THE DIAMOND-BACK TERRAPIN: PAST, PRESENT AND FUTURE

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"BRRR terrapin wuz de out'nes' man," Uncle Remus once remarked; "He wuz de out'nes' man er de whole gang. He wuz dat." Uncle Remus, with rare sagacity and dry humor such as never failed him, ascribed to a supposedly lowly animal a unique place among the beings that peopled the world of his fancy. But the terrapin has appealed not alone to the imagination of an unlettered story teller. Among the ancient Hindus, where philosophy or mysticism exercised high reign, the earth has been pictured as a half-sphere borne on the backs of four elephants; and these mighty creatures in turn are shown to be supported upon the back of a single tortoise—not the diamondback, to be sure, but one of its fairly close relatives. Truly, this suggestion of a tortoise or terrapin as the very foundation upon which the living pillars of the earth find support gives brother hard-shell no mean place in nature's great scheme of things. And even in the present day there exist many persons, neither unlettered nor blinded by ancient tradition, hard-headed business men in fact, that raise the terrapin to lofty rank, rating it, in the unambiguous language of cold dollars and cents, above all other animals which find their way upon the tables where men's bodies are nourished and their palates cajoled.

There is nothing of fancy in the modern exaltation of the diamond-back terrapin, nor would I even seem to suggest that men of to-day, in solemn feast assembled, approach the terrapin in anything of the spirit of philosophy or of performance of religious ceremony. We may be sure indeed that the present preeminent position of the diamond-back terrapin among costly meat foods is based upon sincere gustatory discrimination and that its savory presence is approached with no other sentiments than those which become the highest gastronomic observance. At any rate, it is fairly established that the diamond-back terrapin, lowly as it might seem to the uninitiated, holds no mean place in man's esteem, and we are surely justified in making inquiry into its manner of being, its self-perpetuation, and the conditions of its conservation.
First, there may be those who would know what is a diamond-back terrapin. Well, it is a reptile—startling as that statement may sound to some who would find difficulty in associating the most precious of flesh-pots of America with a class of animals that is generally despised. But turtles (including terrapin and tortoises) form a sort of unique class. They are never like anything else. Persons may dispute whether a certain animal, as a whale for example, is fish or mammal; they may engage in wordy combat concerning the relationships of various sorts of animals; but one can not get up the mildest kind of argument as to whether a particular turtle is a turtle or not. Turtles are unmistakable now, and it seems almost as if they always have been so. We find them in geologic formations dating from Triassic times, and almost as far back as we find them, the same principal groups are recognizable that we have to-day. The missing links that would connect them with other classes of animals are absolutely missing. Perhaps a terrapin did not support the earth originally, or have anything to do with making it, but one was there pretty early any way. Having held its own for such long ages, we may well impute to the turtle clan, biologically speaking, a rare tenacity of purpose, and a signal ability to attend to the essential business affairs of life regardless of the phenomena which, as age succeeded age, have worked marvelous changes upon the face of the earth and the conditions of animal existence. That clan has watched these changes with seeming equanimity. It is little to wonder at, then, that mythologists and fabulists have thought to divine in the tortoise, beneath its taciturn demeanor, inexpressive dome, and inscrutable countenance, a shrewd and super-animal intelligence, or even a sense of cosmic responsibility.

All members of the turtle family are alike in certain essential respects, but they differ widely among themselves in various details of structure and appearance, in habits and in size. There are those of the broad ocean with flippers instead of feet; there are those that live almost continually in the waters of rivers and ponds; there are those that seem equally at home on land or in water; there are those that live exclusively upon land; and there are some that have homes beneath the ground. As to size, there is the great leather turtle or luth of the sea, attaining a weight of half a ton at least; there are the gigantic land tortoises of the Galapagos Islands and of islands of the South Indian Ocean, attaining a standing height of 2 feet; and there are the little mud turtles that we find in pocket-sized editions.
The diamond-back stands at no extreme as regards size, form, appearance or habit; but, among turtles, the diamond-back terrapin is peculiar in one respect; that is in its choice of habitat. There are many species of turtle in interior ponds and streams; there are various kinds of turtles in the sea; but, in the zone between salt and fresh-water, the diamond-back reigns supreme. An occasional sea turtle may wander into the salt creeks; while, from the other side, the common mud turtle, at least, will trespass a little way upon the brackish marshes; but none other than the diamond-back makes its home in the distinctly tidal regions where salt and brackish waters ebb and flow.

