racy the professors in universities and colleges should serve only the public interest.

We recommend to the university and college administrative officers that all teachers in institutions of higher learning be required to note to their college officials their contractual connections with corporations or private or even public utilities. These connections should be noted after the teachers' names in some readily accessible publication for each institution, so that any pronouncements may be judged by the public and the press as to whether such pronouncements emanate from a financial interest or from an academic (unpaid) interest in the public welfare.

Coupled with this resolution it is expected that an act will be introduced into Congress to compel all so-called expert witnesses who testify before Congressional committees to record their affiliations in advance of their testimony and that such connection be properly indicated when the expert testifies.

By such processes Americans may hope that the scientists will re-establish themselves in the confidence of the public which they serve.

I invite correspondence from all members of scientific societies who feel that the movement is worthy of academic and scientific support.

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ABNORMAL NITROGEN METABOLISM IN BURNS

CERTAIN patients suffering from severe burns have shown gross abnormalities in nitrogen metabolism. The observations suggest that the nutritional status of patients with burns needs careful attention.

Eleven of twenty-two severely burned patients excreted excessive amounts of nitrogen in the urine. Sometimes as much as 45 grams were excreted within 24 hours, or an amount equivalent to the catabolism of 250 grams of protein a day. Such losses cause a serious nitrogen deficit.

Large increases in the residual nitrogen of the urine, both in the absolute amount and in the percentage of the total nitrogen excreted, occurred in some of the patients. Sometimes 80 per cent. of the nitrogen excreted was in this form.

Plasma studies showed a similar abnormality in the nitrogen partition. There was present an azotemia with an increase of urea, but the residual nitrogen of the blood plasma was also markedly increased.

At present it is not possible to state whether the residual nitrogen present in the blood and urine is polypeptide nitrogen, as suggested by other observers.[1, 2] However, it does yield by hydrolysis large amounts of amido and amino nitrogen. The findings are consistent with the presence in both blood and urine of a protein metabolite of high molecular weight.

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[1] P. Duval, J.-Ch. Roux and Goiffon, *Presse Med.*, 42: 1785, 1934.

[2] O. Lambret, J. Driessens and H. Malatroy, *Compte Rend. Soc. de Biol.*, 123: 12, 1936.

TYPES OF ARGENTINIAN PLANTS OF SPEGAZZINI

ALL taxonomists working intensively on the flora of South America must necessarily evaluate the many hundreds of species of all groups of vascular plants of Argentina described by the late Carlos Spegazzini (1858–1926). As further exploration of Argentina and adjacent countries brings to light additional species it becomes increasingly important to understand exactly what Spegazzini had as types of his species. This need is now being met through the far-seeing interest of the Department of Botany of the Museo de La Plata of the Universidad de La Plata. Professor Angel L. Cabrera, in charge of the Section of Phanerogams, is supplying five or six of the leading herbaria of the world a complete series of photographs of these types. The first series of 100 prints with detailed labels has just reached the Gray Herbarium. The glossy prints, 12×17 cm, are beautifully prepared. These and the series soon to follow will be invaluable to all students of South American plants.

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OPTICAL ILLUSIONS FROM TRAIN WINDOWS

IF one is riding forward rapidly in a train traversing prairie country with wide vistas, the landscape one passes seems to be a circle revolving counter-clockwise with the center at the horizon on a radius at right angles from the tangent on which the train seems to be moving.[1] If now the train stops, the movement of the illusory circle seems to reverse and move majesti-

[1] The circular motion described is observed from the right side of the train, and of course is reversed from the left.

cally in a clockwise direction. This illusion seems more frequently observable when one is tired.

One might explain the illusion by the persistence of small lateral eye muscle movements adjusting the eyeball to the forward movement of the train, so that when the train stops, and the rhythmic eye muscle motion persists, the landscape appears to move in the opposite direction to that which was the case when the train was in motion.

On the other hand, perceptive factors may be involved. If one goes to the rear of the train and watches the landscape continually recede as the train progresses forward, there will be a similar illusory reversal when the train stops. That is, the landscape instead of continually receding will now appear to be rolling toward the stationary observer. This illusion may be due to rhythmic persistence of the activity of muscles of accommodation.

It may be that these factors are important in the etiology of motion sickness.[2] In the case of the vestibular apparatus, there is no rhythmic muscular action involved. However, it is a common experience to continue to feel a ship's motion after one comes ashore. This raises the question as to whether or not the optical illusions noted in connection with a moving train may not involve persistence of the temporarily established receiving pattern, in addition to the possibility of involving persistence of rhythmic and adaptive muscular activity.

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SCIENTIFIC BOOKS

SYSTEMATICS

Systematics and the Origin of Species. By ERNST MAYR. Columbia University Press. 334 pp. 29 figures. 1942. $4.00.

WITHIN recent years there has been manifest in the writings of taxonomists an altered position which has been called "the new systematics," although the only novelty manifest is in the approach to the subject. The present work is by one of the adherents of this movement, who says in his preface that animal taxonomy has undergone a revolution almost as fundamental as that which occurred in genetics after the rediscovery of Mendel's laws. While one may doubt the accuracy of the statement no one can question that a new view-point dominates the field. Undoubtedly the efforts of the early taxonomists to apply names to organisms that would permanently designate them has given way to the recognition that no two organisms are ever exactly alike and that accordingly any common name is very unlike in its value in different groups. This uncertainty is indeed recognized by the author, for he says: "There is no uniform point of view among taxonomists, in fact in regard to many of these questions there may not even be a majority opinion." In seeking for an explanation of this state of affairs he says that it is not yet clear, but he goes on to point out the need for a full knowledge of the group as a prime necessity for an agreement. He makes it clear that ornithology has reached such a stage of advancement that less than 2 per cent. of the bird species of the world remain unknown, and that therefore bird classification occupies a very favorable position for future developments. Indeed the attitude of the author is one which makes for a much better understanding of the relations of living things. For him not only is taxonomy important, but also genetics, ecology and paleontology contribute toward this end. Taxonomy takes on a larger and larger aspect and brings more and more of these problems into a common biological relationship.

In this book we find a discussion of these problems with many illustrative references, particularly to birds. The author is appreciative of the contribution made by genetics, although he recognizes the peculiar approach which it makes to the subject. The geneticist seeks an understanding of the mechanism of the "biological atoms" in their movements and changes, while the taxonomist deals with groups of organisms in their relation to the environment and to each other. Each side has its own peculiar characteristics of physical and biological factors, and taxonomy is busy selecting between the products of genetic action. The result is that there are nowhere two populations which are identical, if a fine enough analysis is made. This leads directly to the smallest group, the subspecies, and in turn to the species, genus, family, order and class. Since it is with groups that the author primarily deals it is important to find out how he regards them. At once it may be said that he has no conception of a fixed and invariable relation. He regards the species as a dynamic concept, which differs in range and character with the degree of knowledge of the group. He is at pains to point out the growing number of polytypic species as the years pass and more knowledge accumulates. At the same time he realizes the large subjective element in the consideration and the difference in the regard of the systematist and the evolutionist for the same group. For the systematist

[2] Indeed, if a large mirror is before the observer in the situation described in the first paragraph, so that the passing landscape may be seen in reverse motion to that noted from the window, the observer may become uncomfortable or even nauseated by looking alternately through the window and then in the mirror.