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## 175TH ANNIVERSARY NOTES, 1792-1967

Robert Bailey Thomas, the founder of The Old Farmer's Almamac(k), was horn at Gratton, Massachusetts on Alril $\because-2$. 17 gif at the home of his maternal srandfather. Ho was the "der son vif Willign and Azabah (Goodale) Thomas. His tather owned a farm in llest Boylston near the sonfere of the sonth branch of the Naslna liver. Robert and his brother, Aaron, ditl the usual farm chores assisned to boys of that time, and in the winter attended listrict school. In the summer they were instructed be theit father. an eminent scholar. extensive reader, and wwor of a larae library. It was in this lilirary the fonng lobert hecame aborbed in James formens Antronomy - to which he ascribed. in later years, his interest in pubishing an almanar.

Rohert tandit hetwern the ages of 20 and 2 in in no less than nine different schools in the towns of I'rinceton. Sterlins. and Buybton. Massachusette. In liss spare time. he oceupied himself with mendins old books and selling homnd wolumes (which he made ul) from sheets) of school hooks to storekerpers and scheol teachers.

In the rear 1792 he placed himself in Boston mider the charge of OxEod Carleton for instrntion in required stndies." Carletun, a native of Alstead, New Hampshire helped the roms man in the prenarations for the calculations of an almanac for 15: 4 - the first in this series which is now in its 16 ith consecntive rear. In the carly 1800s, Rohert married Hannah Beaman and continued to live at the old homestead, workinge on the ahmanac in the winter and farmine in the summer.

Buring his life he lived in fom different towns. ret alwaye lived on the same farm. The last town was West Foylstum, where he served as Town Clerk, Selectman. Justice of the Peace, state Cunsti-
 with smalloos inocenlation. Whicll he declared to le "wore than the disease itself." he died on Mas is, 1stf. IFe is buried in the Olal leeg Burying Ground in sterling. Few editors of any weloration has served as many eontimotis editorial rears fot) as did the remerable Robert 1 :

Theme are fomr extant pertraits of Mr. and Mos. Thomas- lainter bremmably armind 1s30. Two of these are in the American Antiपharian suciety in Worester and two. aryniret from l'anl larkor of Rowley, Masachnsetts are in the office of ranker. Ince, minhishers of this almanac in hullin, New Hamplire. Mr. Parker stated la inherited these from his whandrer who had inherited them from
 180. With these last-named portrats are also a keredice made ly llamah fur her hmshand, his drawing instruments, and some hafhoxes cowered by hamah with either despoiled or masuld bage of her hashandes almanac:

There have probahly leen more newspaper articles: masazine stories, and roleaso juhlishod ahomt The old Farmers Ananat than there have hen ahont and tell wher puhlidations. Harvard pro-
 Varmer and lis Almanase abomi it (William Ware \& coo.) in 1:nt.
 Robl, vapendurih, intithot The Old Farmer's Nmanac sampler, in 19.7. Radho and television have not werlooked its merits cithor. To orient whess welf to the thmes in whith Robert fis. Thomas lived. one mast remember the hombaries (1Fsin) of the renited states ex. tended only from the isisnd uf sit. Croix, along the st, lawrenoe at
 then south to latitude "thirty and ome" thenee casterly to "thalachicola," north to the month of the Flint kiver, and northostorly late again to st. Croix. In 17ad. the cornerstone of the White llomse was wing hic. Comse Washington was president.
1n his Ireface to his tirst edilhon, Robert R. Thomas asked "shouhe there he mhything in it that may apmar of small moment. it is woped the liferath will excuse it. ind - "As to my judsement of the without any assistance of mine form will within the gears times. Whent any assistane of mine. diseover how near I have come th There followd short paragraple on curing a limpleql Face. Curingt Corus, Curing Tooth-ache, Romovint smal Mox spots and the Ammal

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Continued from page 8
cation Dates, The Bible Dissected, Table of Interest, Stage Coach Roads and Taverns, and the first article ever published in Anerica on the persecution of the Jcws. The price was sixpence single, 4 shillings per dozen. The print run on an up-and-down press (hand made rag paper) was 3,000 copies. Perhaps nost interesting of all its contents are the Farm Calendars in this first edition. "Remember your bees," continues the January one, "and if weak. feed them with cakes made from malt flour, mixed up with sweet wort, or give them brown sugar: and once in a while salt and water, to keep them from scouring."

As is often the casc with life itself, the fame of Robcrt B. Thomas as an almanac maker was established, if hearsay be corrcet, not by his learning, strong strle, or accuracy, but by cliance. It seems that in the spring of 1815, he was taken severely ill with the influenza. His Boston printers sent a boy to his bedside in Sterling to ask for the July weather forecast. "Go away "go away," he told the boy. "Don't disturb me. Tell the printer to print anything he wislics." The printer took Mr.

[^1]
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Continued from page 9 Thomas at his word and set the following for July 13, 1816, Kain, Hall, and snow. When Mr. Thomas reenvered. he was furious and tried to call in every single printed sheet. However, a few escaped, and when it did rain, hail, and snow on that day. his almanac mored into the supremacy it has held ever since. Apoeryhal as this story may be, reference to it in print has appeared on and off since 1 e3:2. the year in which llr. Thomas added the word "old" to his title.
And though I take to city life.
I'm lonesome after all.
For that old yellow almanac
Upon my kitchen wall.
(Ella Wheeler Wilcox, 188s-1919)
The old yellow cover to whith Mrs. Wilcox referred has appeared as an interral hart (and identification of) The OId Farmer.s Amanac(k), along with its hole in the corner which was there from the heginning. since 18in. It was designed by the famous wood engraver, nlenry Nichols, in 1849. Georme Niehols. Henry's son, wrote us from Buffalo in 194? that it was first used on the edition of 1851. Hammatt Billings, the eminent designer of the Pilgrim Monument at Plymouth, liad improved some years Continued on page 141

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As beautiful as they are practical. Box of 100 fine quality envelopes, $358^{\prime \prime}$ tall and $61 / 4^{\prime \prime}$ long. Perfect for paying bills by check-for mailing club and church notices. Smartly imprinted with your name and address on envelope flap. An exceptional value at $\$ 1.25$.

