CURRENTS IN THE BOSPHORUS.

CAPTAIN MAKAROF of the Russian navy has given an account, in the Sapieski of the academy at St. Petersburg, of his observations on the currents of the Bosphorus, made between November, 1881, and August, 1882, which reaches us through the highly valued *Annalen der Hydrographie* of the German admiralty. The surface current, from the Black Sea to the Sea of Marmora, follows the windings of the strait, with occasional backset eddies near the shore: its velocity averages two knots an hour, and reaches a maximum of four knots. The velocity has a maximum in summer corresponding to the higher level of the Black Sea in that season and a faint maximum about noon, supposed to be due to the diurnal increase of the north-east wind. The undercurrent carries the denser water of the Mediterranean into the Black Sea: its water has a specific gravity of 1.02834, while that of the surface is 1.01534. The plane of contact of the two has a greater inclination towards the Black Sea: at Constantinople it is twenty metres under the surface; at the north-eastern end of the Bosphorus it is fifty metres deep. This is shown more in detail in the following table: —

Distance from Black Sea. Kilometres.	Contact plane. Metres.	Depth of water of sp.gr. 1.020.	Depth of water of sp. gr. 1.025.
0	50	45	49
9	43	39	42
20	36	33	37
23	42	25	27
29	20	25	24

There appears to be a variation in the depth of the contact plane with the seasons, but it is to be remembered that this depends on only one year's observations. At nine kilometres from the Black Sea, water of a specific gravity of 1.0225 was found in the middle of June at 43 metres; at the beginning of July, 41.5; end of July, 40.5; end of August, 34.7 metres. It is suggested that this variation depends on the height of the water in the Black Sea. The greater its height above that of the Sea of Marmora, the less the difference of pressure at the bottom of the strait, and thus the less cause for the deep counter-current. The velocity of the upper current is greatest at the surface; at the limit between the two currents, the two velocities just counteract each other; the maximum velocity of the lower stream is found at five and a half metres below this neutral surface. By considering the mean velocities and cross-sections of the two currents, it is estimated that the Bosphorus annually carries 152 cubic kilometres of water from the Black Sea.

MENTAL HYGIENE.

ONE important element that contributes to the high position that Germany occupies in the world of science is the existence of a large class of scientists devoted to a specialty, but with an intelligent and cultured interest in many topics lying more or less remotely outside their own branch. In this way an appreciative public is guaranteed for an 'atechnical' treatment (to use Hamerton's word) of one's own specialty. This is synonymous with the good sense of the word 'popular,' but it is the very opposite of much that goes by that name here. It is a concise and easy treatment of a subject, without neglecting the difficult points, or sifting out the interesting things to be served in a highly diluted form. Another enviable peculiarity of German science closely connected with the former is the ability to treat a subject from (there is no better word for it) a philosophic point of view; to bring it into relation with the questions that always have interested and always will interest mankind. As the physicians everywhere form the largest body of professional scientists, it is an especially enviable state of things when all this (as it is in Germany) is true of them. An excellent illustration of this fact is shown in this book by Dr. Schulz. He is writing upon his specialty in a perfectly clear and yet entirely scientific manner, feels confident of finding an appreciative public, and has shown an important connection between the teacher and the doctor.

The problem of civilization is to the alienist the problem of keeping sane. At no time was optimism so justifiable a faith as it is now. Comfort, liberty, philanthropy, education, and all the aids to happiness, are more wide-spread now than ever before. And yet we do not enjoy our happiness. Discontent is found everywhere. Why is this? Primitive man used muscle and nerve as his chief tools, just as we do; but formerly it was the muscle, now it is the nerve, that has the most to do. The work that modern culture demands is, above all, brain-work. The higher the civilization, the more the brain has to do. This delicate organ has become overtaxed. The onward march has been too rapid to give us time to get fully adapted to our surroundings, and an intense struggle for existence is the result. In this struggle many fail, and hence our age is called an 'age of nerves' (*nervöses Zeitalter*): hence the alarm-

Die Diätetik des Geistes. Von Dr. FRIEDERICH SCHULZ. Leipzig.