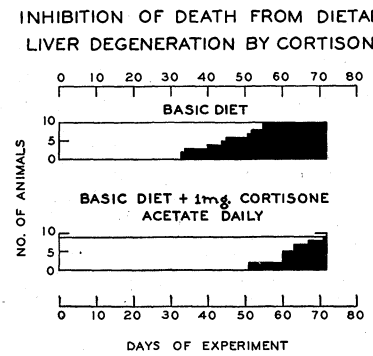

FIG. 1.

hydroxy-11-dehydrocorticosterone) is known to be a potent stimulator for glycogen formation in the liver (*11*). We have found that cortisone acetate has a delaying action on the development of liver degeneration in rats when given subcutaneously in daily doses of 1 mg/100 g of body weight (Fig. 1).

In 10 animals on a 30% yeast diet without cortisone, coma and death occurred after 33–60 days of the experiment, the average survival time being 45.2 days. The mortality was 100%. One out of 10 animals with cortisone died after 26 days with severe kidney damage; the liver was normal. The other 9 animals with cortisone survived the 50th day, whereas 7 out of 10 without cortisone were dead because of liver degeneration at this time (Table 1). Continued application of

TABLE 1

INHIBITION OF DIETARY LIVER DEGENERATION BY CORTISONE

	No. animals	Dead because of liver degeneration		Survival time (av)
		At 50th day	At end of experiment*	
Yeast diet	10	7	10	45.2 ± 3.50†
Yeast diet + cortisone acetate, 1 mg daily subcutaneously	9	0	9	60.0 ± 2.35†

* 71st day.
† Standard deviation of the mean.

the hormone, however, did not prevent the injury. The animals succumbed between the 51st and the 72nd day, the average survival being 60 days. Cortisone thus prolonged the average life span by about 15 days.

All rats on cortisone had an adrenal atrophy and an involution of the thymus. Two of them developed a marked symmetrical alopecia of the posterior body region. Separate analysis of the data for males and females showed no difference between the sexes in response to the hormone (Table 2); the number of animals, however, is too small to draw significant conclusions. The finding that females live longer than males is customary in our experiments with liver degeneration resulting from yeast diets.

TABLE 2

RESPONSE OF MALES AND FEMALES TO CORTISONE (No. of Animals in Parentheses)

	Average survival time (in days)	
	Males	Females
Without cortisone	41.5 (6)	50.1 (4)
With cortisone	57.0 (5)	65.2 (4)
Difference due to cortisone	15.5 days	15.1 days

In Europe, adrenal cortical hormones have been used extensively for the treatment of parenchymal liver diseases, specially in cases of epidemic hepatitis, and have been claimed to be efficient (*12*). It will be of interest to learn whether the introduction of Compound E will be of additional value in this field.

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The Anterior Process and the Ossification of the Malleus in Mammals

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The view generally held regarding the ossification of the malleus in man (*1, 2*), as well as in other mammals (*3*), is that the bone ossifies independently of its anterior process. In man, the center of ossification of the malleus appears near the neck, whereas the anterior process ossifies separately in membrane and joins the main part of the bone about the sixth month of fetal life (*2*).

Studies on the temporal region in alizarin-stained preparations in a number of embryonic and post-embryonic stages of *Hemiechinus* (Insectivora), *Rousettus, Taphozous,* and *Tadarida* (Chiroptera), and *Mus* and *Gerbillus* (Rodentia) have not revealed

the presence of centers of ossification in the cartilage of the developing malleus. The process of ossification of the malleus was found to start in the goniale (anterior process) and to proceed into the lamina and head of the developing malleus (*4*).

