directions. The bones, also, of the nose, of the orbit, and of the ears, require certain forms and structures to fit them for giving perfection to the senses of smell, sight, and hearing, so necessary to animals of prey. In short, the shape and structure of the teeth regulate the forms of the condyle, of the shoulder-blade, and the claws, in the same manner as the equation of a curve regulates all its other properties; and as, in regard to a particular curve, all its properties may be ascertained by assuming each separate property as the foundation of a particular equation, in the same manner a claw, a shoulder-blade, a condyle, a leg, an arm-bone, or any other bone, separately considered, enables us to discover the description of teeth to which they have belonged; and so, also, reciprocally, we may determine the form of the other bones from the teeth. Thus commencing our investigations by a careful survey of any one bone by itself, a person who is sufficiently master of the laws of organic structure may, as it were, reconstruct the whole animal to which that bone had belonged."

After applying the same principle to animals with hoofs, Cuvier comes to a conclusion even more surprising. "Hence," says he, "any one who observes merely the print of a cloven hoof, may conclude that it has been left by a ruminant animal, and regard the conclusion as equally certain with any other in physics or in morals. Consequently this single footmark clearly indicates to the observer the forms of the teeth, of all the leg bones, thighs, shoulders, and of the trunk of the body of the animal which left the mark. It is much surer than all the marks of Zadig.

"By thus employing the method of observation, where theory is no longer able to direct our views, we procure astonishing results. The smallest fragment of bone, even the most apparently insignificant apophysis, possesses a fixed and determinate character relative to the class, order, genus, and species of the animal to which it belonged; insomuch that when we find merely the extremity of a well-preserved bone, we are able, by a careful examination, assisted by analogy and exact comparison, to determine the species to which it once belonged, as certainly as if we had the entire animal before us. Before venturing to put entire confidence in this method of investigation, in regard to fossil bones, I have very frequently tried it with portions of bones belonging to well-