is one which has frequently been discussed both in the Council and before the Association. It is true, the weather is apt to be warm the third week in August, and it is true that many Eastern college men dislike or are unable to interrupt their vacations abroad or at the seashore or mountains when their fall terms do not open until late in September or the 1st of October. It is true, also, that many members, both college men and those connected with the government surveys and investigating bureaus, are unable to interrupt their long field trips to out-of-the-way portions of the country. On the other hand, however, many of the Western colleges and most of the normal and high schools, from which institutions the Association derives many members, constituting a class in which it ought of right be especially strong, begin the fall term about the 1st of September, and to fix the meeting time at a later date would prevent their attendance. There are also obvious objections to a winter meeting on the part of perhaps a majority of the members of the Association. That college men from a comparatively limited section of the country can hold successful meetings during the winter holidays has been abundantly shown by the experience of the American Society of Naturalists, the Society of Morphologists, and the kindred organizations which meet together each year at that time. The experiment of midwinter meetings of an individual Section of the American Association in connection with the organizations just mentioned has been tried successfully, and there is no strong reason why it should not become a custom. Another alternative which has been suggested is to hold the meeting in late June or early July. The National Educational Association meets at about that time, but draws largely from a rather different class of workers. It might, however, be worth while for the American Association to try the experiment of such a change of date.

Looking over the ground as a whole, it seems to us that the American Association even in its present condition is a good and sound working body of scientific men. Its aims are admirable, and its policy is adjusting itself to rapidly changing conditions. No one denies that it can be improved, but this improvement must naturally be of rather slow growth, and depends on the active interest of the scientific men of the country in its objects, their appreciation of all it could do, and their determination to help in its work.

THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

REPORT FROM COLUMBIA UNIVERSITY.

PRESIDENT SETH LOW, LL.D., COLUMBIA UNIVERSITY—*Dear Sir:* The committee appointed by you beg to report on the plans for an International Catalogue of Scientific Literature as follows:

We regard the establishment of such a catalogue as one of the most important contributions that can be made to the advancement of science, and greatly appreciate the efforts of the Royal Society to carry it into effect. We think that all institutions and all men of science should do everything in their power to perfect the arrangements for the catalogue and to promote its efficiency.

We submit herewith discussions of the several schedules of classification from professors of this University engaged in teaching and carrying out investigations in the different sciences. We do not as a commit-

tee endorse all the recommendations made, but call attention to the following points, partly contained in these criticisms of the separate schedules and partly concerned with the catalogue as a whole.

The Royal Society appears to us to have made a serious mistake in failing to consider bibliographies already in existence. Its first duty should have been an examination and comparison of these bibliographies. Those men of science who have given years of thought and labor to the subject should have been invited to consider the merging of the bibliographies under their control into the larger scheme and should have been made chiefly responsible for the classifications of the sciences and for the other plans. We are not even told who are responsible for the schemes of classification. These are of unequal value, closely related sciences being in some cases treated very differently. The Royal Society has now asked the advice of various institutions, but the time until the first of January next seems to us altogether too short to make the necessary arrangements. We recommend that the beginning of the twentieth century be chosen for the commencement of the catalogue.

The centralization, elaborate machinery and governmental support proposed by the Royal Society do not always lead to greater efficiency than individual initiative. The possibility of improving and coordinating existing bibliographies instead of crushing them has apparently not been considered. We recommend that the Royal Society draw up and publish at as early a date as possible full details of existing bibliographies of the sciences.

We regard the card catalogue as more important than the book catalogue, and more in need of a central bureau for distribution. The Royal Society's Committee have, however, not considered the card catalogues already in existence or the possibility of securing entries for card catalogues from the compilers of existing bibliographies. They recommend a card 5 x 3 in., forgetting that even in Great Britain the metric system is used for scientific work, and apparently not knowing that standard cards in the metric system are in use throughout the world. We have in this University hundreds of thousands of such cards in use. It would be desirable to supply cards in both of the standard sizes—5 x 12.5 cm. and 7.5 x 12.5 cm. In the specimen cards given by the Committee of the Royal Society no effort is made to print the entries at the top of the card, which seems to indicate that the Committee are not familiar with the method of filing the cards. The cards should be punctured for a bar to keep them in place. Uniform methods of citation are not followed in the different sciences. The method used in botany appears to us the best for all the sciences, except that the year of publication should probably be transferred to the end. We recommend that the Royal Society report on methods of citation employed in existing bibliographies and make recommendations for the adoption of a uniform system.