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Jambe Box of 300 printed envelopes, as above. Save $\$ 1,25$. Triple Box only $\$ 2.50$.

TYPEWRITER BOX . . 3.00 Genuine $25 \%$ rag bond paper in the standard $8^{1 / 2^{\prime \prime}} \times 11^{\prime \prime}$ typewriter size, for business and professional use, clubs, all typed correspondence. Printed in rich black with full name and address on sheets and in upper left corner of envelope face. 100 printed sheets plus 100 printed matching envelopes. \$3.00.

## INFORMAL BOX. . . . 1.75

In perfect taste! Not like ordinary informals, as ours are raised-printed! Each pure white informal is $3^{\prime \prime} \times 4^{3} /^{\prime \prime}$, with your name only, raised-printed in black on double-drop front panel. In white gift box. 50 printed informals, plus 50 plain envelopes, $\$ 1.75$. Double Informal Box ( 100 of each), only $\$ 2.75$.

## GOLD NAME \&

 ADDRESS
## LABELS . . 1.25

Add real distinction to your unprinted stationery. Your name and address are beautifully imprinted in black ink on gold-colored labels, ${ }^{4}$ 2" x 1/2". Fast-sticking gummed-back paper in handy pad form. Great for letters, envelopes, postcards, records, checks, books, etc. Come in clear-plastic, re-usable snap case. 500 for $\$ 1.25$.

NOTE: Stationery and Label imprinting limited to 4 lines of 30 characters each.

## ENGRAVED SELECT-A-KEY \$1.00

Siamese-twin keyrings - but they come apart at a finger's touch! Let you separate car key from others. Each ring holds 2 to 6 keys. Husky metal in attractive goldtone, with your 2 or 3 initials engraved. Will last for years! Sensible gift at $\$ 1.00$.

## Sieine Reverals

 New Facts aboutLiniment BenefitsOne of man's best known treatments for tired, aching muscles receives new confirmation of effectiveness from modern medical research


Probably the first treatments for sore, stiff muscles caused by overexertion was massage. Through the ages, man tried various combinations of tinctures, unguents and oils to improve the effectiveness of massage.
Absorbine Jr., a special combination of relief-giving medications, proved to have a most remarkable reliefffiect whenmassaged on tired, aching muscles.
While medical science has always known the beneficial effects of liniment massage, only recently, through the miracle of electronic research, have scientists actually beenable to measure many benefits of the special Absorbine Jr. formula.
A leader in bio-medical elec-
tronics, using scientific procedures, proved that Absorbine Jr. brings back fatigued muscles twice as fast as nature can. Even without massage, the application of AbsorbineJr.doubled the speed of recovery of fatigued muscles.

Many people are not aware this unique liniment actually treats the cause of sore, tired muscles. They "just sit and ache" or resort to pills in the hope of masking pain.

Now science confirms the beneficial effects of Absorbine Jr. No longer is it necessary to "just sit and ache." The new Pres-OMatic applicator makes it easy to use. Just rub on clean, refreshing liquid Absorbine Jr. and see how much faster you fecl better.

## Đour ©uincentenary $\mathbb{C}$ ards <br> 1467=1967

The color print which appears on the next page and the one on page 135, are reproduced from a hand-inscribed Book of Hours made in Southern France in the 15th century A.D. This Book of Hours was used as a prayer book and the first pages of it, with a listing of holy days, are much like an ancient almanac. The text, all hand-lettered, was drawn (page by page) by French peasant women piece rate - for around $10 ¢$ per page. There are about eight colored scenes - similar to these two - also made by hand. The pigments used were ground up snail shells gathered along the shores of the Mediterranean Sea - and gold powder. The book was hand made despite the invention of printing, because the printers of that century were not using the St. Gerome version of the Bible which the readers of Southern France insisted upon having. It was eventually carried to England. There it belonged to a younger son of distinguished parentage. During the Great Plague of London (1666), in which three-fourths of the citizenry was wiped out, this younger son replaced one of the illustration pages with one dedicated to the Saint who at that time was thought to protect individuals against the Plague. The younger son survived - but wishing no more of that kind of trouble, and, having no inheritance because he was a younger son, he came to America with this Book of Hours as almost his only possession. Some years later (1790), it was purchased by James Farmer, publisher of a New England farm magazine. In the 1920's it was among the possessions of a friend of Calvin Coolidge. Upon the farmer's death, through unintentional carelessness, this Book, along with several prints by Raphael and other treasures, was carried to a dump and placed in a pile to be burned. As the flames were returning these irreplaceable works of art to ashes, a dump attendant kicked this Book from the fire, took it home, and eventually offered it to me. I had it evaluated by the Morgan Library in New York and paid him for it at the appraised value.

I have included these two prints in this Anniversary Edition, inasmuch as I feel all readers of this ALMANAC should have them - and thus become participants in this extraordinary chain of almanac history stretching back to before the discovery of America.

These prints are available on $41 / 4^{\prime \prime} \times 6^{\prime \prime}$ postcard stock, suitable for Christmas, Easter, Birthday, Anniversary, or other use. Exclusive with us, and with you, they are not available from any other source (see Page 136).
R. S.


Lord, Thou shalt open my lips. and my mouth shall show forth Thy praise.

Number One Hundred and Seventy-five.


