

understand, from the continued tendency to divergence of character, why the more ancient a form is, the more it generally differs from those now living. Why ancient and extinct forms often tend to fill up gaps between existing forms, sometimes blending two groups previously classed as distinct into one; but more commonly only bringing them a little closer together. The more ancient a form is, the more often, apparently, it displays characters in some degree intermediate between groups now distinct; for the more ancient a form is, the more nearly it will be related to, and consequently resemble, the common progenitor of groups, since become widely divergent. Extinct forms are seldom directly intermediate between existing forms; but are intermediate only by a long and circuitous course through many extinct and very different forms. We can clearly see why the organic remains of closely consecutive formations are more closely allied to each other, than are those of remote formations; for the forms are more closely linked together by generation: we can clearly see why the remains of an intermediate formation are intermediate in character.

The inhabitants of each successive period in the world's history have beaten their predecessors in the race for life, and are, in so far, higher in the scale of nature; and this may account for that vague yet ill-defined sentiment, felt by many palaeontologists, that organisation on the whole has progressed.

PHYSIOLOGY

Nudism Unnecessary For Sufficient Ultraviolet Light

NUDIST cultists and others who preach extreme exposure of the human body can not justify their fads on the grounds that they are necessary to prevent rickets.

Keep your hands and face uncovered in the moderate sunshine such as occurs at the latitude of middle New York state, Prof. Arthur Knudson of the Albany Medical College, told the American Association for the Advancement of Science, and there need be no fear of being afflicted with rickets, the disease of the bones that arises from lack of ultraviolet light or vitamin D.

Experiments with rats showed Prof.

"Maxwell's Demon"

who might get around the statistical second law of thermodynamics, appears in

THE NEXT CLASSIC OF SCIENCE

If it should hereafter be proved that ancient animals resemble to a certain extent the embryos of more recent animals of the same class, the fact will be intelligible. The succession of the same types of structure within the same areas during the later geological periods ceases to be mysterious, and is simply explained by inheritance.

If then the geological record be as imperfect as I believe it to be, and it may at least be asserted that the record cannot be proved to be much more perfect, the main objections to the theory of natural selection are greatly diminished or disappear. On the other hand, all the chief laws of palaeontology plainly proclaim, as it seems to me, that species have been produced by ordinary generation: old forms having been supplanted by new and improved forms of life, produced by the laws of variation still acting round us, and preserved by Natural Selection.

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PSYCHIATRY

Frequent Use of Hypnotism Urged Upon Psychiatrists

PSYCHIATRISTS have been advised by Dr. Oscar J. Raeder of Boston to make more frequent use of hypnotism both for diagnosing and treating mental disorders. At a recent meeting of the American Psychiatric Association Dr. Raeder described cases in which he found hypnosis a quick and ready means of discovering what ailed patients in whom no physical signs of disease appeared.

A patient complained of blindness, but his eye doctor could find nothing to account for his symptoms. At the first interview, he was hypnotised and it was suggested to him that after a short sleep he would be able to see. He woke up and found to his astonishment that he could look into bright light from a window without difficulty. This, however, was only the beginning, and the patient was told to return for further treatment. It was not necessary to use hypnotism again, however, for his confidence had been won and at the next interview the real nature of the disorder was found to be mental, based on a domestic difficulty. The patient recovered and of course had no further difficulty with his eyes.

Dr. Raeder described suggestibility as a peculiarity of the mind. In hypnosis, he explained, the mind is perfectly concentrated, with no outside distraction at all. In a light state of hypnosis the patient remembers everything that has happened during the time he was hypnotised, but in a very deep state he moves about in a trance and remembers nothing at all.

In treating disease, the lighter states are much more valuable. In these states there is a greater degree of consciousness, the patient's personality exercises a greater influence through other mental faculties, such as reasoning and judgment. In the lighter states suggestion must be given over a period of time, but the effect is much more lasting. In some cases, Dr. Raeder observed, hypnosis may be only a quicker way of getting at the patient's real trouble, but in other cases he believes that it is not only quicker but actually more effective for diagnosis and treatment.

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The thin cloud of gaseous particles throughout interstellar space is so rarefied that millions of cubic miles of it would weigh only a fraction of an ounce.

Knudson that if one-eightieth of the surface area of the skin were shaved and bared to the sun's radiation, greater healing of rickets was produced than if the whole animal were exposed. Although through three to four months of winter the sunshine does not contain curative rays, the body builds up sufficient reserves in summer to prevent rickets during the winter.

Ungloved hands and exposed faces of children or adults will give sufficient chance for the sun to do its protective work and nude sunbaths for normal persons would not seem necessary in the light of Prof. Knudson's experiments.

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