In regard to classifications, it is evident that bibliographical convenience rather than the logic of the sciences is the matter to be considered. From either point of view there appears to be as much reason to make mechanics, anatomy and pathology separate sciences as meteorology and crystallography. The exclusion of applied science may be necessary, but it is unfortunate, and will probably lead to the continuation or establishment of bibliographies in chemistry, electricity, geology, pathology, etc., more useful to students than a catalogue confined to pure science. The sub-classifications in new decimal systems for each science may be desirable, but it is not certain that a minute classification by symbols is better than an alphabetical classifi-

cation, or that the new systems proposed are better than the Dewey system, already used in the bibliographies of several sciences. In physiology, for example, there are some 800 classes into which it is expected that 3,500 entries per annum will be sorted. Cards would need to be duplicated many times to be placed in all the sub-divisions to which an article may refer. The schedules of classifications are open to many criticisms. We recommend that the classification of each science be referred to committees who shall especially consider the classifications in existing bibliographies.

J. MCKEEN CATTELL,
H. F. OSBORN,
R. S. WOODWARD.

REPORTS ON THE SEPARATE SCHEDULES.

A. MATHEMATICS.

1. 'A' DESIGNATES in one place Mathematics, in another 'Pure Mathematics.' No provision is made for Mechanics.

2. Under Bibliography a list and description of the various mathematical journals, especially of the bibliographical journals might well be included.

3. Under Arithmetic a sub-division might well be devoted to continuity, countability, etc. (Jordan, Canton, Stoltz).

4. Under Algebra and Theory of Equation, 1250, Klein's theory of the reduction of the solution of equation to the theory of linear groups seems to have been overlooked. In fact, this number (1250) represents far too much, and ought to be divided.

5. Under Groups a sub-division might be given to congruence groups. No. 2010 includes too much.

6. Under Calculus belong mean value and probability. The latter is unprovided for anywhere.

7. 5210, the title is ambiguous.

8. Under Analytical Plane Geometry there should be a sub-division on co-ordinate system, projection, metrical geometry, etc.

F. N. COLE.

B. ASTRONOMY.

(No schedule submitted.)

B. PHYSICS.

THE very greatest care should be used in the details of the classification.

Everything of interest should appear once, and only once, and then in its natural association.

Upon this point rests the working value of the lists. A class should be sub-divided in proportion to its natural sub-divisions and not to the amount of literature covered.

Primary Divisions.

Bibliography should have a section unconfused by others.

Dynamics should not be separated from the theories of matter and ether. Confusion is sure to arise when 'heat' is separated from 'thermal effects' and from 'invisible radiations.'

I. Bibliography.

II. Dynamics of solids, liquids and gases, including vibrations and wave motion.

III. Heat. Including temperature, specific and latent heat.

IV. Radiant energy. Including radiant heat, light and ultraviolet.

V. Electrochemistry and electrolysis.

VI. Electricity and magnetism. The title electromagnetism is misleading; it applies now to a small section of the subject.

It may be argued that any classification will be artificial and each person must learn the classification of his section. But the value of the lists in libraries will lie almost entirely in the opportunity they offer an investigator to look over the literature in *related* divisions.

For example, the physicist cannot be expected to keep posted in the classifications of mathematics, mechanics, chemistry, crystallography, psychology, and possibly

geology and others, and yet it will frequently be necessary for him to consult the cards in these subjects:

Wherein do 0330 and 0335 differ from 3205 and 3210?

Why a special section for 0345 after all the other discussions of elasticity? Compare 0360 and 1520.

0365, too comprehensive, should be sub-divided.

