

Is That So?

By Eugene Burns
Ranger-Naturalist

To answer the abiding problem of protection, most animals—insects, spiders, shrimps, crabs and lobsters—simply grow their armor-plated skeleton on the outside instead of imbedding it deeply as in man.

This exterior skeletal architecture reaches its highest perfection perhaps in our wide-spread crabs and lobsters—some of which become quite large. In fact, I have seen giant crabs in the Aleutians weighing more than 20 pounds.

This external skeleton is made of a substance called chitin, secreted by the actual skin which lies immediately inside it. Except for the thin joints of the body, this chitin is often reinforced by salts of lime which strengthens it considerably.

Obviously such a constraining envelope does not allow for more than a limited amount of growth. Hence, whenever the wearer gets too big for his britches, he must shed them. To do so the underlying skin tissues loosen, the tough shell breaks open in one region—usually along the back or the mouth—and the body then escapes including legs, feelers and all.

Before shedding its covering, the lobster or crab retires to some hidden, sheltered nook. This it knows to do, not for modesty's sake, but because it is then highly vulnerable. With the hard case shed, it is clothed in a soft flexible skin of no protection until the new armor hardens, a matter of days.

Once out of its shell, the hidden animal swells immediately and enlarges rapidly for a few days, while it lays down once again on the outside of the skin the reinforcement of chalky chitin. Then, when the new shell is fully hardened, growth ceases again.

The molting is controlled by special glands which produce hormones.

Besides giving the wearer a

protective armor, this marvelous exterior skeleton also gives its owner structural support—something to which to attach its muscles. And better yet, to secure movement, this rigid armor is usually divided into separate plates which are held together by pliable, chitin-impregnated membranes. These not only provide wonderful movable joints but also prevent the jointed framework from collapsing, and also control the familiar bending and telescoping of the body and the movement of legs, mouth parts, and feelers.

But simply to produce form-fitting, jointed clothes which serve as a skeleton is not the only reason for the persisting molting of the crab and lobster. Actually, the chitin covering is a complex chemical compound of ammonia—a waste material which is formed in all animals due to activity. Somehow this waste must be thrown off. Being an economical animal, the crab uses this waste to manufacture chitin—hence molting lets it throw off this waste through the skin. Talk about an efficient use of waste products! Restrictions Imposed

Exterior-borne skeletons impose some restrictions. Mainly, they limit size. The larger the animal, the heavier its coat of chitin impregnated with heavy calcium must become. And the larger it becomes, the less support to its deep-lying tissues. Hence, animals with these



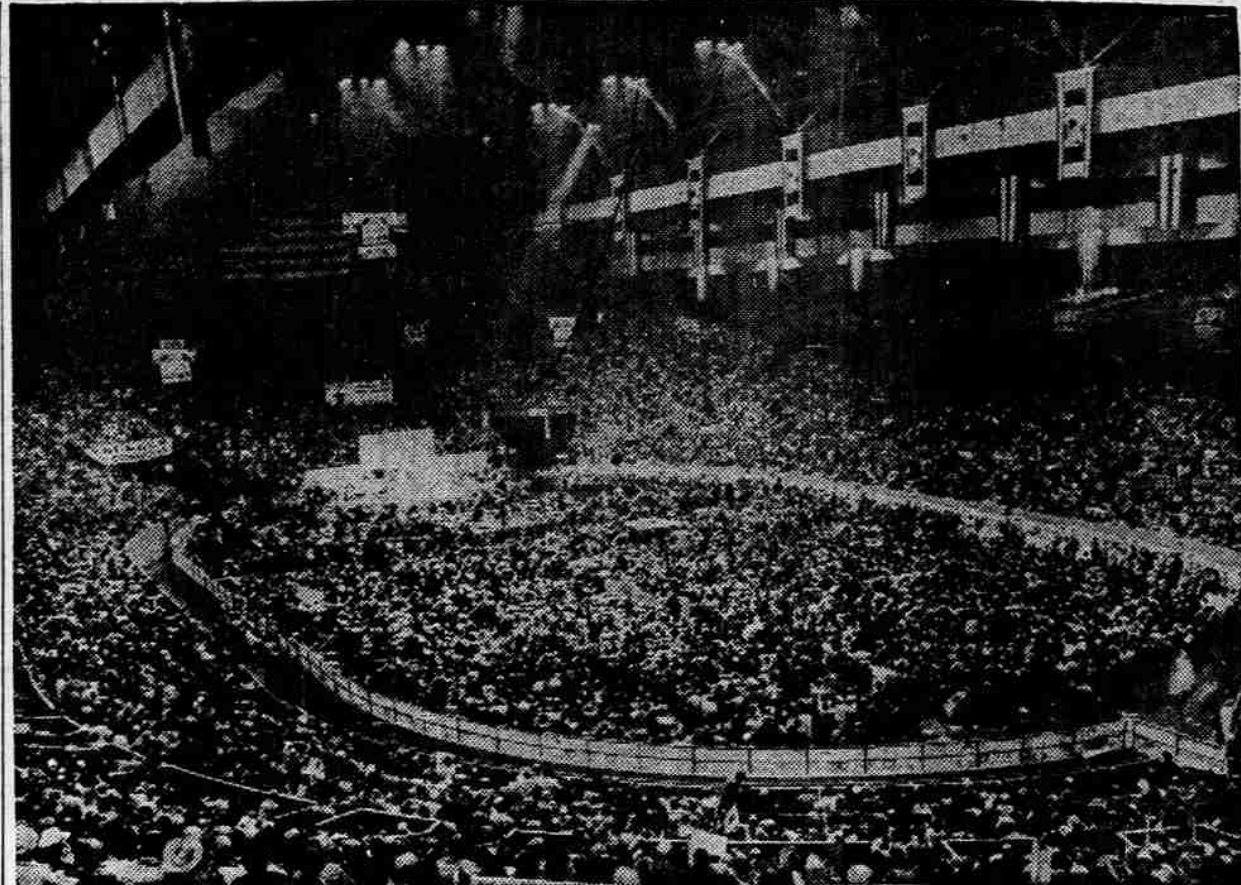
exoskeletons remain relatively small. And smallness usually means a shorter life span, hence a comparatively rapid reproduction is called for.

