CONSTANTLY extending his domain, the decorative artist draws abundantly from the infinite treasures of Nature so prodigal of her splendors. Already master of the vegetable world, he now advances into the animal kingdom, there to pursue his investigations.

Toward whatever direction the artist turns when surrounded by Nature, always he discovers beauty. She is the eternal source of inspiration, the mother of every work of art and ornament. For outside the known forms of Nature any shape is inconceivable. The human mind refuses to create from nothing, and the forms which appear to us the most unexpected, the most foreign to Nature, are in reality but a transposition of remembered combinations.

If we study the decorators of grim humor through the composition wherein they have often abandoned themselves to their strangest and freest fancies—the temptation of Saint Anthony—we shall find that in their effort to create fantastic, frightful and supernatural animals, they have either assembled various elements borrowed from various animals, or they have grafted animal upon vegetable forms: in a word, that they have mingled dissimilar elements.

The mind can not conceive a form outside of Nature, and even were it able to do so, the benefit derived from this faculty would not
be considerable, nor would it compensate the efforts which the conception might cost. Let us, therefore, content ourselves with natural forms, and, according to our need, let us interpret them more or less emphatically. Furthermore, the resources at our command are inexhaustible.

It can not be contended that all natural forms are available for the decorator, but in the resources open to us we find material with which to lend to our compositions an infinite variety. We can not pretend to inaugurate the use of the animal form in decoration; for that was established in the great periods of decorative art; as for example, the famous lion frieze was produced by the Assyrians. But the animal form is rarely used to-day, and its almost complete disappearance would seem scarcely justified.

These forms differ among themselves, according to the classes of animal life which they represent. Mammals and fish, birds and insects, offer very pronounced contrasts of structure and shape; the arrangement of their organs corresponding to their material needs. In these varying forms the designer finds innumerable beautiful decorative elements existing either in complete organisms, or in fragments of these organisms, or yet in the fragments themselves. Thus, for example, in the case of a bird, one may use the entire form, realistically or conventionally, or a feather of the bird, or an element of ornament residing in the feather. Here decoration exists in its embryo state, and the task of the artist lies not only in discovering it, but also in developing it.

At the beginning of our study, it will be well to define the theme to be treated. This definition we shall borrow from Cuvier, who, in the preface of his "Natural History," expressed himself
in the following terms: "More than two-thirds of the globe is covered by the waters of the sea; considerable parts of the islands and continents are watered by rivers of all sizes, or occupied by lakes, pools and marshes, and this vast stretch of water which so greatly exceeds that of the dry land, is also not inferior to the latter in the number and variety of the living beings which inhabit it.

"Upon the land, the vital material is largely employed to form and maintain vegetable species; from these the herbivorous animals derive nourishment, and this latter being assimilated, or animalized by them, becomes food fitted for the carnivorous animals, which comprise little more than half of the terrestrial animals of all classes; but in the waters, and especially in those of the sea, wherein vegetable species are much more restricted in number, everything seems animated, or ready to become so; animal organisms exist therein only at mutual expense, or upon the mucus or other refuse of animal bodies. It is in the sea that the animal kingdom offers its extremes of size, the colossal and the minute: from the myriads of monads and of other species which would have remained invisible to us without the aid of the microscope, up to the whales and the chacas, which are twenty times larger than the largest terrestrial quadrupeds." The great naturalist continues by saying that all animal species have representatives living wholly or partly in the water; birds have the penguin, almost a fish, with wings nearly developed into fins; the mammals are represented by the seal, walrus and whale; reptiles by turtles and crocodiles; insects, crustaceans, and other forms of life can also find therein many of their relatives. Then, the author says:

"The ancients even saw that everything that exists elsewhere has its counterpart in
the sea; while the sea contains much that can not be paralleled elsewhere. But among the innumerable creatures populating the liquid element, there are none more dominating, peculiar to it, and more remarkable for number, variety of form, beauty of color, and the benefits which they offer to mankind, than those belonging to the fish tribe.

