periods immediately following prolonged mental work over periods preceding it.

Dr. Livingston Farrand read a paper on 'Basketry Designs of the Salish Indians.' The paper was a contribution to the solution of the problem of the evolution of decorative art and particularly of the question of development of geometric patterns from realistic portrayals of natural objects. Attention was confined to the basketry designs of the Salish Indians of British Columbia and western Washington, which exhibit certain peculiarities marking them off rather sharply from the designs used by neighboring stocks. It was shown that while the adjacent tribes in the Northwest make use almost exclusively of animal designs, and their conventionalism is of a unique nature and not geometric, the tendency of the Salish decorations, on the other hand, is entirely in the direction of extreme geometric conventionalization and the use of animal motives is not predominant. The questions of variants and of convergent evolution in designs were discussed, and the points made were illustrated by the exhibition of a large number of designs taken from the baskets collected by the Jesup North Pacific Expedition from the region under discussion.

C. H. Judd read a paper on 'Movement and Consciousness.' Reference was made to the recent psychological discussions which have emphasized the importance of movement and motor nervous processes as conditions of consciousness. It was pointed out that just as psychology must look for the conditions of sensation elements in non-psychical processes, so a careful analysis of the facts of perception force us to look for the represented factors and for the synthetic activities in non-psychical conditions. In support of this position examples were cited in which the representative factors were not capable of conscious revival even with concentrated attention, and it was shown that synthetic activities become progressively less conscious the more complete and immediate the process of perception becomes. Finally, the attempt was made to discover in the facts of movement and in the nervous processes which follow the reception of sensory stimulations, the conditions of perceptual synthesis and the conditions which make possible present effects of past experience without complete or even partial revival of any sensory factors, either as revived sensations or as repeated sensory stimulations in the nervous system.

CHARLES H. JUDD,
Secretary.

DISCUSSION AND CORRESPONDENCE.

RECENT WORK ON COCCIDÆ.

THE writer was away from his office and without access to current literature for most of the summer just passed, and only recently has seen in SCIENCE for July 21st (pp. 86–88), the reply of Professor Cockerell to the article entitled 'Sources of Error in Recent Work on *Coccidæ*' (SCIENCE, June 16, 1899, pp. 835–837). The article last cited was written with no other intent than to point out, with the hope of benefiting the future literature on the subject, certain sources of error which were being rather emphasized by some of the more recent work on scale insects. To avoid personal features, the enumeration of examples was reduced to a minimum and the chief offenders were not pointedly indicated. That some check of this sort was needed is evident enough to any one familiar with the literature, and is further shown by the writer's having received, since the publication of the article cited, letters thanking him for his action from several of the leading entomologists of this country and oral thanks from a good many others, not to mention such editorial approval as that in the *American Naturalist* for September, 1899.

Professor Cockerell's reply serves two very useful purposes. First, it does what the writer, through a perhaps ill-advised sense of courtesy, failed to do, namely, indicates the real and chief offender, who now comes to the front and courageously announces, 'I am the man!' In the second place, it enables him to point out definitely the character of work which had previously been referred to in very general terms out of consideration for the persons concerned whose work in the main it was not wished to disparage.

The opening remarks of Professor Cockerell, relative to his eight years experience in *Coccidæ*, are rather regrettable in view of some of the

results they have yielded; in fact, this whole paragraph reminds one more of the efforts of an attorney with a bad case to indulge in disparagement of the opponent rather than the introduction of evidence. In discussing at length, as Professor Cockerell does, the difficulty in determining what are good specific characters, very safe ground for dilation is found, but unfortunately this discussion has little bearing on the criticisms in the original article which applied for the most part to the use of trivial characters, or such as have no relation whatever to the insect itself, but rather to its coverings and general surroundings.

Coming now to the example of the kind of work mentioned, and the complaint is made that the writer has generalized on very insufficient grounds, the synonyms for which Professor Cockerell is responsible of a single species will be considered, and these furnish ample material to illustrate the faults alluded to. The species taken to serve this purpose is *Aspidiotus lataniæ* Sign., hitherto known in this country as *Aspidiotus cydoniæ* Comst.,* and variously by Professor Cockerell as the species last mentioned and also *convexus* Comst., *punicæ* Ckll., *greenii* Ckll., *lateralis* Ckll., and *crawii* Ckll. In other words, the synonyms of this species, as given by the writer in a recent number of the *Canadian Entomologist*, indicates that within the last three or four years Professor Cockerell has redescribed it not less than four times, besides indicating a fifth form by reference of material to '*convexus* Ckll. not Comst.'

If one examines the characters on which Professor Cockerell separated these supposed new species, now shown to be synonyms of *lataniæ*, their trivial, if not farcical, nature will be apparent.