Why the sub-head Hardness, Friction and Viscosity?

Compare 0420 and 0550–0555–0560.

Why no conductivity of gases after 1430?

Is not 1450 superfluous; also 1580?

In 1710 and 1720 the use of 'thermal' seems ambiguous and ill advised.

Compare 1720 and 5140.

2040, superfluous.

2120 and 2210 are conflicting, and why should colloids be put in 2120?

2330 should be considerably sub-divided.

Is 3020 necessary?

3120, compare 3320.

3160 is sure to conflict with the sub-head 'interference and diffraction.'

3210 and 3215 should at least refer to 0330 and 0335.

3220 and 3225 parallel 3255.

3240 at least partly covers 3260.

3320 and 3120 interfere.

3320 quality and 3330 should go to 'sound' instead of 'sensation' and the 'voice' including 'articulation' and 'phonetics' should have a special head.

It would seem possible to improve 4000 to 4040.

5090 and 5240 conflict.

5130 and 5230 conflict.

5020 and 'reflexion and refraction' will lead to confusion.

Why is anomalous dispersion in 5350?

5460, pressure and Zeeman effect should be included.

5550, where are any reference to color, color theories and the optics of the eye? At least a reference must appear here.

6010, too brief, should have several sub-heads. As 'Ampère,' 'Ohm,' 'Farad,' 'induction,' magnetic quantities, etc.

6130 and 6140 should be under 6010. 6110 and 6240 are too comprehensive.

6305, primary and secondary should be separated.

6315 belongs under 6010.

6330, ambiguous.

6350 and 6355, much too comprehensive, each should be sub-divided in three.

6560, same comment.

6570, where are electrostatic waves?

6580, what is electro-optics? Have these phenomena not been given elsewhere?

6770, why theory of compass after all the theories in magnetics and why with the earth especially?

In specimen slips. It seems necessary to cross reference this paper to alternating fields, as it might be of interest to one investigating magnetic fields, 6560 or 6570.

William Hallock.

D. PHYSICS-MECHANICS.

In compliance with your request I beg to submit herewith the following comments on the Report of the Royal Society of London concerning the project for an International Catalogue:

1. The plan for the proposed work outlined by the report, so far as I can understand it from a necessarily hasty examination, seems to be satisfactory and feasible in all essential respects. It appears to merit, however, some criticisms as to matters of detail, which I proceed to point out with some diffidence, since the reasons which led the Royal Society's Committee to adopt the present form of their report must be partly unknown to me.

2. My first criticism relates to the 'schedules of classification,' which seem to be in some respects retrogressive.

a. Would it not be better to have the 'Registration letter' in each case the initial letter of the science?

b. The prominence given to meteorology and the incorporation of mechanics with physics seem quite unwarranted as well as archaic. The definite parts of meteorology and physics are mechanics, and the present tendency is towards mechanical interpretations of the indefinite parts. It would seem to me better to give mechanics a division by itself, or to call the proposed division Physics and Mechanics, or Natural Philosophy.

Similar, though less strong, objections may be urged against the inclusion of

anatomy with zoology, and of pharmacology and pathology with physiology.

3. The schedule of classification for pure mathematics appears quite satisfactory. Defects, if any exist, are rather trivial and relate to details of nomenclature. I would suggest, however, under 0870, p. 2, the inclusion of 'theory of errors' before 'combination of observations.'

4. The schedule of classification for meteorology seems disproportionately extended.

5. The classification for physics, if it should ultimately include mechanics, ought to be rearranged in many important respects.

a. More importance should be given to pure kinematics and kinematical principles.

b. Following Thomson and Tait, dynamics should be divided into statics and kinetics; so that, for example, an entry with reference to flexible strings would indicate whether the case considered is static or kinetic, or both.

c. The entry under 0110, p. 2, for example, should be theory of force, momentum, impulse, energy and work. And under 0120, the statement should be: Principles of statics and kinetics, Differential equations of kinetics. Or, if more detail is desired, it should be: Principle of d'Alembert, virtual work, Lagrange's method, least action, Differential equations of kinetics.

d. Under 0250 there should be included the important sub-division of kinetics of plastic or non-rigid bodies.

e. Under 0515 hydrodynamical should be replaced by hydrokinetic and 0520 should read: Rotational, or vortex motion. Vortex atoms.