But this bestows its benefits. It means, usually, that changes occur more rapidly and with it a greater variety of species often results. The family becomes more diverse and much larger—able to survive when smaller families perish.

In the lobster and crab, the family is large numbering about 20,000 species—many more than all warm-blooded species put together. Hence should some catastrophe occur, crabs and lobsters would survive when man might perish.

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Free: By special arrangement with the editors of the Encyclopedia Americana, my panel of judges will award each week to the reader who sends me the



NEW ROLE—Above is interior view of San Francisco's Cow Palace that has accommodated everything from basketball to rodeo. Even Liberace will use the huge structure for a "pop" concert Feb. 27. The arena is destined for new renown as the setting for the 1956 Republican national convention. The GOP National Committee, meeting in Washington, voted unanimously to open the 1956 convention in San Francisco Aug. 20.

Dating of Calendars

By J. HUGH PRUETT
Astronomer, Extension Division
Oregon Higher Education System

The recent article on the Julian and Gregorian calendars brought inquiries from several H.C.L. of Portland asks:

"If the Julian calendar was started in 45 B.C., then when was the calendar changed to start year 1 with the birth of Christ? Why then was not January 1 started with the birth date? Or why not on the equinox change?"

We who are accustomed to use so glibly various dates with the letters B.C. and A.D. attached to them, seem to assume that the system we employ was adopted at the time of the birth

best question on nature and wildlife a complete 30-volume set of this world-famous reference work in a handsome New-craft binding. Each week, new questions will be considered. Sorry, I simply can't answer your many friendly letters. Please address your questions to: IS THAT SO! c/o Medford Mail Tribune, Box 575, Sausalito, Calif.

McChord Official Slated to Attend GOC Event Monday

Lt. Col. Albert B. Sporer, wing commander at McChord Air Force base, Wash., will be one of the Air Force representatives attending the first anniversary of the formal organization of the Medford Ground Observer corps post set Monday, Feb. 21.

The meeting will start at 8 p.m. at the VFW hall, 42 North Front st. Part of the ceremonies will include presentation of a flag to the GOC by officials of the VFW, and presentation of GOC wings to about 35 volunteer workers from the Medford post.

Pilot During War

Sporer, a versatile athlete at Butler university, served during World War II as a B-25 pilot in the Italian, Africa and Sicily, China-Burma-India and Indian campaigns, including 70 combat missions. He has been awarded the distinguished flying cross, air medal with three oak leaf clusters and the unit citation ribbon.