Before considering the status of these synonyms, it may be said in explanation that when Professor Cockerell was last in Washington he was invited by the writer to examine the type material representing them in the Department collection and to point out the characters upon which the species are based, the original descriptions having been very inadequate. He made such study and was unable to give structural characters of the insects themselves, but submitted a synoptical table based chiefly on the scale covering, as indicating his reasons for believing the species to be good. This table follows:

PROFESSOR COCKERELL'S TABLE.

1. Exuviæ dark brown or black..... 2
   Exuviæ pale orange or brownish..... 3
2. Lower Sonoran and tropical.....*cydoniæ* Comst.
   Upper Sonoran, on Salicaceæ and Melia
   convexus Ckll. not Comst.*
3. Exuviæ central or almost in the mature ♀ scale. 4
   Exuviæ lateral or sub-lateral in the mature ♀ scale (circumgenital glands few, groups of 2–5 only)..... 5
4. Scale snow white; on *Punica*.....*punicæ* Ckll.
   Scale greenish; mostly on Palms.....*greenii* Ckll.
5. Scale grayish brown; inner notch of median lobes absent, spines longer.....*lateralis* Ckll.
   Scale rather larger, reddish gray; inner notch of median lobes distinct; spines shorter; processes of first interlobular interval short united
   crawii Ckll.

To appreciate this table it should be explained that the species concerned *lataniæ*, secretes in the case of the female a convex circular scale, and moults twice, the cast skins or exuviæ, and especially the second and larger one, ultimately becoming brownish in color and forming part of the central portion of the scale covering. The scale secretion proper is of white wax, but is as a rule discolored by a thin shale of bark carried up over it and by the dirt or mould which accumulates on the bark or on the scale itself. The exuviæ attach to the inner central portion of the scale and show through it as a brownish

* *Aspidiotus lataniæ* was described so briefly by Signoret that without an examination of the types it was altogether impossible to recognize the species in new material, and the failure to do so hitherto has every excuse. Fortunately, Mr. E. E. Green has recently been able to examine Signoret's types and has drawn up a careful and full description of the species, accompanied by an excellent figure of the last segment of the adult female insect. He points out the close resemblance of Signoret's species to Comstock's *cydoniæ*, and a comparison which I have made of Mr. Green's description and figure with type material of *cydoniæ* shows conclusively the identity of Comstock's species with Signoret's.

* Some of the material thus referred actually represents an apparently undescribed species, but not that on the food plants mentioned.

spot. The approximately central position of the exuviæ is a generic character and applies to scores of species, but is often modified and quite naturally by the crowding of the scales or by irregularities of the surface on which the insect rests. The shade of brown of the exuviæ varies with the age of the scale, from pale orange at the start to different shades of brown, darkening more or less with time and exposure, and as influenced by conditions of moisture or dryness or different food plants, etc.

The question of locality is of little value, the species itself having a wide distribution and belonging to a group having an extensive range in point of latitude. The few structural characters noted, where they are not evidently based on the accidental effects of preparation and mounting, are included in the normal variation of typical specimens of Comstock's *cydoniæ*.

There remains, therefore, to be considered merely the extremely variable colorational features of the scale covering. Referring to the table, it will be seen that the supposed species are divided into two groups on the shade of color taken by the drying bit of cast skin or exuvia. The species with 'dark' exuviæ are separated on the ground of latitude, namely, those from north of a certain arbitrary line are *convexus*, and those from south of the same line are *cydoniæ*.

The group with lighter colored exuviæ (and be it remembered that with practically every lot of material the exuviæ of different specimens range widely in color) is again separated into two sections by the alleged central or non-central position of the exuviæ. An examination of the type material indicates that the only possible basis for this is that in the scale or scales which happened to come under Professor Cockerell's eye, the exuviæ were pushed slightly to one side by conditions already noted. In this group, *punicæ* is differentiated by its possessing a snow white scale (which simply means that the scales examined happened to be free from extraneous matter), *greenii* is characterized by its having central exuviæ (sic !) and by a greenish coloration (which latter proves on examination of the material submitted by Professor Cockerell to be caused by a greenish mold or fungus which covers exteriorly a few of the scales. It must be confessed, however, that the writer had hitherto supposed that this species was given its name not from coloration, but in honor of Mr. E. E. Green !). The scale of *lateralis* differs in being grayish brown, a coloration derived from extraneous matter, and the species, as indicated in my former article, was described as a variety of Newsted's *diffinis* from immature specimens of *cydoniæ*. *Crawii* is separated because presenting a reddish gray coloration, which on examination is seen to come from the reddish bark of the plant carried up over the exterior of the scale as described in my former article.