Exactly what factors determine the limits of wanderings of the diamond-back are not known. It is exposed to virtually pure sea water in seasons of spring tides, and it has been observed to live with apparent prosperity in fresh water flowing from an artesian well when it has been supplied with sea food; yet it is not known to go into the sea, nor does it ascend coastal streams above the limit of brackish water. On two occasions experiments were conducted in keeping diamond-back terrapin in a pond and a tank of fresh water supplied from the Mississippi River at Fairport, Iowa; but in each case they survived only a few months. At such a place they could not of course receive fresh meat from the sea, and the lack of suitable food may have been at least a contributory cause of death.

Few observations have been made upon the food of terrapin in nature, but such as have been made indicate that they subsist chiefly upon small gastropods, crabs and worms. Feeding is done principally when the tide is up; then, if one is lucky, the terrapin may be found swimming in the marshes and browsing upon the periwinkles that creep upon every blade of grass. So innumerable are periwinkles upon the tidal marshes that there can be no danger of inadequacy of food supply for the small remnant of terrapin that survives in the present day. Indeed, viewing the lavish array of food and the lack of competition from its own kind, there is no occasion for wonder at the great abundance of diamond-back terrapin in former days, when, according to the stories that are told in certain regions, the terrapin were a pest to fishermen whose seines sometimes became choked with them, and when they were the cheapest and most available food to be given the slaves upon the lowland plantations.

Feeding might be continued when the tide is out, but now it seems the instinct for concealment comes more strongly into
play and the terrapin crawl into the mud where they may be partially or entirely concealed. I have known a terrapin to submerge itself in soft mud deep beneath a blue crab which had previous possession of a small bare spot amidst the marsh grass. Its presence there could never have been suspected but that the observer was close on the trail.

 Needless to say, with animals now so rare and possessing so well developed an instinct for concealment, the fisherman or collector who would find them must needs have keen vision or else shrewd knowledge of the habits of his prey. Skirting the small open places in the marsh, or following the shores of a proper creek, and inserting a stick into the mud at suspicious places here and there, may be the means of acquiring an occasional prize. However, the majority of the diamond-back terrapin brought to market are taken more or less by chance by fishermen pursuing other manner of prey.

When winter falls, the diamond-back, like other terrapin, ceases from its labors, finds shelter in the mud, usually, no doubt, in the deeper places, and remains comparatively dormant. Rarely in midwinter the hibernating terrapin is grappled by an oysterman working over a mud bottom; but it is said, too, even in the same season to be taken occasionally upon the high marshes. Little, if any, study has been made of the behavior of terrapin in hibernation. When they have been retained in an enclosure offering essentially natural conditions, I have observed that while hibernating they did not remain always in one spot. Occasionally an individual has been observed to creep slowly beneath the mud, or even to rise and swim at the surface. In this pen, none would come for food after hibernation had begun; but in another and smaller enclosure, supplied with water of nearly constant temperature from an artesian well, terrapin, on any warm day in winter, would come out in numbers to sun themselves upon the sand, and at such times they would take food as eagerly as in summer. It has since been found that young terrapin kept and fed in a heated wintering house will make rapid growth during the first winter. Terrapin can withstand for a short time, at least, cold severe enough to leave them encased in ice.

Little is known of their enemies and doubtless the large terrapin have few, but the young must not infrequently fall a prey to fish and birds and to rats and other mammals.