He has had numerous assignments after the war. The mission of his present command is to maintain radar surveillance and to conduct active air defense operations within its assigned sector of responsibility.

of Christ and has been in use continuously ever since. Numerous Systems Used

In the history of the world numerous systems for dating events have been used. The old time Jewish calendar had their year 1 starting with what corresponds to our 3760 B.C., the supposed date of the creation of the world. Archbishop Usher at about A.D. 1600 decided this should be 4004 B.C. In Roman history we find dates given followed by the letters A.U.C. This stood for Anno Urbis Condita, the Latin for "In the year of the founding of the city." Thus 100 A.U.C. was the 10th year after the founding of Rome. Julius Caesar's revised calendar was put into effect in 708 A.U.C. This corresponded to our present 45 B.C., but Caesar knew nothing about B.C. The beginning of the Christian era would then be dated 753 A.U.C.

The Mohammedan calendar has for its year 1 the date we call A.D. 611. This marks the Hegira, or the flight of Mohammed from Mecca. Various other methods of starting dates were employed by ancient peoples. Introduced by Dionysius

When then was our present system of dates, now followed by all so-called Christian nations and some others, put into use? The best authorities tell us that this method was introduced by Dionysius the Little, an abbot of a Roman monastery almost 600 years after the time of Christ. Previously the Christians evidently used the methods of dating extant in the countries in which they lived.

Dionysius' system gradually was adopted by various countries, but not without great confusion. He used March 21, about the vernal equinox and nine months before Christmas, as the start of year 1. Others used March 25, the supposed date of the Annunciation. (It is said this method prevailed in England until A.D. 1752.) In the 8th century after Christ, the Dionysian chronology was in use in Gaul; in England, before the close of that century. In Germany and some Italian cities about the 11th century, the year was starting on Christmas day.

Present day scholars believe the birth of Christ most likely occurred in 4 B.C. Those who care to study further on our present system of stating dates will find much in any good encyclopedia under the topic Chronology.

NAMED PRESIDENT

Corvallis—(U.P.)—Arthur Hurlburt of the Portland Dairy Co-operative Association was elected president of Oregon Dairy Industries Thursday at the conclusion of the co-op's 44th annual convention. He succeeds Gordon Coleman of Eugene.

Child Safety Meet Scheduled at SOC

A Southern Oregon Child Safety conference will be held in Ashland at Southern Oregon college on Friday, March 25, 9:30 a.m. to 8:30 p.m., it was announced Saturday.

Dr. Harry F. Dietrich, division of pediatrics, Beverly Hills, is to speak at the conference, which is jointly sponsored by the Medford Safety council, Josephine County Safety council, and the Oregon State Board of Health under its Home Safety program.

Demonstrations and discussion on fire safety, firearm safety, low voltage, and community safety programs will be included in the day-long conference. Anyone interested in child accident prevention has been invited to attend the conference for which there will be no registration fee.

Those interested in attending are asked to write Dr. William J. Thompson, Fluhrer Building, Medford, so that the size of the crowd may be anticipated. Dr. Thompson said that "Dr. Dietrich says that serious accidents can be prevented and he has a practical, common-sense theory to help parents think about 'first things first' . . . that is, living, uncrippled children."

Dodele Murder Trial Arguments Monday

Hillsboro — (U.P.) — Closing arguments in the first degree murder trial of 16-year-old Jerry Eugene Dodele of Timber, Ore., will be heard in Circuit Court here Monday.

When Judge Arlie G. Walker of McMinnville recessed court Friday testimony of the state's 15 witnesses and the defense's 14 witnesses had been completed. The trial began Monday. Dodele is accused of shooting

UAL To Request Two Stops Be Eliminated

Redmond — (U.P.) — representatives of United Air Lines have indicated they will apply to the Civil Aeronautics board to eliminate the line's Bend-Redmond stop.

United officials stated that operation at Roberts field here is uneconomical and that the limited traffic could best be served by a feeder airline.

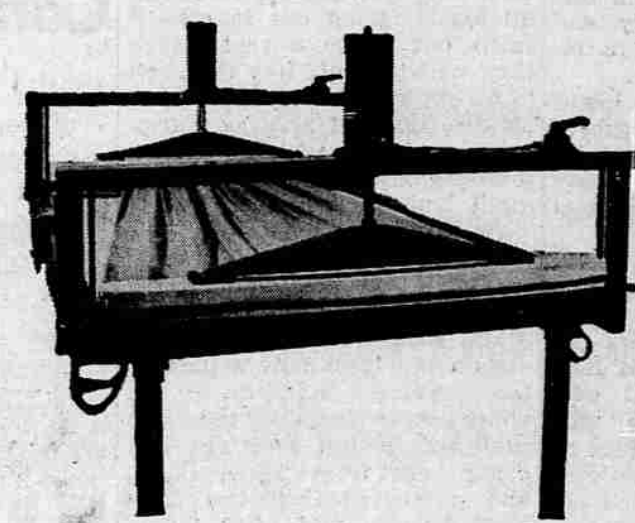
Peter Ribbers, 64, with a borrowed .22 rifle.