"The importance of this tribe is such that it has given its name to all aquatic animals. Therefore, in the writings of ancient authors an deven in those of our own day, who are not naturalists, we see the name of fish applied to the whale species, to mollusks, and to crustaceans, a confusion which is easily regulated because the fish tribe is one which is clearly limited by invariable characteristics.

"The definition of the fish, as it has been adopted by modern naturalists is most accurate and clear. Fish are vertebrate, red-blooded animals, breathing through gills and by the mediation of water.

This definition, given by Cuvier in 1828, we shall not pause to examine minutely, with the view of determining whether it has not been slightly modified, or amplified, by the progress of modern sciences; justifying our action by the fact that the present article deals with artistic principles alone.

We must first treat the fish as a generality. Always logical, Nature has given to the inhabitants of the water means of rapid progress. Being for the most part carnivores, they must obtain their food by hunting and pursuit. Therefore, speed is indispensable, and to assure this quality the general outlines of their bodies are fixed with absolute accuracy: these forms offer few or no projections; the body
is spindle-shaped and more or less flat; the head pointed, in order to cut the water easily; the fins are admirably fitted for swimming and steering. In principle, certain of these fins correspond to the limbs of mammals: these are the pectoral fins, placed laterally behind the gills, and the ventral fins situated upon the under side of the body.

Other fins simply perform their own peculiar functions. Such are the dorsal fins whose name indicates their position; the anal fin, situated upon the under side of the body and in front of the tail; finally, the caudal fin, placed on a vertical plane and constituting the tail itself.

Provided with this complete system of navigation, the fish darts through the water with an admirable facility, which is perhaps superior to that of the bird in the air. Its outlines, as we have before said, are finely adapted to its mode of life, and these forms differ, so as to separate the family into two principal groups: fish with spindle-shaped, and fish with flat bodies. Furthermore, in each of these categories, the differences are considerable among the various species, and according to the life of the individuals.

The pirates of the sea, such as the shark and the swordfish, have a smooth, spindle-like shape, adapted to extreme rapidity of motion; while other fish of gentler and more sedentary habits have heavier and more compact forms. Among these are the carp and the gold-fish. Others are
cylindrical, such as the eel. Certain ones have an enormous head and a dwarffish body, as, for instance, the lophius. But when Nature refuses them quickness, she presents them with the most ingenious fishing apparatus. The lophius just mentioned, in reality casts his line, and, properly speaking, he is only a great mouth set with long, hooked teeth. The upper surface of the head is provided with several filaments, very slender, very flexible, and which are only a specialization of a portion of the dorsal fin. The naturalist Lacépède thus describes the habits of this singular creature: "Having neither defensive weapons in his teguments, nor strength in his organs, nor swiftness in his movements, this fish, in spite of his large size, is forced to use the resource of those whose abilities are restricted. He is obliged to resort to trickery, and to reduce his hunting to ambuscades, a method of warfare to which his conformation well adapts him. He buries himself in slime, covers himself with marine plants, conceals himself under stones and cliffs. Then, staying patiently in his refuge, he makes visible only his filaments; agitating them in different directions, and giving them all movements which can make them resemble still more closely worms and other bait. By this means he attracts fish swimming above him, which, owing to the setting of his eyes, he readily distinguishes when they approach his enormous mask. He throws himself upon his prey and engulfs it in his gaping mouth, wherein a multitude of strong, bent teeth stand ready to devour it."

If we consider the adaptation of form to mode of life, we shall find that in general flat fish live in the bed of the waters. They have their bodies compressed in disc-form, in order to
attach themselves closely to their resting place. Such are the ray, the sole and the turbot.

The common eel, *anguilla vulgaris*, is too well known to need an extended description. Every one remembers his cylindrical body, his small and pointed head, his fins which almost completely surround his body. The eel hunts his prey by night; he is extremely greedy, and lives at the bottom of the water, near the strand of rivers, among the sedges, and beneath stones. Serpent-like, his flexibility is marvelous; while his color, also like that of a snake, varies from dark green to brown and gray.

The carp, of quite frequent use among artists, is especially favored by the Japanese, who have treated it most characteristically. The characteristics of this fish are: a single dorsal fin; scales moderately large in general, and very large in certain varieties, as in the mirror carp; spurs at each side of the mouth. Largely herbivorous, great rapidity is not essential to its success in hunting. Therefore, its proportions are somewhat heavy. Its color is brown with golden reflections, and its length rarely more than a metre. Its longevity is proverbial and its resistance well known.