THE DIAMOND-BACK TERRAPIN

In regard to propagation, it is said first that the diamond-back terrapin practices polygamy, or, more correctly perhaps, indiscriminate mating. Experiments indicate that a ratio of about one male to three females in a pen is sufficient to insure a maximum of productivity in fertile eggs and healthy offspring. It is perhaps only a coincidence that, in every brood that has been reared in the Bureau's experimental work, females have far exceeded the males in number, one male to three females being a high ratio. It is not yet known whether or not this difference is due to the loss of males by death before the terrapin attain an age at which the sexes are externally distinguishable. There is another curious characteristic of terrapin. Mating does not have to occur each year. Females entirely separated from males after having mated will continue to lay fertile eggs for three of four years, but after a number of years the eggs produced are infertile and mating is again necessary before eggs will be laid from which young terrapin will develop.

Egg laying in the region of Beaufort, N. C., occurs principally in June and July though it may sometimes begin earlier. At this time, at least, the female terrapin must come out of the tide-washed regions of the marsh and tread upon dry ground. Here and there amidst the marshes the winds and waves have built low sandy hummocks upon which the terrapin often finds conditions suitable for the incubation of its eggs. In such a location I have found several nests, each containing from two to eight eggs buried beneath six or eight inches of sand. It has been observed in experimental breeding pens that some terrapin will lay more than once in a season. Professor Hay has described the process of nest making. The female terrapin, having selected a suitable location, if available, scoops out with her hind feet a jug-shaped hole about 5 inches deep and 2½ or 3½ inches in diameter at the widest part. This is the "nest" into which she backs as far as possible and drops her eggs; then, having carefully replaced the sand or earth and packed it down, she conceals the spot by crawling back and forth over it, and goes away to leave the eggs to their fate. If the sand bed is too dry and another suitable nesting place can not be found, she drops her eggs wherever she happens to be. Usually a single nest contains but eight or nine eggs, but the average number of eggs laid by a single well-grown female is known to be much higher.

That is all that we can say of the relation of the diamond-back terrapin to its family. Mating occurs at a seasonable time; eggs are laid in a proper place, and sometimes in an improper place; and, so far as we know, neither parent ever gives thought to the welfare of its offspring or even recognizes them when they meet in passing.

The young hatch from the eggs after eight or nine weeks and may remain in the nest for some time, perhaps all winter. Most of them, however, soon emerge from the nests, but only to find prompt concealment in the sand or mud or under grass and drift. Moreover the young terrapin in nature seem to take no food before the following spring and it is only then that growth may begin.

The evidence from the study of the rings on the scutes of the shell indicates that terrapin grow at a variable rate, and that a good rate of growth is about an inch or a little less a year (measured on the bottom shell) during each of the first two years, somewhat less during the third year, and about half an inch for each of the next two years. Sometimes growth is more rapid, for terrapin have been found 5½ inches in length and bearing evidence of not exceeding five years of growth; more often, as it seems, growth is somewhat slower.

The sexes become distinguishable in the third or fourth year when the females have attained a length of 3½ to 4 inches and the males a length of 3 to 3½ inches. When growth is accelerated by winter feeding of the young in confinement, sex differences, according to Hay, become evident, during the third summer. The conspicuous external differences between the sexes are the much larger proximal section of the tail and the smaller head of the male, with usually a more wedge-shaped rear outline of the carapace. The females, too, are deeper-bodied than the males. It can be observed now that the males are falling behind in rate of growth. They are, in fact, nearing full size when the females are but midway of their physical development. The average size of adult males is about 4 inches on the bottom shell; the largest example I have measured had a plastron length on the middle line of 4.16 inches, though a dealer told me that he had once possessed a 5-inch male. Females, on the other hand, normally attain a length of 6 inches or more, applying the same standard of measurement. A length of 7 inches is not infrequent and, at different times, each of two dealers has stated that he once sold a dozen measuring over 8 inches. One of these men assured me that he had had a female measuring 9½ inches. Such a terrapin would probably
have measured 18 inches from end of snout to tip of tail—a giant indeed among diamond-backs. It is apparent that the valuable terrapin of commerce is the female. The males are sold, however, and in many instances no doubt the undersized females go along with them. They are quoted as “bulls,” formerly at $10.00 to $12.00 a dozen, while “half counts,” or females measuring between 5 and 6 inches, would bring twice as much, and “counts,” or those measuring 6 inches or better, would command $36.00 to $40.00 or more; 7-inch terrapin, which are not rare, could be sold at $60.00 to $70.00 per dozen. The two exceptional dozens of terrapin measuring over 8 inches, previously mentioned, brought, according to the dealers, in one instance $96.00 and in the other $125. These are all wholesale prices, the retail prices being, of course, substantially higher.