6. Many other criticisms concerning matters of detail with reference to the divisions of physics might be submitted. So many changes in the proposed schedule seem desirable, however, that it may be wise to submit the matter to a sub-committee of experts.

R. S. WOODWARD.

E. CRYSTALLOGRAPHY; G. MINERALOGY.

I SUBMIT the following suggestions as to the proposed schedules in Crystallography and Mineralogy:

1. The division 2000, 'Applied Crystallography,' I do not think a good one. It does not suggest to me the sub-divisions, and I suggest 'Crystal Structure and Growth,' to include 1400, 2200, 2300 and 2400 and that 2100 pass under Geometrical.

2. Under Optical Crystallography (4000) the sub-division 4200 is overworked, and the sample references on the next page show it is made to cover discussions of methods of optical measurement, like that of Wallerant. I favor, including under 4000, all optical measurements and replacing 4200, or rather supplementing it, by a division into say: Refraction in Isotropic Crystals, Double Refraction in Uniaxial Crystals, Double Refraction in Biaxial Crystals.

3. In Mineralogy I see no reason why the term General Mineralogy should cover so much. Separate divisions might well be made of (a) Microscopic Study of Minerals in Rocks, (b) Genesis and Alteration of Minerals, (c) Economic Mineralogy, (d) Artificial Minerals (or Synthesis).

I favor the plan of printing both standard sizes of card. It cannot greatly increase the expense, and will enable subscribers to choose the size already used by them. We have about 20,000 references on the smaller card.

ALFRED J. MOSES.

F. CHEMISTRY.

I HAVE read very carefully the proposed schedule of classification for chemistry of the International Catalogue Committee, and

it seems to me to pretty thoroughly cover the ground, and I do not see anything to find fault with. The only thing that occurs to me is the absence of titles covering chemical industries, but I presume they have been provided for in some other schedule. I refer, for example, to the following topics among others:

Sewer-gas	petroleum
mineral waters	illuminating gas
potable waters	mortars
water analysis	cements
sewage purification	pigments
water purification	paints
artificial illumination	varnishes
candles	preservation of timber
oils	the different explosives
lamps	glass
bleaching	ceramics
dyeing	foods, all varieties
calico-printing	preservation of food
paper-making	wines, beer, spirits
glue	vinegar
india rubber	gutta percha
fertilizers	etc., etc.

It may be that all this is provided for in some other part of your schedule.

C. F. Chandler.

H. GEOLOGY; J. GEOGRAPHY.

I have looked over the subjects of Geology, Geography and Paleontology, as requested, in the proposed International Catalogue of the Royal Society. I feel only competent to speak of Geology authoritatively, and in this I have endeavored to imagine myself in search of literature upon almost any imaginable geological subject. The scheme impresses me in general with being a satisfactory guide in this respect, with one important omission. In almost all the important mining countries, our own especially, a great deal of attention is given to the study of what we call economic geology, or, as it is more often called abroad, applied or practical geology. I find no special topic that would cover this at all. Suppose I wished to find papers on Ore Deposits in general, or on Coal, or Building Stones, there is no topic under which these subjects would come, unless perchance it is G. Mineralogy, General Mineralogy, 0600, Applications, which seems to me an improper place for them, because they are chiefly issued by Geological Surveys or in connection with them and are geologically treated. It seems to me that in addition to the heads under H. Geology, viz: General, Petrology, Physical, Statigraphical, Maps, there should be Economics—with sub-heads—Ore Deposits in general.

Then the metals in particular—Non-Metallic Substances:

Coal	Petroleum
Building Stones	Abrasives
Salines	Fertilizers
Soils	etc.

I fancy that this sub-division of titles would be more often consulted than any other.

Under Geography and Paleontology the classification seems to me to furnish a guide that will lead one to a desired goal, satisfactorily; but I hesitate to speak positively.

