a measure, the Secretary of Agriculture, following a definite drive instituted by Mr. Ickes at the American Game Conference in New York, in December, stated that he was authorized to announce that no such move was contemplated.

This effort having failed, as did the previous attempts of Secretaries Lane, Fall, Works, Wilbur and Ickes, the plan was hit upon to renew the presidential authority for the reorganization and transfer of departments, but gently to guide his hand in the proper direction. The name of the Department of the Interior was to be changed to that of Conservation and Works. The President would then be authorized to transfer to this department any commission, board, bureau division or service engaged in conserving the national resources (or in carrying on public works activities) in the United States or its territories or possessions; and he could also transfer from the Department of the Interior to other departments any such body *not engaged* in conserving the natural resources.

This bill was introduced into the Senate and House, before the committees on expenditures in executive departments, as S-2665 and HR-7712 accompanied by statements prepared by Secretary Ickes giving evidence to show that the Department of the Interior was in effect the center of conservation activities, listing the agencies within his department so employed and the measures and their character which had originated there. All references to the conservation work of the Department of Agriculture were omitted.

During the hearings and in correspondence the Secretary of the Interior endeavored to suppress critics of this measure, and declined to commit himself as to the purposes of the bill or the agencies whose transfer was contemplated. The Forest Service and the Society of American Foresters were charged by him with maintaining a strong and efficient lobby, from which alone arose opposition to the measure. The Senate Committee on Public Lands, to whom the measure was referred, reported it out favorably. At the time of writing, the Committee on Expenditures of the House had not reported.

The Department of the Interior officials realize that grazing regulation on the public domain will be constantly compared with that on the National Forests, under the Department of Agriculture, and that as a matter of sound administration, the two branches should be in the same department. Unwilling to take any chances on an executive decision to transfer this grazing branch to agriculture, as was done with soil erosion, this bill is intended to make the transfer mandatory in the direction desired, taking with it, lock, stock and barrel, the forests, the wild life and the watersheds, and cleaving the work of forestry in two. Farm forestry and extension, cooperative fire protection, the combating of forest insects and diseases, and all the research and educational work would remain logically with the Department of Agriculture; thus a Forest Service would then exist in both departments. This article is not a discussion of the reasons why such legislation should not pass, which would occupy more space than is available. They hinge on two points. First, the organic resources, soil, forests and wild life, constitute a balanced whole, which can be regulated intelligently only by unified control in the hands of men trained in the fundamentals of biology and administration of such problems. Second, the continuous and continuing record of the Department of the Interior is such as to prevent those who understand these problems from extending their confidence to this department as the custodian of such resources.

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A TERMINOLOGY PROPOSED FOR MOTION PICTURE FILMS

THE possibility of taking motion pictures at a known speed and then projecting the processed film at the same or at a different rate of speed permits control of the time variable for analytical purposes. This is one of the very few methods available for the alteration of time and is of fundamental importance to many branches of science. The motion picture technique has been used for a half century,[1] but as yet there is no consistent terminology.

When the film is taken at a slow rate over a period of time and then projected at a more rapid rate the action is reviewed in a few minutes, even though the original action took hours. Such films have been called stop motion, time lapse, accelerated motion, etc. These terms are inconsistent and confusing. During the early development of motion pictures Pizon[2] used the term "biotachygraphic" for his films of this type, meaning to write life rapidly. While the term "tachygraphic" has been used[3] this is not the best name because it also means shorthand. To see a process in less time is a sort of shorthand, but the combining terms for the other three types of motion picture film are not satisfactory. The best word to describe this kind of film seems to be "tachykinetic," and this is proposed for future use to describe a motion picture film that is projected on the screen at a faster rate than the film was taken in the camera.

If a motion picture is projected at the same rate as it was taken no change in time-rate occurs, and

[1] O. W. Richards, *Jour. Biol. Photog. Assoc.*, 1933, 2: 39–55.

[2] A. Pizon, Congrés Zool. Bern., 1904, pp. 404–409.

[3] O. W. Richards, *Jour. Biol. Photog. Assoc.*, 1934, 3: 64–71.

such a film should be called "isokinetic." The rate of exposure in the camera should be marked clearly on the film to avoid confusion between the 16 frames per second used for silent films and the faster rate of 24 frames per second used with sound films. The latter more rapid rate is coming into use for silent films and may become ultimately the standard rate for "isokinetic" films.

Projecting the film at a slower rate than that at which it was taken retards the rate of motion and is the familiar slow motion picture. Slow motion is sometimes confused with stop motion or lapsed time films which are opposite in kind. Consequently, to avoid any misconception the term "bradykinetic" is proposed to denote any film to be projected at a slower rate than was used in making the film.

The three types of film are fundamentally different because the ultimate speed on the screen of the process photographed has to be decided before making the film and determines the camera speed. Much more film per minute is used in making "bradykinetic" films than with "tachykinetic" films. A "bradykinetic" film can not be obtained by projecting rapidly an "isokinetic" film, except within very narrow limits, because the intervals between exposures are too long, resulting in a blurred effect.

Therefore, the three terms herein proposed distinguish different kinds of motion picture film and give a uniform terminology which precludes confusion. The only other description required is a statement of the camera and projector speeds. The ratio of these speeds shows how much, if any, the actual time relations are altered. The rates are usually constant for a given film, but they need not be constant, as varying the rates gives a new relative time that may be very useful to the investigator. The relation of this varying time to the original time can be obtained from the acceleration (or retardation) of both the camera and the projector.

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A REVIEW OF EVIDENCE RELATING TO THE STATUS OF THE PROBLEM OF ANTIQUITY OF MAN IN FLORIDA[1]

INVESTIGATIONS by Sellards, Gidley and others have presented evidence suggesting the association of human remains with those of a Pleistocene fauna in the Florida coast region. The area in which this interesting occurrence was noted has been studied carefully by many anthropologists, archeologists, geologists and paleontologists, with the result that sharply differing opinions have developed regarding the meaning of these materials.

The classic localities for these finds of ancient human remains at Vero and Melbourne in Florida were examined by the writer in 1932. At that time it was possible to visit the exact points at which some of the most important specimens had been secured, under guidance of Frank Ayers, who had been associated with the original discoveries. These localities were visited again in 1935 in company with Edgar B. Howard, of the University of Pennsylvania Museum.

In making a study of the localities at which ancient human remains were found in Florida it was the purpose of the writer to determine, if possible, whether the association of extinct faunas and human remains suggested an association or sequence comparable to what has been found in southwestern United States. On the visit in 1932 and again in 1935 the impression obtained was that, at the localities visited, the occurrence of remains of certain extinct animals considered to represent a Pleistocene fauna suggests the type of association known in the Southwest, where human relics appear with a fauna now, at least in large part, extinct. Whether this means that man was present in Florida in Pleistocene time or whether animals now extinct lived in that region in what may be called early Recent time, will be determined by more intensive studies of the stratigraphy, physiography and paleontology of this region than have yet been made.

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QUOTATIONS

THE FOREST SERVICE

ANOTHER attempt is under way to get the national forests and the forest work of the government transferred from the Agricultural Department, where the forests are safe and the work well done, back to the Department of the Interior, from which they were taken because of wretched management.

The present attempt is made under cover of an effort (Senate Bill 2665) to change the name of the Interior Department to the Department of Conservation and Public Works. The transfer of the national forests and the Forest Service is not mentioned in the bill, but is planned for later on.

Conservation is too broad a subject to be confined to any one department. Nearly all of them deal with

[1] Abstract.