## Zast Winter＇s 嘼eather

（Nov．，Dec． 1965 －Jan．，Feb．．Mar．，Apr．1966）
In the 1966 Edition of this Almanac．I＇age 5 ，Abe Weatherwise sug－ gested that the six winter monthr above would arerage $33.67^{\circ}$ ．or about $3.5^{\circ}$ below norinal．At Blue Hill，near Hoston for which this forecast was made），the temperature areraged $34.1^{\circ}$ ．Abe also pre－ dicted $31.11^{\prime \prime}$ of precipitation（ $5.8 f^{\prime \prime}$ above normal）．The actnal pre－ cipitation was only 17．79＂．For snow，Abe foresaw 91＂－and at Blue Hill it dia snow $74^{\prime \prime}$ ．

Abe＂s＂day－to－day＂，forecasts ran $50 \%$ correct in November． $61.5 \%$ in December，83．3\％in January， $73 \%$ in February． $62 \%$ in March，and $5: \%$ in April．For the period as a whole，his day－to－day mere $63.3 \%$ correct．lf one were to allow him the benefit of one day for each Time Zone West，as per Instruction $2(c)$ on I＇age $\overline{5}$ of the $\mathbf{1 9 6 6}$ Edition，lis average would run about $10 \%$ better．

It will be noted，however－and Old the is considerably upset about this－his precipitation prediction for these winter months was way off．He was all right on the snowfall（ $8=\%$ correct），but on the total precipitation he expected 31．11＂and only 15．js＂fell．In April． the rain was only $34 \%$ of normal．In the Northeast，the best that can be said is that the water sitnation was far hetter（10m\％）than it was in April 1965：bnt in April 1969 only half as good as it should nor－ mally lie．Nole about this on Page 92.

January was an abnormally cold montly everymhere except sew York and New England．Skiers enjoyed a record 180 day suason in Northern New England．As usual the seren stations（Bostou－Lee． Mass．）along the Jass．Turnpike reported different climates for warh station．Hoston reported 14 storms this year for a total depth of $521 / 2^{\prime \prime}$ of snow whereas Lee had 25 for a total of $5^{7}$ inches． 19064 tons of salt， states Maintenance Engineer Hyland．Were used against 16600 the year before－only 3492 tons of sand against $2063 t$ the Jear before， and the tons of calcium chloride in comparison with 445 in $1964-65$.

## SUMM．AKY November 1965

10－14，heary rain，Hawaii．15－1S， rain Calit．，Now Mont．Dakotas． to Great Lakes and No．New Eng．，torn．Whio． $21-: 4$ ，rain Calif．， hot Tex．－Mo．，snow Col．－Mich． 2（i－30，cold Col．\＆Tex．，gales－ blizzards Midwest．snow I I，－ No．New Eng．

## December 1965

4－6，fog Vtah，rain Tex，10－17， fog Miss．－E．Coast．rain Tex．o Puerto lico．11－1\％．show New Eng．，lain La．，cold N゙．M．\＆Ariz． ジ2－24，Hoods Ariz．．rains Ill．ロั－ 31，leavy show Filirhanks，Alas． －28．rains－males Werst Coast．Ariz． 25－i 1, floods Olio．2（i－2S，snow， ice Nidwest．

## January 1966

1－f，heavy rain West Coast． some show， $3-6$ ，show East，ralin Calit． $7-!$ snow \＆wales Fast Coast．1f－为，cold exc，Mast．15－31， cold Milwost，Nouth．ㅡㅡ－ㄹ！（rain
 No．Hart storm，！－17＂sulow，シ6， rece show N．C．－hl－il，cold ast of

Rockies，blizzard conditions Atl， Coast 60 snow Oswegn－syracuse， A．M．Worst storm in 30 Jrs．Da－ kotas－Ill．，freczing cold in so． Record suowfall this month in Worcester，syracuse．Rochester． Burllngton（V゙t．）．Virginia．

## February 1966

$1-2$. cont．of Tan．storm，6－7． cold in Fla．13，rain NVC．some snow N゙ew Eng．－t－26．Atl．Coast 14－16＂snow．

## March 1966

2－\％．Worst storm I＇swh his－ tory．liockies－Great Lakes，torng Miss．．il helow Wro．12－13．．＂ snuw East．こ1－23，hlizzard Col．－ Gt．Lakes，colk Tex．，Ala．，Ga．， some show in liast．

## April 1966

t．torn．I＇la．$\overline{\text { th }}$ ，floods N．Dak． 12，torn．Mil？west．13．had storms at sea d Michelangelo（lamaged）， 18－： 0 ．（hast storn Tex．，blizzard IVYo．．torn． $110 .-I 11,22$ cold
 Lake Erie，Ohio，Mich，2s，eloud－ burst 「＇ex．

## DEGIEEEDANA

＂Degroe Days＂is a tarm which has come into use in recent vears to dexignate the mumber of degrees the average temperature finll： below fin ．For example：if the mean temperature for a given day is $46^{\circ}$ ．then that would he a 19 degree day．These dende days are added together as the luathen soasomprogresses so that for Boston the

 blls in dandary 1966 were $2 \sigma-40 \%$ above uormai．）

# Weather forecast 1966=7 <br> The forecast which follows herewith is for Roston only. It is hased 

 (tor reasons of verification) at a 12 " square spot at the summit of Blue Hill, a few miles south of Boston, latitude $40^{\circ} 13^{\prime} \mathrm{N}$, longiturde $71^{\circ} 07^{\prime} \mathrm{W}$, elevation 829 feet.The verses in italics running down the risht-hand calendar pages (pages 2.5 to +6 ) correspond exactly to these forecasts here, and cover the periods indicated by the begining and ending of eath verse.
For areas outside of Boston, this almanac carries this year for the first time separate weather forecasts. Tliese appear elsewhere as indicated:

New England (except Boston) - page 91
Fastern States (except New England) - page 93
Midwesternktates-page 96
Western and Nountain States - page 103
Souther'n States - page 10!
As all of these forecasts, including the ones for Boston, are based. for veritication purposes, at estahlished V.S. W.B. Stations, the temperature will be about $50^{\circ}$ higher for each 100 miles south of the U.S.W.S. Station location given on the above-mentioned lages and $\square^{\circ}$ lower tor each 100 miles north. For each 1,000 feet of altitude, reduce temperatures approx. $3^{\circ}$.