There is one other general point, and that is that the scheme should fall in, if possible, with plans already established, and I do not observe that it considers the Dewey system, now adopted in an extensive bibliography of the same kind in Geology in Belgium, and issued, I believe, by the Belgian Geological Survey.

J. F. Kemp.

K. PALEONTOLOGY; L. ZOOLOGY.

We have looked forward with great interest to the preliminary report of the International Catalogue Committee, which we understand is to be considered as a report of progress subject to future modification. It may seem somewhat unappreciative of the work that has been already done upon this report, but we must express our opinion very frankly that it is disappointing and

unsatisfactory. There are no indications that the Editors of the four Biological Divisions, Paleontology, Zoology, Botany and Physiology, have cooperated to produce a uniform scheme of treatment. On the other hand, although these sciences are in their nature closely connected, they receive an entirely diverse classification. Physiology, moreover, receives a treatment of minute sub-division which not only contrasts with the large sub-divisions of the other branches, but appears to us to be too far detailed.

The most radical fault, in our opinion, is the separation of living and extinct members in many cases of the same families and genera in the great divisions of Paleontology (including plants and animals), Zoology and Botany. This great catalogue should open a new century and signalize modern belief that living and extinct types must be considered together. It may be urged that many faunæ are wholly extinct and are studied exclusively by Paleontologists. On the other hand, no scientific line of demarcation can probably be drawn, and if living and extinct types are not studied together they certainly should be. Among the Vertebrates the separation of the living and extinct forms is at present a calamity. Zoologists must become familiar with Paleontology whether they prefer to do so or not. It is impossible, for example, to understand the modern races of dogs without studying the Oligocene races and their ancestors.

Under Paleontology the Editor proposes to give a complete catalogue of paleontological papers upon their zoological side. This would necessitate a double system of cataloguing for every paleontological paper, a needless waste of money and time.

The second radical fault, hardly less serious than the first, is the fundamentally different classification observed in Paleontology, Botany and Zoology. The Paleontological schedule is wholly unintelligible to us. It is partly Biological, partly Bibliographical. What unity is there in a system of classification which is based upon such diverse lines as are observed in 01 and 02? Where are the lines drawn between 00 and 25?

In our opinion, Paleontological classification should be identical with Zoological; it would be only necessary to add Geological distribution and to deduct cell processes; development could remain because we have considerable embryological data in extinct forms.

The Zoological classification is much better, although subject to considerable criticism in matters of detail. Why should Botanical classification differ so fundamentally from the Zoological? Modern Botany is pursued upon exactly the same lines as modern Zoology; for instance, cell processes, or Cytology, are now pursued as ardently by botanists as by zoologists.

HENRY F. OSBORN.

M. BOTANY.

THE scheme of classification adopted is not, in our judgment, as satisfactory as a decimal system would be. A number applied to a subject here means nothing definite, unless it is accompanied by a letter also, whereas in a decimal system each number would mean only one subject and could not possibly be confused with anything else.

The examples of classification of subjects indicate an attempt at too great detail, as, for instance, in the case cited 'on some new plants from Somali-land,' the attempt is made to give a detailed synopsis of contents of the article, giving names of species described with pages of publication cited, etc. Such details belong more properly to an index to systematic botany rather than to a more general index to periodical literature, which it would seem to us is all that should be attempted. Such a title as the above need

have no more than two cards, one for the author and one to be classified under Africa, with its appropriate geographic subdivision.

The method of citing volume, page and date is not at all uniform in the different divisions of the subject. We would recommend the following, which is the form used in the Index to American Literature relating to Botany, which has been in successful employment for several years and is the form commonly used by American botanists. It is further only a slight modification of the form used by the present committee in some of the sections, *e. g.*, Mineralogy.

The rules in use by American botanists are as follows:

1. All citations commence with the author (last name), followed by initials, followed by a comma, followed by the title abbreviated according to a definite uniform formula so as to be clearly distinctive.

2. Citation of journal is followed by series number (if any) in Roman, followed by a period.

3. Volume number follows in black letter (full-face type), followed by a colon, all other punctuation being periods; this is distinctive.

