They say: "The complete building up of the latent image is now generally considered as divisible into two stages: (1) The absorption of light by silver bromide and the immediate resulting mechanism, and (2) complicated chemical reactions between the product of the light action and the other substances, such as gelatin, present in the emulsion." This description seems to me incomplete, because it applies equally to the formation of the visible image. It seems to me preferable to say that the primary event or elementary process is the separation of the electron from the bromide ion. We have then

followed by other processes

The formation of a latent image involves both the segregation of bromine and the aggregation of the silver atoms produced. The mode of this 'aggregation' appears to me an essential aspect of the "complete building up of the latent image".

This formulation of the steps tacitly assumes that no work of predissociation or disgregation of the silver halide lattice is necessary at the interface with a conductor, as suggested in my letter in *NATURE* (121, 574; 1928) and discussed in detail in the *Journal of Physical Chemistry* (33, 250; 1929).

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The Classification of Soils for Purposes of Survey.

THE growth of interest in soil surveys of recent years and the impetus given to the natural study of soil by the work of the Russian pedologists have led to considerable discussion directed towards the formulation of a world system of classification. C. F. Marbut (*Proc. Intern. Congr. Soil Sci.*, iv. 1; 1928) has proposed a scheme which amplifies the earlier classification of Glinka, using profile as affected by climate as a basis. The problem of the worker in a

according to conditions of formation. This furnishes the series which, following American practice, are named after the localities in which they have been studied. The final types are given by considerations of texture.

For example, soils derived from non-calcareous sediments of Cambrian, Ordovician, and Silurian age, excepting hard crystalline grits, form one suite. Normal sedentary soils of this suite are called the Powys series and give such types as the Powys silt loam, Powys light loam, etc. The corresponding drift soils form the Penrhyn series; soil with impeded drainage, the Bethel series; podsolised soils, the Hiraethog series; and alluvial soils, the Conway series.

In addition there are a few series depending on purely local conditions of surface geology, and topographical soils, such as marine alluvium, dune, fen peat, mountain peat, and heath peat, for which it is proposed to use a descriptive rather than a local nomenclature.

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Bangor, June 5.

The Origin of Adaptations.

IN *NATURE* of June 1 there is printed the report of a lecture by my old friend, Dr. E. J. Allen, on "The Origin of Adaptations". I do not desire to enter into a detailed criticism of the views put forward in that lecture, but in one paragraph Dr. Allen refers to my views. He correctly states that I believe that definite proof of the inheritance of acquired characters is available in the works of Kammerer, Durkhen, and Brecher, but that Graham Kerr and Goodrich have put forward strong arguments on the other side. So far as I understand the attitude of Graham Kerr and Goodrich, it amounts to this: that having convinced themselves on *a priori* grounds that the inheritance of acquired characters is impossible, they refuse to credit any evidence on the other side. Such an attitude is very illuminating as to the mental outlook of these two biologists, but it is not helpful in throwing any light on the question.

The question of the reliability of Kammerer's results has been placed in an entirely new light by the visit of Prof. Przibram, who was Kammerer's

Parent Material.	Free Drainage.			Impeded Drainage.	Alluvium.
	Normal Phase.	Drift Phase.	Podsol Phase.		
Igneous rocks, Pyroclastic rocks, Cambrian and Ordovician grits	Bangor	Ebenezer	Ogwen	?	?
Mona Complex	Anglesey	Gaerwen	Holyhead	Gesail	Braint
Palaeozoic sediments, except Cambrian Grits	Powys	Penrhyn	Hiraethog	Bethel	Conway
Old Red Sandstone	Monmouth	?	?	?	?
Carboniferous Limestone	Gower	Pentraeth	?	?	Talwrn
Non-calcareous Carboniferous sediments	Neath	Merton	Ruabon	?	?
Trias	Salop	Wrexham	?	?	?
Rhaetic and Lower Lias	Glamorgan	?	?	?	?

small area will generally be the final subdivision of an area of soils mainly belonging to a single group in the world scheme.

The accompanying scheme indicates an attempt to classify Welsh soils, which belong to the feebly podsolised group, for the purpose of soil survey. The first division is into suites each characterised by the same or similar parent material and is, in a qualified sense, geological. The next division is into phases

teacher, to London. Przibram saw Kammerer's experiments performed, and in particular saw the critical specimen of *Alytes* living: the sole question for him was who, during Kammerer's absence on war service, interfered with this and other specimens. He had no doubt whatever as to the *bona fide* of the experiments, for they were performed under his immediate supervision.

As to Durkhen's work on the colours of the pupae