## THE YNAR - AT HOSTON

## (January 1-December 31, 1967)

The year (Jan-Dec.) 1907 will hring a total of $50.9^{\prime \prime}$ of precipitation. This is $3.3 \overleftarrow{i}^{\prime \prime}$ above normal and, except for the months of Fethruary and March, shows a surghus of rain each month. Tlue averate temperature will be $49.5^{\circ}$ (or about one-half of one degree) above normal. However, January and October are below normal and April, well above normal, indicates an early, warm Spring.

## THE WINTER

## (November 1966-April 1967)

Almost every indication points to a ligher snowfall than in either last Winter or the one before. In fact, the Weatherwise expects some $\delta 9^{\prime \prime}$ almost $30^{\prime \prime \prime}$ above average. The Winter mreclpitation will be $27^{\prime \prime}$ -about $1.5^{\prime \prime}$ above normal, and the average temperature $: 3^{\circ}$ - which is one-half of one degree above normal. Hecember, January, and February (this does not happen very often) will keel plonghs and shovclers "on the run."

## THE FOURTEEN MONTHS

Nov. (1966): Temp. 420 (normal). Prec. $5.5^{\prime \prime}$ (normal $4.3^{\prime \prime}$ ). Snow $5^{\prime \prime}$ (normal 2.16"). 1-3. clear and cold; 4-7, 1.5" rain; S-10. clear: 11-13, rain ( $1^{\prime \prime}$ ) turns to snow (1"); 11-19, mild and nice; $-(0-29$, northeast storm (1.5" rain) : 2t-25. clear; 26-30. coastal storm, $1.5^{\prime \prime}$ rain, $4^{\prime \prime}$ snow.
Dec. (1966) : Temp. $33^{\circ}$ (normal $30^{\circ}$ ). Prec. $5^{\prime \prime}$ (normal $4^{\prime \prime}$ ). Snow $15^{\prime \prime}$ (normal 12.7"). $1-2$, clear; 3-5, rain ( $1^{\prime \prime}$ ); 6-8, cold gale : 9-11. rain (11") and tog; 12-13. clear: $1+15$, rain
 snow $\boldsymbol{T}^{\prime \prime}$; 2t-2: clear: 26-28, prec. $1^{\prime \prime}$, show $10^{\prime \prime}$; 29-31, overcast.
Jan. (1967): Temp. $23^{\circ}$ (normal $27^{\circ}$ ). Prec. $5^{\prime \prime}$ (normal 4.5"). Snow 30" (normal 14.9").
$1-2$, clear, $8-4$, prec. $\boldsymbol{r l}^{\prime \prime}$, show $\overline{\sigma^{\prime \prime}}$; 5-7. clear; 8-10, prec. 1", snow $0^{\prime \prime} ; 11-14$, clear, cold : 1.17. prec. $1.5^{\prime \prime}$, snow $5^{\prime \prime}$ : 18-粦, cold: 21-22., thave : 23-2t, mres. .5", snow $5 " ; 25-26$, clear; : 2729, prec. $1.5^{\prime \prime}$, hlizzard 10 " ; 3131, clear.

Feb.: Temp. $30.4^{\circ}$ (normal 27.4 ${ }^{\circ}$ ). Prec. $3.5^{\prime \prime}$ (normal 3.73"). Snow $2 \bar{v}^{\prime \prime}$ (normal 1 $\bar{u}^{\prime \prime}$ ). 1, clear: 2-⿹. prec. $1^{\prime \prime}$, snow $5^{\prime \prime}$; 6-10, clear, milder: 11-14, prec. $1^{\prime \prime}$, snow $\exists^{\prime \prime}: 1:-16$, clear: $17-19$ : prec. $\sigma^{\prime \prime}$, snow $\mathbf{5}^{\prime \prime}$ : $20-23$, clear: 24-28, pree. $1^{\prime \prime}$, show $10^{\prime \prime}$.
Mar.: Temp, $33^{\circ}$ (normal $34.8^{\circ}$ ). Prec. $4^{\prime \prime}$ (normal 4.84"). snow $10^{\prime \prime}$ (normal 15").
1-2, prec. $1^{\prime \prime}$, snow $2^{\prime \prime}$; 3-8, clear: 9-11, prec. $1^{\prime \prime}$. snow $b^{\prime \prime}$ ", 12-16, clear; 17-20, urec. $1^{\prime \prime}$. snow 2"; 21-23, clear; 24-26.