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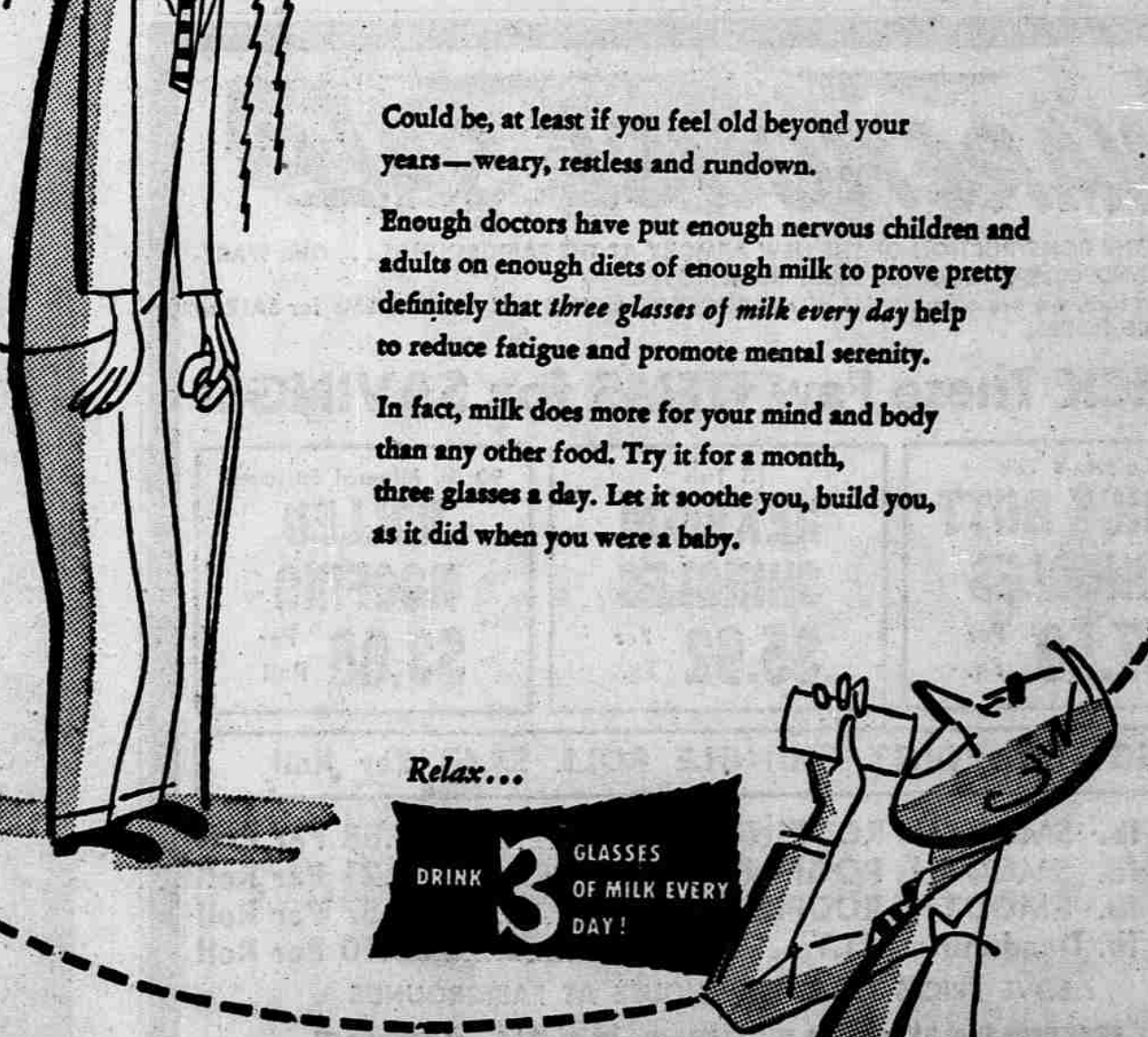
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