

and renown of the "Friends who had gone before." For such memorial biographies the world owes him additional gratitude; for the lives of Liebig, Wöhler, Dumas, and Graham, as described by him, will surely arouse the latent enthusiasm in many a youthful mind, and thus serve to pass on the torch of learning to new bearers.

His personal magnetism had much to do with the unprecedented success of the German Chemical Society, which was founded by him in 1868, and which is now in point of membership and influence the most important scientific body of the world. A society embracing men of every nation could only have been founded by a man who had no petty narrowness himself, who could impartially recognize and assimilate what was good wherever he found it. As a cosmopolitan, Hofmann could bring to London the thoroughness of the German schools of learning and imbue his surroundings with it, bringing back in return to Berlin the breadth of political views, the openness of social intercourse, the tolerance for opposing views, which existed in the English capital. While Hofmann shunned every form of altercation and was rarely drawn into political or social discussions, it was well known that his views were always democratic and for toleration of every sort. The only time he ever incurred the enmity of a class was during his rectorate at the Berlin University, when he took stern measures to prevent the introduction of political and religious intolerance in the student circles. I do not doubt that he was a patriotic German in every respect, but no other German has ever written words so appreciative of the French character, as it showed itself during the terrible siege of Paris, so hearty in deprecation of the fact that political jealousies have strained scientific relations—as are to be found in Hofmann's eulogies on Dumas and Wurtz.

In Hofmann the world has lost the model of a scientific man: a lover of science, both for its own beauties and for the benefits it confers upon mankind, a devoted teacher, a shining example of the rewards to be obtained by industry, integrity, and singleness of purpose. Those who have enjoyed the privilege of his personal contact will always be grateful for the view he opened to them of the beautiful and the true.

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CURRENT NOTES ON ANTHROPOLOGY. — VII.

[Edited by D. G. Brinton, M.D., LL.D.]

Laws of Variation and Fixity in Species.

It is well observed by Dr. C. Dareste, in a recent lecture, that the fundamental question in anthropology is the origin of the differences in the human species. These differences begin with those visible in every individual, and extend up to those broad and permanent traits which distinguish the subspecies of man from each other. Beyond this they nowhere go; that is to say, no "missing link" exists which connects in an uninterrupted chain the human with any other vertebrate.

In explanation of this phenomenon of indefinite variation within fixed limits, M. Ch. du Pasquier has published an ingenious theory in the *Bulletin de la Société d'Anthropologie de Paris* (1891). He suggests that the fixity of the species, instead of being an argument against the theory of evolution, is the natural corollary of its two great factors, 1. The law of constant variation, and 2. The law of fixed

heredity. These act with like mechanical inflexibility as the motions of a pendulum, always moving but unfailingly self-limiting, and thus determining the invariability of the specific type, while leaving a wide range for racial and individual variability. His argument is lengthy and ingenious, and well worth close reading.

In such a study, where especially the characteristics of races are the chief topics of investigation, the anthropologist will act wisely if he follows closely the track of the general zoologist. With a few easily explained exceptions, the areas of characterization of the species man are identical with those of the higher living vertebrates; and it is very significant that zoologists acknowledge that no two of these regions are of equal rank in their capacity for the development of organic forms. This has direct bearing on the deep-seated differences between races, and explains how they can be radically diverse and yet members of the same species.

The Criminal Anthropology of Woman.

It is a fact that in all countries there are fewer convictions for crimes of women than of men. European statistics vary from the highest, 37 per cent, in Scotland, to the lowest, rather less than 6 per cent, in Italy. It is also noted that there is a very wide difference between city and country. The proportion of female criminals is always higher in rural districts, sometimes reaching nearly to that of the males.

Various explanations of these facts have been suggested. Some are complimentary to the sex, as that women are not given to intoxicants, nor to gambling, nor to roving; they are more timid, more religious, more tender-hearted, and their sexuality is more passive. There is something in all these reasons, but they do not satisfy Dr. G. Ferrero, who discusses the subject in the *Revue Scientifique*, March 26. He points out that the females of the ants, bees, and spiders are particularly cruel because they are particularly intelligent, and he reaches the ungallant conclusion that the woman of to-day is less criminal because less intelligent than the man. This difference is less in country districts than in cities; and, moreover, in cities a woman can obtain a living at less risk than by criminal acts, *par complaisance vers l'homme*. Her struggle for life is less desperate; she is less an egotist because she is protected more than men; she is less disturbed by new ideas because she is slow to perceive them. When she is bad, however, she is "very, very bad," surpassing men in callous cruelty and absence of pity or remorse. In support of these assertions he cites instances both from history and the courts of criminal procedure.

Buddhism in the Occident.

The position of the anthropologist in the study of religions should be altogether a judicial one, and not that of a disciple. One cannot regard it other than a mistake, therefore, that in Paris there has grown out of the scientific study of Buddhism a school of "Eclectic Buddhism," whose disciples are pledged to obey the principles of the school, to carry out the moral obligations it imposes, and are liable to expulsion if they transgress the "rule of conduct."