4. Pages limiting the articles follow, separated by a hyphen, or, if consecutive, by a comma, *e. g.*, 314–345. 32, 33.

5. Plates and figures follow printed in italics and abbreviated as follows: *pl. 37–39.—pl. 5. f. 3.*, all separated by periods.

6. Last of all follows the date, either the year only, or, in matters where priority of publication is involved the exact date if known, the months abbreviated according to the American Library system.

A sample may be seen in the following:

Greene, E. L., The American species of Quercus. Jour. Washington Biol. Soc. II. 13: 223–257. *pl. 9–16.* 3 Ja 1898.

In this way the desired facts of the citation are orderly and easily noted.

The scheme under consideration seems to involve only one size of cards for the topics. As many of the larger American libraries regularly use the narrow standard cards, the slips should be capable of being printed on both standards. In the samples given, much space at the top of the card is wasted in giving the letters and numbers that designate the position of the card in the series. This is a subsidiary matter when the card is once in place and should be so printed that the title which is of prime importance should be placed as near the top of the card as possible, to facilitate ease of reference when standing on edge in its tray.

L. M. Underwood.

N. PHYSIOLOGY.

I have been asked to say a word regarding the scheme of classification of physiological literature proposed by the Royal Society.

The suggested schedule is primarily and essentially a morphological one, the basis being cells, tissues, organs and organisms. In the present state of physiological investigation doubtless this is preferable to a scheme based on function alone, and the proposed scheme is comprehensive and in most respects excellent. But there is one defect that seems to me serious. There is no place for articles upon a considerable number of general physiological principles and phenomena, such as physiological division of labor, irritability, summation of stimuli, rhythm, specific energy, automaticity, fatigue, etc., etc. Many of these apply equally to cells, tissues, organs and organisms. When they are discussed with reference to specific things the articles can be classed under 05 of the respective groups. But when they are discussed simply as general principles and phenomena there is no place for them. It may be intended that they shall be placed under 'Philosophy' (0110), but such a position, under the heading 'Physiology of the Organism as a Whole,' would be only partially correct. This is the most serious omission in the proposed schedule and should not, it seems to me, be allowed to exist. It can readily be obviated by inserting between 'General

Experimental Methods' and 'Physiology of the Organism as a Whole' a new paragraph entitled 'General Physiological Phenomena,' or something similar.

Regarding one of these general phenoma a further word may be said. It has been thought best to give 'Fatigue' a special place, numbered 35, under both 'Muscle' and 'Nerve.' This is probably wise, but if it is recognized here, why not elsewhere, and why is not the same number reserved for it in other groups? Under 'Spinal Cord' 35 signifies 'Relation to Sensations'; and under 'Cerebral Hemispheres' it signifies 'Tracts of Association and Commissures.' Doubtless any scheme of bibliographical classification must be guilty of inconsistencies, but there seems no necessity for this one.

I need not emphasize that I am greatly interested in the proposed catalogue, and I trust that nothing, not even differences of opinion regarding the scheme of classification, will prevent its prompt inauguration.

FREDERIC S. LEE.

P. PSYCHOLOGY.

A SCHEME of classification for psychology has not been submitted with the other schedules. This is unfortunate, as the subject-matter of psychology and its classification require careful consideration. This can scarcely be given in Great Britain, where the science is more backward than in Germany, France and the United States. The *Zeitschrift für Psychologie und Physiologie der Sinnesorgane* and the *Psychological Review* publish annual bibliographies and the *Index* of the *Psychological Review* is republished in the *Année psychologique*. It is to be hoped that the committee of the Royal Society will consult these journals and profit by their experience. The *Psychological Index* for 1898 contains 2,558 titles, has been issued within three months of the close of the year, and is sold for $1.00. The total cost of the *Psychological Index* (500 copies) is about $250. For the book catalogue of the Royal Society's plan the cost per science with 2,500 titles is estimated at $1,700 (which does not include the real work of classification done by the regional bureaus), and the volume is to be sold for $5.00. It is by no means certain that the somewhat cumbrous machinery proposed will furnish a better bibliography of psychology than that of the *Psychological Review*, and it does not appear that psychology will profit greatly by the International Catalogue unless the card catalogue is undertaken. This I regard as far more important than the book catalogue.