Viewing the delay of wild terrapin in starting to grow, and the relatively slow growth, particularly during the later years, and, in connection with these facts, the great increase in commercial value with growth in size, it is evident that marked economic benefits may be derived if growth can be accelerated by the application of cultural methods and selection.

It is fair to presume that there is opportunity for selection. Certainly there is great diversity among terrapin in nearly every characteristic. The variation, or, one might say, the individuality of diamond-back terrapin, has attracted frequent comment from observers (Agassiz, Bangs, Hay and Coker). In size, in color, in depth, in outline, in smoothness or roughness of shell, scarcely any two are alike. In behavior too—in activity, boldness, promptness to take food and other respects—distinct individuality is manifest among terrapin in confinement. Correlated no doubt with activity and aggressiveness in feeding, pronounced differences in rate of growth are indicated by the rings on the scutes of terrapin of different sizes in nature, and conspicuous diversity in size marks terrapin of the same age when reared in confinement. If such traits or characteristics as those upon which differences in rate of growth are based are hereditary, and one might suppose they were, there is reason to


Coker, loc. cit.

believe that by proper selection a more rapid growing race of terrapin might shortly be developed.

But there is another chance of accelerating growth, and that is by eliminating the waste periods of winter, especially that first winter which normally is passed before feeding and increase in size are begun. This suggestion was originally offered by Mr. H. B. Aller in 1911 while Superintendent of the United States Fisheries Biological Laboratory at Beaufort, North Carolina. My experiments (p. 174 above) had already shown that terrapin will feed during the winter when given favorable conditions of temperature. Mr. Aller's significant suggestion was given effect when there was constructed a wintering house in which terrapin of various ages were kept and fed during the cold months. The house was built much upon the plan of a greenhouse for flowers, having a long sloping glass roof with southern exposure so that the heat of the sun might be availed of to the fullest extent; in addition, a small stove was placed in the center. The effort was made to maintain a temperature of about 80° F.
The results of this experiment abundantly justified the suggestion, at least as regards the stimulation of growth during the first winter of life. By the beginning of the following summer, at a time when, if left to themselves and the usual course of hibernation, the young terrapin would have been approximately the same size as when hatched from the eggs, or slightly smaller, many of the winter-fed terrapin had attained a size normally characteristic of terrapin two or three years of age. As regards growth secured during subsequent winters, it was determined, after experiment, that the increase in size of older terrapin while notable, was scarcely sufficient to justify the expense of feeding the larger terrapin with their correspondingly greater individual food requirement.

These considerations lead us naturally to the subject of the culture of the diamond-back terrapin, a field in which experiments have been conducted by the Bureau of Fisheries for nearly twenty years. The results of these experiments, as realized up to a comparatively recent date, have been epitomized by Dr. Hay in an Economic Circular of the Bureau of Fisheries entitled "Artificial Propagation of the Diamond-back Terrapin." Having referred the reader to that publication, I may be very brief in outlining some of the conditions and practices of terrapin culture.
More than 25,000 newly hatched terrapin were kept warm and fed through the cold season in this winter house of a commercial terrapin farm at Beaufort, N. C.

The first requirement is an enclosure, or several enclosures, of considerable size, in which the adult terrapin can live and feed and grow. In such an enclosure, or pound, the terrapin should find, as far as practicable, the same variety of natural conditions which he encounters in the wild state. There should be water of fair depth with soft mud bottom for hibernation, marsh, dry ground and a laying bed of fairly clean sand above the level of high tides but not so far above the water level as to be unnaturally dry. It is thought that the space enclosed should be of such an area as to allow about 10 square feet for each adult terrapin.

