

Among the monks and nuns of the mediæval Church ecstatic states were common. The constant fasting and loss of sleep to which many of these saints condemned themselves are known upon independent evidence to be fruitful sources of hallucinations, and prolonged meditation upon a given topic determined the general form of the vision. The enforced celibacy of the monastic life and the practice of self-torture were further conditions of the greatest importance. Enforced celibacy frequently gives rise to reflex neuroses, and self-torture is in many neurotic individuals a direct stimulus to the very passions which the celibate most desires to repress. It is not surprising, therefore, that the religious ecstasies of the ascetic frequently assume a highly erotic form, although expressed in the most chaste language, and alternate with apparitions of the devil in the forms of *incubi* and *succubæ*.—*From Hypnotic States, Trance, and Ecstasy, by Prof. W. R. NEWBOLD, in Appletons' Popular Science Monthly for April.*

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### EXACT DOSAGE IN EXERCISE.

Housework, chores, gardening, walking, climbing, cycling, running, swimming, and many other sports give just the kind of exercise that is indicated in certain conditions, due regard being had to the physiological effects of varying dosage. Oertel has shown how the simple exercise of walking may be adapted to sufferers from cardiac debility by prescribing the distance and speed, and the number and length of the rests, on definite paths graduated according to their slope. His interesting and original work has not only given a new direction to the treatment of certain cardiac affections, but is destined to have an important influence in establishing accuracy in the prescription of exercise. Whoever has studied the map of the environs of Reichenhall, Bavaria, prepared by Oertel for the application of his method, will acquire a vivid idea of what precision of dosing in exercise means. In this map the different paths suitable for the work are marked in four different colors, to indicate those that are nearly level, those slightly sloping, moderately sloping, and steep, and figures are placed along each route to show the space that should be traversed in each quarter hour. The locality itself is prepared for its remedial use by placing benches for resting at suitable distances, and by marking on certain trees near the path circles, colored to correspond with the map, to indicate the difficulty of that particular section. By systematic practice on the easier paths the heart and system are progressively trained and strengthened. Intelligent analysis may do the same work for cycling, horseback riding, and many other familiar exercises. In this way the dosage is practically reduced to a definite number of kilogrammetres in a