Serial sections of the temporal region in *Rousettus, Taphozous,* and *Gerbillus,* moreover, reveal that at a certain stage (the 16-mm head stage in *Rousettus,* the 11-mm head stage in *Taphozous,* and the 13.5-mm head stage in *Gerbillus*) the relation of the anterior process to the cartilage of the developing malleus is similar to that of the dentary to the distal part of Meckel's cartilage. This part of the lower jaw, which lies between the mental foramen and the symphysis mentis, was formerly thought to ossify from a separate center, and the mandible itself was considered as ossifying from 6 centers. The early researches of Fawcett (*5*) and of Low (*6, 7*) on the development of the mandible in man and in other mammals, now widely accepted, indicated that the mandible is formed from a single center, which appears near the mental foramen about the sixth week of fetal life. By the tenth week the portion of Meckel's cartilage that lies below and behind the incisor teeth is surrounded and invaded by the membrane bone.

In all the species examined by the writer the malleus was found to ossify in a manner not dissimilar to that of the distal part of Meckel's cartilage. The identity of the process in the two cases may be summarized as follows: The single center of ossification of the mandible—namely, the dentary—appears near the mental nerve. The portion of Meckel's cartilage in front of the mental foramen is surrounded and invaded by the membrane bone. For the malleus there is also a single center, the anterior process, which in the early stages develops around the chorda tympani nerve. The portion of Meckel's cartilage behind the foramen for the chorda tympani is surrounded and invaded by the membrane bone.

Reference may, however, be made to the following observations: Haines (*8*) found that the angular in some teleosts (*Mugil, Sardina,* and *Trigla*) invades the perichondrium and the posterior end of Meckel's cartilage to form the joint surface, the articular. Kingsley (*9*) referred to the peculiar method of ossification of the articular in Amphibia: ossification starts first as ectochondral bone which later invades the cartilage.

Should we speak of centers of ossification of the malleus, we would have to seek in the anterior process the sole center. For it the name "membranous center" is here applied, a term which has been proposed by Fawcett (*5*) for the dentary of the mandible.

Full details of this study will be published elsewhere.

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Barrier Island, Not "Offshore Bar"[1]

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It is time for students of shorelines to standardize their terminology by removing ambiguous terms, discontinuing double uses of the same term for different features and multiple terms for a single feature. The terminology of bordering islands ("barrier sand reefs") and miscellaneous "offshore" bars needs such standardization. Some specific changes are suggested here that seem to be especially needed at this time in view of the widespread attention being given to marine geological problems and the emergence of a specialty of geological oceanography. Other revisions of the terminology of barlike structures, including the modern use of the ancient eolian term "dune" for a somewhat dunelike underwater bar, are not discussed.

Douglas W. Johnson in his shoreline treatise (*1*) gave an extensive analysis of the form and origin of the sandy barrier bar or island of gently sloping shoreline bottoms, such as those of coastal plains. He concluded that the structure originated largely as a bar or bars formed offshore—normally submerged—and that the driving into shallow water of a series of such bars and their up-building there led to the emergence above normal tidal range of a barrier island. Hence, he adopted the term "offshore bar" for the island.

Johnson's hypothesis of the origin of the barrier island and the use—though somewhat ambiguously (*2*)—of his "offshore bar" as a criterion of "emergent shorelines" attracted much attention and fixed the use of the term "offshore bar" in the minds of many geologists. The class of normally submerged bars formed offshore which, in Johnson's view, contributed largely to the origin of the barrier island was left without a specific name, to be called merely *bars.*

Students of modern sedimentation who have not also been closely concerned with the geomorphology or structure of the barrier island itself seem to have overlooked Johnson's appropriation of "offshore bar" and continue to use the term for true bars lying in various offshore positions, typically just beyond and below normal low tide levels. This situation has caused time-consuming confusion, specifically for this writer in some transoceanic correspondence.

Textbooks of geomorphology and geology have not, so far, arrived at a full standardization of coastal terminology. This deficiency is evident in the two current texts on marine geology or geological oceanography. Thus, F. P. Shepard's *Submarine Geology* (*3*) speaks on one page of the barrier island as an "off-

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