

who follow their course, see the coming of an epoch when the practical usefulness of their application will reach greater dimensions than were ever hoped for, when the progress of the physical sciences must produce a fortunate revolution in the arts. And lastly, we have yielded to the general tendency of men's minds, which in Europe seem to incline towards these sciences with an ever-increasing ardour. . . . Literature has its limits, the sciences of observation and calculation have none. Below a certain degree of talent, the taste for literary occupations produces either ridiculous pride or a mean jealousy towards such talents as one cannot attain. In the sciences, on the contrary, it is not with the opinion of men but with nature that we have to engage in a contest, the triumph of which is nearly always certain, where every victory predicts a new one." ¹

"It is," says Lakanal, in his report on the "Écoles centrales," 16th December 1794, "of great importance for the nation to assure itself that the mathematical sciences are cultivated and deepened, for they give the habit of accuracy: without them astronomy and navigation have no guide; architecture, both civil and naval, has no rule; the sciences of artillery and of fortification have no foundation." ² Gradually, under the pressure of exter-

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Lakanal.

the importance then attached to mathematics as a training of the intellect in precise thinking; nowadays it is the mechanical side that is favoured, and this is only too often destructive of the truly scientific and exact spirit.

¹ Hippeau, *loc. cit.*, p. 258. Cf. p. 261: "Hâtons-nous . . . de porter dans les sciences morales la

philosophie et la méthode des sciences physiques" (Condorcet).

² Hippeau, vol. i. p. 432. It is interesting to see how the study and teaching of the sciences in course of the second half of the last century in France undergo a development. The literary interest predominates in Fontenelle. Buffon and Voltaire add to it the philosophical and