as we now think of a university, was organized, at Alexandria, the library was an essential feature. For a thousand years, this famous library and associated museums and lecture halls was the center of world culture. Mr. Lohr's dictum to close the library, his dismissal of the librarian, is in strange contrast to the enlightened Alexandrian practice. I can assure you that the library had particular appeal to Mr. Julius Rosenwald. Miss Mary B. Day, who has been in charge of the library from its beginning and responsible for its excellent organization, is a technical librarian of high efficiency. Alexandria was great because scholars were there; Euclid, Archimedes, Apollonius, Theon, Hypatia, Diophantus, Hero, etc. The Museum of Natural History in New York, the Smithsonian Institution, the Field Museum are notable because scholarly men have made them so. [Salesmanship can bring support to educational and cultural institutions, but the devotion of scholars gives them their character.]

Surely, as the Museum is about to open, there can be no intention to lessen the activity of the publicity department. Why then should Mr. Maloney, a gifted writer, who has served the Museum for twelve years, who enjoys happy relationships with the press, who is familiar with every phase of the Museum's development and affairs, be dismissed?

Why should any of these dismissals be made at this time when the energies of all were being devoted to the final phases of preparation, when the dismissals sever many valuable contacts, lessen the impetus of the final drive? It is unfair that these persons are deprived of the privilege of welcoming the eager public to the halls they had given their talents to prepare. Why were they dismissed summarily at a time when there are no openings for university appointments? What was the basis for the arbitrary selection? It is difficult to discern reasons which would deprive five departments—Physics, Chemistry, Power, Transportation, Architecture and Civil Engineering—of their curators while three men are retained in the Department of Geology and Mineral Industries, and a fourth whose sole training is in that field. Though I, as director, was specifically assigned "full charge . . . of the operations of the Museum staff," I was not consulted in regard to the dismissals, either as to plan or the designation of individuals to go. Mr. Lohr knew very few of the dismissed group personally and none more than slightly, knew nothing directly of their characters or potentialities. If one were to look for the person who served as an analogy for Madame Defarge of the Reign of Terror, he would not have far to seek.

I did not have an opportunity to protest against the dismissals, but I do now protest vigorously, and protest also against the usurpation of authority specifically reposed in the director.

Construction on many exhibits has been interrupted, plans have been laid aside, preparation delayed, my instructions to the shop have been countermanded without consultation with me or even notification. The president announces that he will review all exhibits. Architects and "exhibits experts" have been called in to assist. "All labels will be rewritten" and reprinted. This means expensive delay and direct cost, which scarcely parses with the note of "drastic reductions for budgetary reasons." The shop force, which had been greatly reduced with the tapering off of work, has now been increased to effect the ordered alterations. May I say that at the time of Mr. Lohr's arrival the exhibits for the area proposed to be ready at the opening were nearing completion.

I believe that the trustees would wish to visit the Museum and see with their own eyes the character of exhibits and stage of preparations before accepting as necessary drastic revision of plans, to review carefully the initial basic principles which for twelve years have been rigorously adhered to before casting them aside.

The president has stated to me that he proposes to add certain persons [with promotional talents] to the staff. I foresee a gradual infiltration till presently the "budgetary need for reduction" will assume a different aspect.

What has taken place in your Museum in these first days of Mr. Lohr's presidency is an assault without parallel and without precedent in any American cultural institution. It is an affront to the intelligence of the community. It has started unfavorable comment in the scientific world; it has been termed a "blitzkrieg" and "Naziism" in the public press. If this dictatorial action can be tolerated in this Museum of Thought, in whose founder's character the keynote was the recognition of human values, what hope is there for American institutions in general? Ruthlessness can not in any guise be construed as a virtue.

I am your appointee, duly elected. In coming to the Museum I left a post in a worthy institution, resigned a civil service appointment with assured income and retirement allowance. I am fully aware of the "thirty days' notice" clause in the letter of appointment, but surely I was justified in the expectation of security of tenure which prevailed in every similar institution of the world until violated by Nazi and Fascist practice.