The second requirement covers separate enclosures for the young terrapin of different ages. Diamond-back are not known to be cannibalistic; in fact, the entire indifference of the adult terrapin to the young is the principal occasion for trouble, for the young terrapin are likely to be trampled by the large ones. The growing terrapin also have a better chance to feed if segregated according to size or age.

A third requirement for most effective results is the winter house such as has been previously described. This must have its proper equipment of water, tanks, and small troughs or trays in which the young terrapin are kept and fed. There must also be a home for the watchman and due provision for protection of the valuable stock by means of proper fencing. It is not known that fresh-water is absolutely essential to diamond-back terrapin but a supply of running water is very desirable in connec-
tion with a terrapin farm for use in cleansing the feeding boards or troughs. Not less essential than these physical requirements are the availability of a proper food supply and, finally, wise and attentive personal supervision.

The staple article fed to the terrapin at Beaufort is fish, but an occasional feeding of blue crabs or fiddlers is given. During the winter the young terrapin are fed as far as possible upon oysters, using those of the “raccoon” type which appear abundantly in shallow waters about Beaufort and which can be obtained at a low price. The fish used are obtained from local fish houses or direct from fishermen, those being employed which are not valued on the food market because of kind or size. The food must be cut into small pieces before being fed to the terrapin, and this can be done either with a hatchet and board or by the use of a common meat grinder. Quantities amounting to about 2 ounces for each adult are supplied every day during the season of activity, or from April 1 to December 1. In 1917 it was estimated that the daily cost of food ranged from five to ten cents per one hundred animals.

It is interesting to observe how quickly terrapin will learn to associate certain signs with the occurrence of meal time. If the meat is regularly chopped on a board before they are fed, within a few days the sound of chopping or rapping will be sufficient to bring large numbers of terrapin out of conceal-

Half-grown Terrapin, "taking the run."
ment and cause them to assemble at the feeding place. At one
time I fed some terrapin at night for a short period. After
but a few days, the bringing of a light to the pen in the even-
ing was sufficient to bring the terrapin out in force.

Cleanliness is an essential condition of success. In the win-
ter house proper sanitation requires the thorough cleaning of
the terrapin boxes every day and preferably the rinsing of each
box with a suitable antiseptic solution. As regards the larger
pens, sanitation may be accomplished chiefly by natural means,
that is, by having a sufficient tidal flow of brackish water
through the pen and by the avoidance of overcrowding.
Diamond-back terrapin seem little liable to disease, but they
can not withstand highly unfavorable conditions, and, where
terrapin are greatly overcrowded, or filth is allowed to accumu-
late in the pens, or other conditions are distinctly unnatural,
most serious conditions of disease have been known to develop.

The results of the experiments may be summarized. It has
been shown, that terrapin born and reared in confinement de-
velop in a normal way and will reproduce their kind; that the
reproductive cycle may be completed in 6 or 7 years, when the
terrapin hibernate in nature; and that, by preventing hiberna-
tion and forcing growth through the first winter by feeding in
a heated house, the maturity as well as the growth of the ter-
rapin may be advanced by one year, so that a new generation
is started in 5 or 6 years rather than in 6 or 7.

The adult breeding stock of terrapin steadily increased in
productivity from year to year until a certain maximum was
reached. This is well shown by a series of figures showing the
average numbers of young produced by the females of the origi-

nal breeding stock during a series of years. In 1912, for ex-
ample, the pen of breeders containing the oldest stock yielded
12.81 young per female. The yield rose each year until 1915
when 21.43 young per female were taken. Later years brought
somewhat smaller crops, but never less than that of any year
preceding 1915. In 1919, the number of offspring per female
exceeded 19. Some of these breeders have been in captivity
about 17 years. Experience, then, indicates the advisability of
retaining a select brood stock for a rather indefinite period, in-
stead of adopting new breeders from year to year, as might be
done in stock raising.