## ECLIPSES FOR THE YEAR 1967

There are four eclipses, two of the Sun and two of the Moon, during 1967.
I. A Total Eclipse of the Moon, April 24, 1967. This eclipse begins at 4.28 A.M.E.S.T. when the moon enters the earth's penumbral shadow. Its entry into the unibral shadow begins at 5.25 A.M.E.S.T. and the moon will be in total eclipse beginning at 6.27 A.M. The end of the total phase comes at 7.46 A.A1.E.S.T. Since the moon will set for observers in the United States about 5 A.M. local standard time only Hawaiians will be able to view the entire eclipse, to its end at 9.45 A.M.E.S.T., while observers in the Pacific Standard Time zone will generally be able to observe it through its total phase. Elserwhere east of the Rockies, the moon will set while the eclipse is in an earlier phase, from the penumbral along the east co. to the total phase for observers in the Nountain Standard Time belt. In its entirety the eclipse will be generally visible from locations in the Pacific Ocean and the eastern part of Asia.
II. A Partial Eclipse of the Sun, May 9, 1967. This eclipse will be visible to observers throughout the United States except Hawaii. It begins at 7.37 A.M.E.S.T. and ends at 11.47 A.M. The time of greatest celipse is 9.42 A. 11. , at which time almost three-fourths of the sun's diameter will be obscured by the moon as seen by an observer located near the Bering Strait. The further the observer lies from that point, the lesser the portion of the sun covered by the moon, so that the eclipse will be least in degree for observers near the eastern and southern boundaries of the United States, greatest for observers in the west, northwest, and Alaska, for whom the eclipse will have its beginning at or shortly after sunrise.
III. A Total Eclipse of the Moon, October 18, 1967. The region from which this eclipse will be visible in its entirety is akin to that of the eclipse of April 24th except that the moon's later setting, around 6 A.M. local standard time, extends the period it will be visible to observers in the continental United States. The moon begins its entry into the earth's penumbral shadow at 2.10 A.M1.E.S.T. and into its umbral shadow at 3.25 A.M1. The total phase has its beginning at 4.45 A.M.E.S.T. and its ending at 5.46 A.M1. The moon leaves the umbral shadow at 7.05 A.M.E.S.T. and the penumbral at S. 20 A.M. The total phase will thus be visible to obscrvers throughout the continental U- nited States before the moon sets, but the closing phases only partially, though more completely the further west the observer's location. Observers within the Pacific Standard Time belt and to the west thereof will in general be able to see the eclipse through to its end.
IV. A Total Eclipse of the Sun, November 2, 1967. This eclipse, even in its partial phase, will not be visible to observers within the United States. As a total eclipse of very short duration it will be visible from a small area in the south Atlantic Ocean near the Antarctic Circle. As a partial eclipse, its visibility will range from a minimal partial eclipse for observers in southern Africa and Malagasy, through one of increasing extent the nearer the observer is thence to the South I'ole, becoming a near total celipse for observers in Antaretica.

## EARTH IN PERIHELION AND APHELION, 1967

The Earth will be in Perihelion on January 2nd, clistant from the Sun $91,406,000$ miles. The Earth will be in Aphelion on July 5th, distant from the Sun $94,516,000$ miles.

## FULL MOON DAYS

|  | $196 \%$ | 1968 | 1969 | 1970 | $19 \gamma 1$ |  | 1967 | 1968 | 1969 | $19 \% 0$ | $19 \% 1$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jan. | 26 | 15 | 3 | 22 | 11 | July | 21 | 9 | $2 S$ | 18 | 7 |
| Feb. | 24 | 14 | 2 | 21 | 10 | Aug. | 19 | 8 | 27 | 16 | 6 |
| Mar. | 25 | 14 | 4 | 22 | 11 | Scpt. | 18 | 6 | 25 | 15 | 4 |
| Apr. | 24 | 12 | 2 | 21 | 10 | Oct. | 15 | 6 | 25 | 14 | 4 |
| May | 23 | 12 | $2-31$ | 20 | 10 | Nov. | 17 | 4 | 23 | 13 | 2 |
| June | 22 | 10 | 29 | 19 | S | Dec. | 16 | 4 | 23 | 12 | $2-31$ |

## 21

## 堭olidays

$\dagger$ Are recommended as "with pay" holidays-regardless of regular periods-for all commercial employees. (*) Quite generally observed. (**) State holidays only. (***) Observed some places though probably not holidays.
All dates are also included in abbreviated form on the Calendar Pages (25-47).
Jan. 1 (* $\dot{\dagger}$ ) New Year's (all) Nun.
Jan. 8 (**) Battle New Orleans (La.)
Jan. 13 (**) Robert E. Lee's Birthday (Sonth)
Jan. $20\left(^{(* *)}\right.$ Arbor Day (Fla.)
Jan. 26 (**) MacArthur (Ark.)
Jan. 30 (**) F.D.R.'s Day (Ky.)
Feb. 7 (**) Mardi Gras. (Ala., Fla., La.)
Feb. $12{ }^{(*)}$ ) Lincoln's Birthday (13 States) Sun.
Feb. $14{ }_{\left({ }^{(*)} \text { ) Admission Day }\right.}$ (Ariz).
Feb. $14(* * *)$ Valentine's Day
Neb. 15 (***) Susan B. Anthony
Feb. 22 (* $\dagger$ ) George Washington's Birthday, wed.
Mar. 1 (**) State Day (Nebr.)
Mar. 2 (**) Texas Ind. Day
Mar. $7^{\left({ }^{* *}\right)}$ Burbank Day (Cal.)
Mar. 15 (**) Jackson Day (Tenn.)
Mar. 17 (**) St. Patrick's or Eracuation Day (Boston)
Mar. 24 (**) Good Friday (Ark., Cal., Conn., Del., Fla., Ill., Ind., La., Md., Minn., N. J., N. D., Penn. \& Tenn.)
Mar. $2 \mathbf{2}^{(* *)}$ Maryland Day
Mar. 26 (**) Kuhio Day (Haw.)
Mar. 27 (**) Easter Mon. (N. C.)
Mar. 30 (**) Seward's Day (Alas.)
Apr. $2\left({ }^{* *)}\right.$ Arbor Day (Ariz.)
Apr. 12 (**) Halifax Day (N. C.)
Apr. $13{ }^{(* *)}$ Jefferson Day (Ala., Mo., Nebr.. Okla., Va.)
Apr. 14 ( $_{(*)}^{*}$ Pan Am. (Fla.)
Apr. $19\left(^{(* *)}\right.$ Patriots' Day (Me., Mass.) Wed.
Apr. 21 (**) San Jacinto (Tex.)
Apr. $22\left({ }^{(* *)}\right.$ Okla. Day. Arbor Day (Nebr.)
Apr. $24{ }^{\left({ }^{* *}\right)}$ Fast Day (N. H.), Mon.
Apr. 26 (**) Memorial Day (Fla., Ga., Miss.)
Apr. 28 (*) Nat'l Arbor Day (Utah)
Apr. 30 (**) Arbor Day (Utah)
May 4 (**) R. I., Indep. Day
May 10 (**) Mem. Day (N. \& S. C.)