Further comment is not needed, nor is it necessary to go beyond this single example, especially as this JOURNAL is not the most suitable place in which to undertake a revision of the entire group.

If all such careless and hasty work could be overlooked and ignored, little harm would result, but unfortunately these scale insects have many of them a considerable economic importance, and it is necessary to be able to determine them promptly and accurately. While it is possible for the care-free species-maker to sit down and, regardless of literature and type material, his own included, jauntily dash off, before breakfast perhaps, half a dozen new species and see them published the same week in the most accessible vehicle, it means unfortunately that someone else, if he be so favored as to get the type material and the description, has to spend hours perhaps with a microscope, dissecting needle, and drawing camera to determine finally that the insect described is an old and well-known species, or, in other words, what was five minutes' play for the heedless describer, causes the conscientious student, even under the most favorable conditions, several hours of real work.

One of the greatest evils complained of also is the complete disregard of proprieties and custom in the publishing of new species and new notes and facts regarding them in all sorts of out of the way and inappropriate places. 'The 20th Neotropical *Aspidiotus*,' published in a Chilian journal, may tickle the author's pride, but it adds very much to the difficulties of future students. Similarly new species and

varieties published as pamphlet brochures or as short papers in journals difficult or impossible of general access, as, for example, in such out-of-the-way places, from the standpoint of scientific literature, as Chile, Brazil, Jamaica, or Trinidad, are a positive detriment to science, because very few will ever be able to consult the original descriptions and very possibly the author himself often fails to receive a copy of them. This is all bad enough, but much worse is the use for publication of new species, or new facts and notes, of local daily or weekly journals of all sorts, such as *The Jamaica Post*, *Tri-Weekly Budget*, *Daily Gleaner*, *California Fruit Grower*, *Rio Grande Republican*, *Southwestern Farm and Orchard*, *Manhattan Kansas Industrialist*, *California State Board of Horticulture*, etc. In one number of the *California Fruit Grower*, for example, and none of the titles given are fanciful, no less than seven new species of scale insects are indicated, including *crawii* and *greenii*, noted above, and this as late as 1897.

This matter has been gone into perhaps already fully enough, and in fact the writer regrets the apparent necessity of continuing the discussion, hoping as he did that his first article would serve the needs of the case. If any 'running amuck' has been done, it is in the hasty publication of half-digested studies, as illustrated by the consideration of the single species given above.

C. L. Marlatt.

U. S. Department of Agriculture.

THE AMERICAN PHYSICAL SOCIETY.

The first regular meeting of this latest comer in the brotherhood of societies was held at Columbia University, Saturday, October 28th. A preliminary meeting in June elected officers and decided some details.

It is proposed to hold four meetings annually, simultaneously with the American Mathematical Society, which also meets at Columbia University. It is hoped that the two societies will coöperate and benefit each other. At the same time the new society is pledged to cooperate with Section B of the American Association for the Advancement of Science.

On Saturday last the mathematicians adjourned to hear the opening address by the President, Professor H. A. Rowland, who handled the great questions which confront the physicist of to-day in a most interesting manner and elicited frequent applause.

After business discussion several papers were presented.

Professor Rowland described experiments which failed to demonstrate an 'ether-wind' or a movement of the ether with moving matter, which would be of extreme interest if found.

Professor Pupin showed a method of rectifying alternating currents by an electrolytic cell and battery.

Professor Webster gave a semi-popular illustration of the propagation of an electromagnetic wave in the ether, and deduced the formulæ. He also showed and explained a curve-tracing top.

The meeting was eminently encouraging. Some thirty or forty working physicists were gathered together, representing fifteen or sixteen leading universities and colleges, and all seemed agreed that the new society was needed and would be a success.

The next meeting will be held at Columbia University between Christmas and New Year.

The present officers are: H. A. Rowland, president; A. A. Michelson, vice-president; Ernest Merritt, secretary; W. Hallock, Treasurer.

W. H.

SCIENTIFIC NOTES AND NEWS.

By the will of the late Judge Charles P. Daly, the American Geographical Society, New York, receives $5,000 for the founding of a medal to be given for distinguished geographical services.

A preliminary meeting of the members and fellows of the American Association for the Advancement of Science resident in or near New York City was held at Columbia University on October 24th, to make preliminary arrangements for the meeting of the Association to be held in New York during the last week in June, 1900. The business transacted included the election of an executive committee as follows: Professor J. J. Stevenson, Chairman, Professor J. McK. Cattell, secretary, Mr. Geo. F. Kunz, treasurer, Professor H. F. Osborn (entertainment), Professor N. L. Britton (excursions), Mr. C. F. Cox (transportation), and the general