There has been no charge or intimation that I have been inefficient or incompetent, inattentive, careless, negligent, slothful, recreant in any wise in the discharge of my duties. There can be no charge of failure to cooperate with the new régime, for I have been given no opportunity to cooperate. I have given the same devotion to the Museum that in other years I gave to my university and observatory, and in military service to my country. I have taken pride in participating in the development of the Museum to an institution of beauty, power, and nobility. I have striven to interpret science so that we might apply wisely the powers it has provided, that we might know its spiritual value, and adopt its severe code of honesty and forthrightness.

If you, the trustees, believe that the Museum needs no longer the guidance which I have provided and have sought to make vigorous yet thoughtful and considerate, if you feel that you can not stanchly support your appointed director in the discharge of his duties as you have defined them, then perhaps you may wish to construe this Statement as a resignation. I trust that the board in taking action will be represented by more than a bare quorum.

The strength of the ideals of this institution and civic pride of Chicago are such that the Museum can not perish. In other days I have said to you that its purpose so clearly fulfils a need that support will flow to it naturally. It is not necessary to dismiss many men of loyalty and integrity, to cut close to its very heart and see it survive to prove that it has vitality.

In another place I wrote:

> We trust that this Museum may promote friendly understanding and mutual respect among those who engage in research, those charged with the development and management of new and established enterprises, those who invest their savings in them, the skilled workmen, and the general public. We hope that this institution may kindle in some youth the spark of genius, supply the clues to the solution of many problems, give to some craftsman the inspiration for invention, and to all who come within its walls realization of the majesty of thought and the nobility of labor.

The thought was expressed as a trust and a hope, but perhaps you will hold in mind that this was in reality my creed. In it you will find no grain of personal ambition, but rather the spirit of cooperation, the aspiration that our Institution might be a factor in promoting mutual understanding and uninterrupted progress. I shall stand ever ready to aid in its fulfilment.

I had had expressions of regret and disapproval of Mr. Lohr's action from some of the Trustees but I felt that if the Trustees were faced with an impasse as between the President and Director they would vote to sustain the newly elected official. The statement was construed as a resignation and as such it was accepted "effective at the close of business of September 30, 1940." The Trustees further adopted a resolution commending my energetic directorship and in recognition thereof authorized and directed the president to pay to me "a sum equivalent to six months' salary."

PHILIP FOX

SPECIAL ARTICLES

TICK-BORNE HUMAN ENCEPHALITIS IN THE EUROPEAN PART OF USSR AND SIBERIA

WITHIN recent times a new virus disease of the central nervous system in man, the verno-aestival or tick-borne encephalitis, has been discovered and investigated in the Soviet Far East.[1]

[1] (1) A. G. Panov, *Z. nevropatol. i psikhiatr., Moscow,* 7: 6, 18–32, 1938; (2) A. N. Shapoval, *Ibid.,* 7: 10, 74–80; (3) E. N. Levkovich, A. K. Shubladze, M. P. Chumakov and K. D. Soloviev, *Arkh. Biol. Nauk,* 52: 1, 162–183, Moscow, 1938; (4) M. P. Chumakov and S. G. Gladkikh, *Bull. Biol. et Med. Exp. USSR,* 2–3, 7, Moscow, 1937; (5) M. P. Chumakov, *Z. Mikrob. i Epidem. Moscow,* N 4, 1939; (6) A. A. Smorodinzev, E. N. Pavlovsky, M. B. Krol, *et al.,* Reports to the Union Microbiol. Conf., 1939 (in press); (7) L. A. Silber, V. L. Olshevskaya, *et al., Arkh. Biol. Nauk.,* 56: 2, 1939.

The peculiar features distinguishing this variety of encephalitis from similar varieties, *i.e.,* the North American (St. Louis) and the Japanese summer-encephalitis, concern, first of all, its epidemiology. As a matter of fact it is transmitted by a peculiar vector, the *Ixodes* ticks (*Ixodes persulcatus,* Schulz, 1930, *et al.*) which were shown to carry the virus and to infect humans through a bite.

The disease is to a certain extent endemic for certain woody localities affecting mostly people engaged in forest work.

The maximum incidence falls on the end of May and the beginning of June preceding (in distinction to the Japanese and St. Louis encephalitis) the hot season and the mass appearance of mosquitoes. The causa-