The value of winter feeding during the first season is well
established by the increased rate of growth, the shortening of
the time required to attain reproductive maturity, and the very
low rate of mortality. The death rate is generally low. Among
700 newly hatched terrapin fed on fresh food one winter the loss was about 6½ per cent. The death rate in hibernating stock was 13 per cent. According to computations made about three years ago the cost of food for winter feeding at Beaufort varied from 3 to 15 cents per 1,000 young terrapin per day, according as salt fish, fresh fish, or oysters were used. Assuming 10 cents as an average daily expenditure per 1,000 terrapin, the cost of food for 1 terrapin for a period of 5 months in the first winter was, at that time, 1½ cents.

The death rate among terrapin after the first season is so small as to be nearly negligible. It is found to be about 1 per cent. in the second year, diminishing with age to one half per cent. and less. The principal mortality occurs in the first season, and is then chiefly among the "runts," which should properly be culled out in ordinary practise. The losses are remarkably low when it is considered that deaths occur principally when terrapin are very young and before they have become a source of expense, and that the productivity of the terrapin is such that even a loss of 30 per cent. at this stage could readily be compensated for by increasing the numbers hatched and saved for rearing. So far as regards disease and death rates, the rearing of terrapin is a matter of much less difficulty than the raising of poultry.

The history of the experiments during many years gives strong grounds for belief that domestication of terrapin is accompanied by increasing productivity and diminishing disease and mortality.

The experiments in terrapin culture have not the nature of small laboratory tests but are carried out upon such a scale as to be comparable to commercial operations. There are usually about 3,000 terrapin under observation and classified in 20 or more experiments which are being directed to obtain definite answers to several practical questions that yet demand attention and justify the continuance of the investigations. It has been possible also to check results against those obtained in a commercial farm which adopted methods based upon those followed in the Bureau's work. From this it appears that the various results gained in the Bureau's experimental work are not to be taken as exceptional, but that they are, in a general way, typical of what may be expected in cultural operations conducted according to sound principles and with the exercise of proper care.

Now let us consider briefly the past, present and possible future economic history of the terrapin. Diamond-back ter-
rapin occur along the Atlantic and Gulf coasts of the United States from Buzzards Bay, Mass., south and west to Texas. At one time it was considered that there was but one species; but, after comparison of specimens from many regions, it has been determined that the terrapin should be classified in 4 species and one subspecies. They may be called geographic species; one replaces the other as we pass from one section of the coast to another. The several species, no doubt, represent adaptations of essentially the same form to different climatic conditions. It is commonly known among market men that the quality of terrapin varies according to the geographic region from which they are derived. It seems that in the earliest days of terrapin glory the Delaware Bay terrapin had highest rank; owing partly, no doubt, to the depletion of Delaware terrapin, the Chesapeake Bay came to be depended upon for the market supply and for many years now “Chesapeakes” have held unrivalled rank. As the diamond-back became scarcer in both of these bays, some shippers of Chesapeake terrapin began to replenish their stock with terrapin brought from North Carolina waters. After these had been kept for a short time in pounds on the Chesapeake Bay they were sometimes mixed with native terrapin and shipped to the markets as Chesapeake; others, no doubt, were sold correctly as North Carolina terrapin. It is certain, too, that some South Carolina terrapin were brought into North Carolina to be shipped with those of the latter State to the Chesapeake and thence to city markets. Thus many terrapin of comparatively low value, gradually acquired social prestige, as it were, by a course of travel from point to point along the Atlantic coast—from Georgetown, S. C., to Wilmington, N. C., from Wilmington to Beaufort, from Beaufort to Chrisfield, Md., and finally from Crisfield to Baltimore or Philadelphia. Had these terrapin carried hand-bags, they might have displayed an array of hotel stickers to shame the traveler returned from Europe. Even some terrapin from the Gulf States seem to have reached the markets of Baltimore and New York by a devious journey through the hands of dealers in Virginia and Maryland. It is understood among market men and others that the farther south and west the point of origin of the terrapin, the lower their quality. For many years, however, there has been evidenced an increasing willingness of consumers to accept at a lower price the terrapin from southern waters and this has served to check the otherwise unlimited rise in the price of “Chesapeake” terrapin.