The latter quality is possessed equally by another denizen of our rivers, the pike, whose nature is quite contrary to that of the carp. To
browse upon seaweed would seem tame play to this formidable hunter with elongated body, flat head, strong jaw and sharp teeth. A wide mouth and prominent nose give him a ferocious air. Attaining considerable size—up to a metre and a half in Sweden or Norway—he is usually of a yellowish green, with the under part of the body silvery, and spotted with olive. As indicated by his form, his passage through the water is extremely rapid.

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Almost as voracious as the pike, the perch further attracts attention by the elegance of its outlines. More slender than the first, and also more like a spindle in form, although slightly round-shouldered and hunch-backed, it is also more brilliantly colored; showing a greenish gold, striped with five or six vertical brown bands, with the anal, ventral and caudal fins of a lively orange. Beside, it is highly adorned; its first dorsal, anal, and ventral fins being traversed with
spine-like markings. Thus, it is able to offer fine decorative *motifs* to the designer.

The ray has less important resources, and a different character. This is a flat fish living at the bottom of the water. But its pose differs from that of other flat fish. The sole and the flounder do not lie on the belly, but upon the side, when they rest upon the soil. A flexion of tissue has allowed them to have both eyes upon the same side of the head, which is not in the least symmetrical, as the mouth also is laterally placed. The ray, on the contrary, has the mouth placed normally on the lower surface and rests upon the belly: a pose which necessitates that it shall not lie closely to the soil, but float slightly upon its fins, in order to leave the mouth free when in repose. It shows therefore a flat body terminating in a slender tail. The lateral fins are highly developed, with the ventral thrown backward, the dorsal set upon the tail, and the caudal non-existent. This fish has a special manner of swimming, owing to the wide expansion of its pectoral fins; its passage through the water resembling the flight of a bird, and its fins undulating gracefully and beating the water, as wings beat the air.

Having now presented rapid notes upon a few species, let us pass on to consider the essentials to be observed in studying fish forms considered decoratively. We have limited ourselves in the present article to pictorial sketches; but classified and documentary study should furnish other details and ensure greater precision.

The object of documentary study is to elaborate a drawing which shall represent the type of the given species. It should not be limited to a single specimen, but extend to a sufficient number of individuals to determine and establish the characteristics of the species.

It is well, first of all, to fix the principal proportions of the specimen, by assuming a fixed unit. For instance, the length of the head measured from the nose to the extremity of the opercle. This measurement will give the relation of proportions between the head and the body, the size and the position of the fins, etc. A scheme of this kind is tabulated on page 74, and, as may be inferred, the system of mensuration there used is a summary one. But it suffices for precision, and minutiae must be avoided; for the decorator is bound to give the impression, the effect of a specimen, rather than its exact representation. He is, furthermore, free to change the proportions of the
species, in view of the effect desired. He can emphasize the characteristics peculiar to the species, in order to distinguish it from others. For example, he may lay stress upon the large head of the gurnet and the fine quills with which it bristles. The perch appears slightly hunch-backed and has fins provided with small spurs, and these characteristics will furnish the germ-idea of the decorative treatment; each designer proceeding according to his fancy and the desired result.

Let us now consider the component parts of the study, which should comprise drawings of the whole and of sections of the upper and lower surfaces, of front and profile, together with sketches of poses.

Fortified by these documents, the decorator having no other model, can compose the fish-motifs which he needs, with greater liberty than if he were restricted to a realistic study of Nature. He can make his designs freer and more pliable, since, having analyzed the forms, he is the better acquainted with their relations and their characteristics.

In closing, it may be said that difficulties sometimes arise in the decorative employment of peculiar forms like those of the fish; that floral shapes are more easily used and more extensively appropriate. But fish-forms are most desirable in pottery and in jewelry.

Nature offers its charms to the designer. His duty is to accept them, to derive from them new and vital resources, adapted to advance his art, and, at the same time to vary it.