The "Master" is apparently Professor Leon de Rosny, whose lectures on Buddhism at the Sorbonne have excited much attention, and who is widely and favorably known in American as well as general ethnology. Last year he issued a brochure entitled "*La Morale du Bouddhisme*," which is probably the text-book of the school.

No one will doubt the solid ethical ground-work which

underlies all the "world-religions," Buddhism, Islam, and Christianity. It is in their religious philosophy that their sharp contrast is seen; and nothing could be more remote from the highest thought of modern Europe than the philosophy of Buddhism. This is well shown by what Barthélemy Saint Hilaire says of it in his "Life of Eugène Burnouf," published last year (p. 43), "At bottom, Buddhism is nothing more than the fanaticism of nothingness. It is the destruction of the individual carried remorselessly out to his last legitimate hopes."

The science of religion is as yet altogether too novel a branch of study to become creative or directive. It has before it a long period of analysis before it should presume to be synthetic. So this Parisian effort must be considered premature

Physical and Mental Correlation.

That veteran anthropologist, Professor Schaaffhausen of Bonn, observes in his "Anthropologische Studien" (p. 646), "One of the weightiest doctrines of anthropology is that of the constant correspondence between the development of the physical organization and the intellectual capacity."

So far as the relation between brain-structure and mental ability is concerned, probably no one who has himself studied the facts will deny this. But, in another direction, scientists are less in unison, and that is, where the question of personal beauty is concerned. Even so competent a physical anthropologist as Topinard repeats in his last work the assertion that there is no fixed canon or norm of human beauty; that it is merely a local and factitious notion, and is devoid of weight as a general factor of evolution.

This narrow opinion has, it is true, the sanction of Darwin, Humboldt, and the whole school of association philosophers; but how erroneous it is will readily be seen by reflecting on the application of the law of correspondence above quoted. Leaving aside obviously aberrant and morbid forms, such as mutilations and artificial deformities, it will be found that the underlying motive of the beautiful is that of highest function,—which is inseparable from highest capacity. The conditions required for such result are health, physical development, corporeal symmetry, and the culture of that which is peculiarly human as distinguished from what is merely animal.

When nations have ideals of beauty contrary to these principles, it is an indication of low culture and capacity. As they advance in these their ideals steadily near a definite and the same conception of the perfect human form; though it is not to be expected that the species will ever unite on any one fixed canon, because it is in the very nature and essence of the ideal that it can never become cabined, cribbed, confined within the material fetters of the real. One of the few anthropologists who have recognized and pointed out this gradual evolution of the ideal of beauty in the history of the species is Professor Gerland of Strasburg, in his treatise on general ethnography.

Relics of Glacial Man.

It has been shown by Chamberlain and Salisbury (*American Journal of Science*, May, 1891) that the Loess of the Mississippi valley basin overlies the glacial drift and so-called Orange Sand south of the limit of glaciation, and where it occurs north of this limit its relations are to the first glacial deposits. This identification lends especial importance to the finding of flint chips and arrow-heads in the Loess at Muscatine, Iowa, as related by F. M. Witter in the *Ameri-*

can Geologist, April, 1892. The evidence is not so direct or clear as one would like, but it should be enough to stimulate a thorough search in the locality.

A find of equal interest is reported from France. M. S. Meunier relates in *Le Naturaliste*, March 15, that near Montereau, in the Department of Seine et Marne, below five meters of quaternary gravels, a workman exhumed a piece of sawed horn of the extinct *Megaceros hibernicus*, and immediately adjacent to it a vase of very rude pottery, about three inches in diameter. The *Megaceros* belonged to the period of glacial cold, called by De Mortillet the Mousterien, and the association of pottery with the art of man in that early time is novel, but not at all incredible.

ASTRONOMICAL NOTES.

[Edited by George A. Hill.]

Winnecke's Comet.

WINNECKE'S periodic comet is now an easy object in a three-inch telescope, and, as it is very favorably placed for observations, it is hoped that those who have the instrumental equipment will include this object in their work. We continue the ephemeris of the comet by Dr. Haerdtl:—

	R.A.			Dec.	
	h.	m.	s.	°	'
May 31	10	53	13	+ 43	25
June 1		51	50	43	19
2		50	23	43	12
3		48	52	43	5
4		47	16	42	57
5		45	35	42	49
6		43	46	42	41
7		41	51	42	33
8		39	47	42	24
9		37	34	42	14
10		35	12	42	5
11		32	38	41	54
12		29	52	41	43
13		26	52	41	32
14	10	23	37	+ 41	19

Swift's Comet

The following is an ephemeris of Swift's comet. It is based upon a parabolic orbit computed by Dr. Berberich of Berlin. The epoch is for Berlin midnight:—

	R.A.			Dec.	
	h.	m.	s.	°	'
May 31	23	52	24	+ 37	16
June 1		54	36	37	30
2		56	46	38	3
3	23	58	54	38	26
4	0	1	1	38	48
5	0	3	6	39	10
6	0	5	10	39	32
7		7	12	39	53
8		9	11	40	14
9		11	9	40	34
10		13	5	40	54
11		14	59	41	14
12		16	51	41	34
13		18	41	41	52
14		20	30	+ 42	11