While no schedule for psychology has yet been proposed, there is a certain amount of psychology in the other schedules. I do not understand why the obsolete psychological classification of physics has been partially followed. 'Theory of Wave Motion' is given as a sub-heading under 'Vibrations, Waves and Sound'. Heat with a sub-heading 'Radiation' is given earlier, while 'Light' comes later. There is given a heading 'The Sensation of Sound' under Physics, and one on 'Hearing' under Physiology. In both sciences we find, *e. g.*, a sub-heading 'Limits of Audition dependent on Intensity and Pitch.' In neither science is there a corresponding heading for Vision. Sensation and Perception should be confined to the schedule for Psychology.

J. MCKEEN CATTELL.

Q. ANTHROPOLOGY.

THE classification of Anthropology suggested in the 'Report of the Committee of the Royal Society of London' does not seem to be very systematic. It does not quite exhaust the subject-matter of anthropology, and, on the other hand, certain topics are repeated under different headings. In drawing up a schedule of this kind it

might be well to utilize the experience gained by a number of journals which have given full bibliographies of anthropology for a series of years, principally the bibliography of the 'Archiv für Anthropologie,' which has been continued successfully through a considerable series of years, and from which also an approximate estimate of the annual number of entries may be gained.

It would seem that the schedule for anthropology should correspond with the schedule of geography, of zoology, of physiology and of psychology. The numbers J 3700, J 3710, and J 3720 relate to J 3730 and J 3740, ethnography, population and race, language, customs and occupations, migration. These will be duplicated in Q. On the other hand, the topographical classification applied in geography should be applied in the schedule for anthropology.

The division Anthropometry, which is evidently meant to embrace the anthropological treatment of anatomical, physiological and psychological questions, will probably better be arranged according to the schedule suggested for zoology, physiology and psychology. It would seem that the division Races might best be replaced by the geographical division suggested in the schedule for geography.

The term 'Ethnology' is not represented in the schedule, the last seven divisions evidently being intended to take its place. The sub-division of these divisions are of very unequal scope, and the general principle underlying these seven classes is not quite consistent. This is partially true of sociology in its relation to arts, religion and administration. If the sub-divisions were carried out in the manner proposed, the number of secondary slips would become exceedingly large, probably so large as to become unwieldly. For this reason it would seem to the writer that for descriptive material a less number of sub-divisions combined with geographical sub-divisions might be used, while for ethnological discussions the geographical sub-division might be disregarded, and an exhaustive ethnological sub-division might take its place.

Franz Boas.

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*THE DANGER OF INDISCRIMINATE ACCLIMATIZATION IN THE CASE OF MAMMALS AND BIRDS.**

Two events of the past year have drawn attention to the evils which are likely to follow the unrestricted introduction of birds and mammals into new localities. The attempt to expel the English sparrow from Boston Common last spring aroused unusual interest in this bird throughout Massachusetts and made many persons realize, perhaps for the first time, the extent to which it had spread in the United States. The recent acquisition of new territory has brought up the question of dealing with new pests and preventing their introduction into this country. Both Hawaii and Puerto Rico are overrun by the mongoose, one of the most destructive animals in the world, and prompt and effective measures are necessary to prevent its introduction into some of the Southern or Western States.

Acclimatization has deservedly attracted widespread interest, but too little attention has been paid to the safeguards necessary in such experiments. Animals and birds, unlike plants, are seldom kept in captivity, but are liberated in order that they may live as nearly as possible under natural conditions. Even domesticated animals may cause untold damage if allowed to run wild and increase indefinitely, as shown by the work of goats and cats which have been turned loose on islands. Animals,

* Abstract of article entitled 'The Danger of Introducing Noxious Animals and Birds,' Yearbook of the Department of Agriculture for 1898, pp. 87-110. Illustrated.