*Hay, W. P., 1904, loc. cit.*
We have seen that the diamond-back terrapin has had a somewhat varied economic history, although development in the past has been in one direction. In colonial days it was the cheapest of foods, constituting a diet for slaves which became so monotonous as even to cause, it is said, an eighteenth-century strike for better food. By the early twentieth century it was the rarest of delicacies in meats. This brings us to the present, or at least nearly thereto. The war has recently intervened, with its stimulation of thrift and frugality in food, to give the terrapin a slight commercial setback. From this it has not fully recovered, and, regarding the recovery, there is a certain problem; it may be that there are two problems.

In the first place, it is well known that in times past, barely past indeed, a self-respecting chef would never give a dish of terrapin license to appear in public unless it had received its baptism of sherry. Anything else was impossible, they said. The laws of the Medes and Persians were not more strict than this dictum of chefdom. New times call for new rules; but the question is, will the terrapin survive the present regulations? Now it might be said by some that the terrapin will pass with the wine cup; that the extreme savoriness of the dish arose from the vineyard where the juice was pressed from luscious grapes rather than from the briny marshes where the particular terrapin had its former being. There is much to say against this. If the savoriness of the favored dish was due primarily to the wine that had been added, why did intelligent and experienced persons pay fancy prices for diamond-back terrapin, when other kinds of meats, other species of terrapin, too, were always obtainable at far less cost? It is known that fraudulent "terrapin" stews for the inexperienced were made from fresh-water terrapin, from chicken, and even from veal, but the evidence all indicates that the wise in the mysteries of gastronomy were never deceived by such imitations. Truly, the diamond-back terrapin must have an inherent flavor that is held to justify the price at which it is purchased. Assuming this to be the case, it is not at all improbable that, as the connoisseurs in foods adjust themselves to the new conditions when wine is no longer a condiment for any pot of flesh, the diamond-back terrapin will continue to hold its relative rank among the favored viands. The future will tell.

One other fear, apart from the effect of the ban upon "spiritual" condiments, has been voiced by a terrapin dealer. "They are dying off," he said, meaning good buyers; "It is the old buyers only that come to me for diamond-backs." This
Introduces the question of the future of epicureanism in America, a question not altogether extraneous to our present subject of discussion. Are the epicures of to-day relics of a past generation as some have suggested? While personally, I am not of the epicures, yet I have no lack of faith in the usefulness of the clan. I am not an athlete and am conscious of no desire to become one, but if I should be told that the athletes are dying off and that those which remain have acquired their skill in a past generation—I should probably "view with alarm" the impending physical deterioration of our race. Just what is the public service of an athlete it may be hard to say with entire correctness, but I have a feeling that, with their high bodily and mental skill and endurance, they are pathfinders in physical achievement, examples of possible accomplishment and leaders or stimulators of normal, healthy physical development. Just so, the epicure with his highly developed organs of taste, keen discrimination and balanced judgment in matters gustatory, discovers the possibilities in the selection and blending of foods and condiments, blazes the way to perfection of appeal to the palate and indirectly, it may well be, leads to the betterment of general standards of cooking. Physiologists tell us that savoriness of food has a decided effect upon efficiency of digestion and effectiveness of nutrition. Penologists assure us that bodily nourishment, or the lack of it, has much to do with disposition to crime. Is it possible that the epicure is one of the corner stones of human morality? At any rate I trust that his kind is not to be extinguished.

It is not meant to suggest that the fate of the terrapin, dietetically speaking, is contingent upon the survival of the epicure, as that term is understood. As regards the commercial future of the diamond-back, it would, indeed, be a sad commentary upon the fallibility of man's honored organ of taste if, after it had extolled the terrapin for so many years, it should now proclaim that the diamond-back of itself is not more savory than anything else. We shall adjust ourselves torevolutionary changes, we shall submit to the subversion of many cherished standards of thought and practise, but we shall not willingly sink to that depth of pessimism which anticipates that the supreme court of gastronomy will reverse itself. The terrapin had its course of training; it passed the high tests imposed upon it; it received its diploma and order of merit. Shall it not meet a changing world, and even go forth from cloistered epicurean walls to win and hold a broad esteem? The Diamond-back forever!