

instances I shall choose one striking example of the development of science from occupation.

"Monge was born the son of a French pedlar about 1750. The construction of a plan he made of his native town brought the boy under the notice of a colonel of Engineers, who got him admitted to one of the military schools. His humble birth precluded him from receiving a commission in the Army, but he was taught surveying and drawing; though he was told he was not sufficiently well born to be allowed to attempt problems which required mathematical calculations. At last his opportunity came. He observed that all the plans of fortifications were constructed by long and tedious *arithmetical* calculations from the original observed measurements. Monge substituted for these a *geometrical* process he had invented which produced the plan so quickly that the officer in charge refused to receive it, because professional etiquette required that no less than a certain time should be spent over making these drawings. When once examined, its obvious superiority was recognized. This geometrical process discovered by Monge was nothing less than a new branch of geometry—known to students of engineering as practical solid geometry—a science in which, by the now familiar method of plan and elevation, a solid object can be repre-