May 14 (***) Mother's Day
May 20 (**) Mecklenburg (N. C.)
May 20 (**) Armed Forces Day
May 30 (* $\dagger$ ) Decoration or Memorial Day (exc. 5 So. States) Tues.
June 3 (**) Jefferson Davis Day (Ala., Fla., Ga., Ky., La., Miss., S. C., Tenn. Tex.)

June 11 (**) Kamehameha (Haw.)
June 14 (**) Flag Day (Pa.)
June 15 ( $^{(* *)}$ Pioneer IJay (Idaho)
June 17 (**) Bunker Hill (Suffolk Co., Mass.), sat.
June 18 (***) Father's Day
June 20 (**) West Virginia Day
July 4 (*†) Independence (ali), Tues.
July 13 (**) Forrest's Day (Tenn.)
July 24 (**) Pioneer Day (Utah)
Aug. 1 (**) Colorado Day
Aug. 14 (**) Victory (R. I., Ark.)
Aug. 16 ( $^{* *}$ ) Benniugton, Vt. Bat.
Aug. 30 (**) Huey Long (La.)
Sept. 4 (*) Labor Day (all), Mon.
Sept. 9 (**) Admission Day (Cal.) $^{(*)}$
Sept. $12 \mathbf{1 2}^{(* *)}$ Defender's (Md.)
Sept. 16 (**) Cherokee (Okla.)
Sept. 17 (***) Citizenship Day
Sept. 22 (***) Am. Indian Day
Oct. 10 (**) Okla. Hist. Day
Oct. 11 (**) Pulaski Day (Nebr.)
Oct. 12 (*†) Columbus (All States exc. 10)
Oct. 18 (**) Alaska Day
Oct. 24 (***) United Nations Day Oct. 31 (**) Nevada Day
Nov. 1 (**) All Saints' Day (La.)
Nov. 4 (**) Will Rogers (Okla.)
Nov. 11 (*†) Veterans' (All States exc. 4) Sat.
Nov. 18 (***) Sadie Hawkins Day
Nov. 23 (**) Repudiation (Md.)
Nov. 23 (*†) Thanksgiving Day
Dec. 10 (**) Wroming Day
Dec. 15 (***) Bill of Rights Day
Dec. 21 (***) Forefathers' Day
Dec. 25 (* $\dagger$ ) Christmas Day (all) Mon.

## LONG HOLIDAY WEEKENDS

Best Bets for the Long Stretch seem to be Wash. B'day (Wed.), Easter, Memorial (Tucs.), July 4 (Tucs.) and Thanksgiving. For Three days sure are, Fast (Mon.), Labor Day (Mon.), Christmas (Mon.) and New Years (1968. Mon.). New Year's falls on a Sun. as does Lincoln's - so you might get Mon. following these - and finally the Friday bcfore Veteran's Day which falls on a Saturday. The weather, depending on where you live, is covered elsewlere in this Almanac.


## Introduction

STANDARD TIME IS USED THROUGHOUT THIS ALMANAC Add $1 \mathbf{h r}$ April 30, (deduct it Oct. 29) for Daylight Saving Time (see page 77)

Chronological Cycles for 1967.
Golden Number . . 11 Solar Cycle . ... $16 \mid$ Roman Indiction . . 5
Epact . . . . . . . 19 19 Dominical Letter*. . A Year of Julian Period 6680
*The Dominical Letter is used instead of the usual " $S$ " for "Sunday" by almanac makers for determining at a glance (a) the year of the almanac, (b) on what day of the week any day of the month will fall.

## Movable Feasts and Fasts for 1967.



## THE SEASONS OF 1967

Winter (1966) Deceinber $22 \quad 2.29$ A.M. (Sun enters Capricornus)
Spring (1967) March $21 \quad 2.37$ A.m. (Sun enters Aries)
Summer June 21 9.23 P.M. (Sun enters Cancer) Fall September 2312.38 p.m. (Sun enters Libra) Winter December $22 \quad 8.17$ A.m. (Sun enters Capricornus)

Names and Characters of the Principal Planets.

## © 3 앙 The Sun. <br> - 3 (3 The Moon. <br> Ø Mercury.

> O아 Venus.
> $\oplus+$ The Earth. 4 Jupiter. h Saturn.

Names and Characters of the Aspects.
$\delta$ Conjunction, or in the same degree. $\square$ Quadrature, 90 degrees. Dragon's Head, or Ascending Node. Opposition, or 180 degrees.

## Calendar Page Explanations and Signs

On the right hand pages you will find every now and again the symbols given above conjoined in groups of three to give you what is happening in the heavens. See Glossary, Page 119. Example: ${ }^{2} 46$ on Page 25, opposite Jan. 25 means Jupiter (2) and the moon (匹) are on that day in conjunction ( $\delta$ ), or nearest to each other.

## Weather Forecasts

For Boston, see Page 19 and the italics running down beside the Farmer's Calendars on Pages 25-47. For localities outside of Boston, see new Part III, Pages 91, $93,97,103$, and 109.

