

measurement of rainfall in the British Isles and to provide a means of ensuring that the observations made by amateurs should be preserved and be made available for purposes of research and statistical inquiry. When it is considered that the Organization, in spite of every effort, does not secure the co-operation of all private observers, and that notwithstanding this limitation no fewer than 4970 records are published in this volume, some idea is formed of the valuable material that would be largely wasted every year without some such organisation. It is satisfactory to note that 97 more records have been secured than were available for the 1926 volume.

Turning to the facts about the year's rain revealed by this latest volume, it is noted that over the British Isles as a whole, an excess of rain was measured in 1927; this is the fifth successive wet year. This fact suggests that some climate 'surge' is in operation: the probability is 32 to 1 against such a run of wet years having arisen by 'chance.' Only four wetter years have occurred during the last sixty.

The general arrangement of the volume under review is similar to that of recent volumes. The heavy snowfall at Christmas in the south of England, after a considerable period during which the reputation of that season for snow has steadily declined, has inspired a special article by Mr. L. C. W. Bonacina on the snowfall of the half-century from 1876 to 1925. There is also a report by Mr. F. Hudleston upon experiments with rain-gauge shields: these experiments throw further light upon the problem of getting accurate measurements of rain in places unduly exposed to the sweep of the wind. There are in addition detailed discussions of cases of exceptional rainfall, and monthly, seasonal, and annual maps showing the distribution of rain over the British Isles for those periods.

*Adsorption und Kapillarkondensation: Theorien der Adsorption und Kapillarkondensation von Gasen und Dämpfen an festen Oberflächen und in porösen Körpern.* Von Erich Hückel. (Kolloidforschung in Einzeldarstellungen, herausgegeben von Richard Zsigmondy, Band 7.) Pp. vii + 308. (Leipzig: Akademische Verlagsgesellschaft m.b.H., 1928.) 20 gold marks.

In this critical survey of the theories of the processes of adsorption, particular attention is directed to the limits of validity of the assumptions made in the various hypotheses, and the gaps between existing theories have been bridged by an application of the resources of modern physics. A unification of theory has been attempted, and the same basic principles have been applied to the whole range of adsorption phenomena. Irreversible processes—for example, chemical action—do not come within its scope; the knowledge of these branches is too incomplete to warrant the extension of the theory to them. The book has been written with the aim of its being intelligible to a public possessing no great mathematical knowledge.

The unifying principle is found in the idea that

the effective range of molecular forces is less than the molecular diameter. This idea runs like a silver thread through the fabric of the book. Its substantial accuracy is demonstrated by a mathematical analysis of strength of the electrical field extending from the surface of a crystal of rock-salt and calculation of the heat of adsorption of dipole molecules by this surface. This analysis, as was shown independently by Lennard-Jones, leads to heats of adsorption of the correct order. The formation of a more or less complete monomolecular layer in processes of adsorption is a consequence of the rapid decrease in the strength of the electrical field at the solid surface.

The properties of this film are examined in detail over the whole range of surface density, and linked up with the processes of capillary condensation which occur when gases below their critical temperatures are adsorbed in porous bodies. A simple treatment of the theory is found to be adequate for the interpretation of the major experimental facts; minor deviations from the simple theory, however, are examined from the point of view of the dipole and quadripole nature of the adsorbed molecules and the electrical and Van der Waals' forces acting between them.

The volume stimulates the reader's interest in the complex interplay of molecular forces which give stability to the monomolecular layer on the surface of solids.

*Artistic Creation and Cosmic Creation.* By Prof. S. Alexander. (Annual Philosophical Lecture, Henriette Hertz Trust, British Academy, 1927.) (From the *Proceedings of the British Academy*, vol. 13.) Pp. 26. (London: Oxford University Press, 1928.) 1s. 6d. net.

THE usual theory of artistic creation is that the work of art, previous to its execution, "exists in the artist's mind as an image or intuition." In his Adamson lecture ("Art and the Material"), Prof. S. Alexander has already given reasons for believing that this conception is mistaken. On the contrary, the artist "does not in general first form an image (if he is a poet, say) of what he wants to express, but finds out what he wanted to express by expressing it; he has, in general, no precedent image of his work, and does not know what he will say till he has said it, and it comes as a revelation to himself." The work of art is "a material thing . . . dyed through and through with meanings, and these meanings sustained and supplied by the appreciating mind." Thus the essence of the work of art is that in it "creative mind and the material are indissolubly fused." But in applying the analogy of the arts to the universe, "we must discount the finitude of the partners in the transaction." The infinite, being infinite, can have nothing outside itself upon which to work as an artist works on his material. The finitude involved in art must be stripped off; we must abandon the idea of "a mind or spirit which precedes the world and creates it."

"We must look to the world in its simplest expression, and there we find something which