## Planting Tables

See Page 52. Usual planting dates as well as those most favored by the moon are given for most parts of the U.S.A. Favorable signs are also included. See Pages ${ }_{24-46}$ for the days on which these occur. Also see Page 56.

## Astrology Signs and Meanings

See Piges 56-59 for birth date superstitions as wcll as those pertaining to brush cutting, weaning, planting, marriage, etc.

## Planets

See Ptiges 48-49. Which planet is shining so brightly for you? These pages will help you to know. Also, the configurations these planets are making with each other are given in the symbols on Pages 25-47, Astrologers as well as students of the varying strength of radio and television signals find these configurations useful.

## Tides

See Pages 24-46 for the tincs of morning and evening high tides, Pages 25-47 for the heights of these tides. Page 112 gives the corrections needed for your locality.

## Five New Regional Sections

New Part III (see Pages 91-109) corrects for specific localitics other than Boston the times of sunrise, sunset, moonrise, moonset, and the planets.
Questions gladly answered free of charge if accompanied by self-addressed, stamped envelope mailed to: THE OLD FARMER'S ALMANAC, DUBLIN, N. H., 03444.

|  | Days. | 0 | , | Days. |  | Day |  | Days. | 0 , | Days. | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 23s. |  | 7 | 2224 | 13 | 2131 | 19 | 2023 | 25 | 19 |
| E | 2 | 22 | 56 | 8 | 2216 | 14 | 2121 | 20 | 2010 | 26 | 1846 |
| \% | 3 | 22 | 51 | 9 | 2208 | 15 | 2110 | 21 | 1957 | 27 | 1831 |
| 2 | 4 | 22 | 45 | 10 | 2159 | 16 | $20 \quad 59$ | 22 | $19+3$ | 28 | 1815 |
|  | 5 | 22 | 38 | 11 | 2150 | 17 | 2047 | 23 | 1930 | 29 | 1759 |
| $\bigcirc$ | 6 | 22 | 31 | 12 | $21+1$ | 18 | 2035 | 24 | 1915 | 30 | 1743 |

© Last Quarter, 3rd day, $9 \mathrm{~h} .19 \mathrm{~m} .$, morning, W. - New Moon, 10 th day, 1 h .06 m ., evening, W. D First Quarter, 18th day, 2 h. 42 m., evening, E. O Full Moon, 26th day, 1 h. 41 m ., morning, W. FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16



The new year opens - old is pasi,
Stern winter comes with its rough blast: See the farmer shivering with cold.
Driving his flocks and herds to fold.


1967］FEBRUARY，Second Month．

## ASTRONOMICAY CAYCULATIONS．

|  | Days | 0 | 1 | Days． | 0 ， | Days． | 0 | 1 | Dass． | 0 ， | Days． | $0 \quad 1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| － | 1 | 17s． 0 |  | 7 | 1522 | 13 |  |  | 19 | 1121 | 25 | 10 |
| $\stackrel{5}{5}$ | 2 | 16 | 22 | 8 | 1503 | 14 | 13 |  | 20 | 1059 | 26 | 848 |
| $=$ | 3 | 16 | 5 | 9 | 144 | 15 | 12 | 45 | 21 | 1038 | 27 | 825 |
| ¢ | 4 | 16 | 7 | 10 | 1425 | 16 | 12 |  | 22 | 1016 | 28 | 803 |
| $\infty$ | 5 | 15 | 59 | 11 | 1405 | 17 | 12 | 03 | 23 | 954 |  |  |
| 9 | 6 | 15 | 41 | 12 | 1345 | 18 | 11 | 42 | 24 | 932 |  |  |

$\mathbb{C}$ Last Quarter，1st day， 6 h． 03 m．，evening，E．
－New Moon， 9 th day， 5 h． 44 m．，morning，E．
D First Quarter， 17 th day， $10 \mathrm{~h} .57 \mathrm{~m} .$, morning，E． $\bigcirc$ Full Moon，24th day， 12 h .44 m ．，evening，W．

FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS－PAGE 15

|  |  |  | $\left(\begin{array}{c} \text { ( } \\ \text { Sets } \\ \text { nh. m } \end{array}\right.$ | $\left[\begin{array}{c} \text { Length } \\ \text { of } \\ \text { Days } \\ \text { ha } \end{array}\right.$ |  |  |  |  |  | $\begin{array}{l\|l} \mathrm{set} \\ \mathrm{sin} \\ \hline \end{array}$ |  |  | $\left\lvert\, \begin{gathered}\text { D } \\ \text { ARe }\end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32 |  | W． 658 | ｜ $1 \mid 458$ | E 1000 | 2 | $3 \frac{3}{4}$ | 4 |  |  | $-10^{4}+30$ |  |  |  |
| 33 | 2 | Th． 657 | M 500 | E 1003 | 2 | $4 \frac{3}{4}$ | $5{ }^{\frac{1}{4}}$ | $\frac{1}{4} 12$ 㐱59 |  | M10 59 | E | E | 23 |
| 34 | 3 | Fr． 656 | M 501 | E 1005 | － | $5{ }^{\frac{3}{4}}$ | $6 \frac{1}{2}$ | 213 |  | － $111^{\text {A }} 3.3$ |  |  | 32 |
|  |  | Sa． 655 | M 502 | E 1007 | 2 | $6 \frac{3}{4}$ | － 12 | $\frac{1}{2}$ 3 24 |  | （12 ${ }_{1}^{\text {P }} 15$ |  | B． | 25 |
|  |  | A 654 | 1503 | E． 1010 | 2 | $7 \frac{3}{4}$ | $S_{2}^{1}$ | $\frac{1}{2} 430$ |  | P 111 0.4 |  | B | 2 |
|  |  | M． 653 | M 505 | E 1012 | 2 | $S_{4}^{3}$ | $9{ }^{1}$ | 21 5 |  | $\mathrm{r}-2.3$ | 3 | ${ }_{3} 3$ | $2-$ |
| 38 | 7 | Tu． 651 | 4506 | F 1015 | 2 | $9{ }_{4}^{3}$ | $10 \frac{1}{2}$ | $1{ }^{\frac{1}{2}} 6614$ |  | F 306 |  |  | 28 |
| 39 |  | W． 650 | 1507 | F 1017 | ？ | $10^{\frac{1}{2}}$ | 11 | 652 |  | 1） 413 | d | d | － |
| 40 |  | Th． 649 | Lsos | F1020 | 1 | $11_{4}^{1}$ | $11 \frac{3}{4}$ | ${ }_{4}^{3} 722$ |  | $\times 519$ |  |  |  |
| 4 I | 10 | Fr． 645 | $4-10$ | F 1022 | 1 |  | － | 748 |  | 11.6 |  |  |  |
| 42 | 11 | Sa． 646 | 上， 11 | F 1025 | 1 | $0_{2}^{1}$ | $0 \frac{1}{2}$ | $\frac{1}{2}$ S 00 |  | $1-26$ |  |  |  |
| 43 | 12 | A 61.5 | 1．5 13 | F 11027 | 1 | ${ }^{2}$ | $1{ }_{4}^{1}$ | $\frac{1}{4} \mathrm{~S} 2 \mathrm{~S}$ |  | K）S $2-$ |  |  |  |
| 44 | 13 | I． 644 | 1514 | F 1030 | 2 | $1 \frac{1}{2}$ | $1{ }_{4}^{3}$ | ${ }^{3} \mathrm{~S} 47$ |  | J $92-$ |  |  |  |
| 45 | 14 | Tu． 642 | 1515 | F 1033 | 2 | $2{ }_{-4}^{1}$ | $2 \frac{1}{2}$ | 1－9 |  | 110 |  |  |  |
| 46 | 15 | W． $6+1$ | L5 10 | F 1033 | 2 | － | $3{ }_{4}^{1}$ | $1{ }_{4}^{1} 920$ |  | （： $111_{\mathrm{Na}^{\text {P }} 311}$ |  |  |  |
| 47 | 16 | Th． 6 40 | 1.518 | F 1036 | 2 | $3 \frac{1}{2}$ | － | 948 |  |  |  |  |  |
|  | 17 | Fr． 638 | 4.519 | F 1041 | 2 | $4_{2}^{1}$ | 5 | 1016 |  | F $12{ }^{\text {a }}$ |  |  |  |
|  | 18 | Sa． 637 | к． 520 | F 1043 | 2 | $5 \frac{2}{4}$ | $55_{4}^{3}$ | ${ }^{-3} 101049$ |  | 1） 141 |  |  | 10 |
|  | 19 | A 635 | K． 21 | G 1046 | 2 | ${ }^{4}$ | $6{ }_{4}^{4}$ | （11䢕：3 |  | 13248 |  |  | 11 |
| 51 | 20 | M． 634 | K 5.23 | c 1049 | 2 | 7 | $7{ }_{4}^{3}$ |  |  |    <br> 3 3 51 |  |  | 12 |
|  | 21 | Tu． 632 | k 524 | G 10 52 | 2 | S | $S_{4}^{3}$ | －${ }^{\frac{3}{4}} 1133$ |  | $13+45$ |  |  | C 13 |
|  | 22 | W． 631 | 以5 25 | G 10.54 | 2 | 9 | 9）${ }^{\frac{1}{1}}$ | $1{ }_{2}^{1} 24$ |  | $\begin{array}{lll}13 & 5 & 35\end{array}$ |  |  | 14 |
|  | 23 | Th． 629 | 1．） 26 | c 10.57 | 2 | $9{ }^{\frac{3}{4}}$ | $10_{\frac{1}{2}}^{1}$ | ${ }^{\frac{1}{2}}+0^{-7}$ |  | c） 615 |  |  | 0 |
|  | 24 | Fr． 628 | 15.58 | c 1100 | 3 | $10_{4}^{3}$ | $11 \frac{1}{4}$ | 528 |  | E 648 |  |  |  |
|  | 25 | 626 | k 529 | c． 11103 | 3 | $11 \frac{1}{2}$ |  | 650 |  | 715 |  |  | 12 |
|  | 20 | A 625 | k 530 | c： 1105 | ， | ， |  | $\frac{1}{2}$ S 09 |  | 1． 741 |  | VIR | 17 |
|  | 27 | M． 623 | k 531 | G 1108 | 3 | $0 \frac{3}{4}$ | $1{ }_{4}^{1}$ | $1{ }_{4}^{1} 927$ |  | K 8805 |  |  | 18 |
|  | 25 | Tu． 622 | 上炜33 | cill 11 | 3 | $1 \frac{1}{2}$ | 1 | $10^{\text {P }}$ P 4.5 |  |  |  |  | B |



Bleak o'er the plain the winds do blow,
Hurls round and round the powder'd snow:
Of purest white the show'r descends,
And all its horrors winter pends.

Aspects, Holidays, Heights of
High Water, Weather, etc.

1|W. |St. Bridget • 37 Below 1851

2 Th.3 Fr. Pur. 0 M. • Hog Day $\delta \Psi \mathbb{C}$ The Four • $\begin{gathered}\text { Sovlet Moon } \\ \text { Chaplains } \\ \text { Landing } 1966\end{gathered}$ Just the Chaplains - Landing $1966\left\{_{8.3}^{9.8} \quad \mathrm{ski}\right.$ Capt. Cook Killed - L. Braille bufs
 Shrove - He healed many that were
Monday
sick of diverse tiseses Monday sick of diverse diseases Gras YMT Lent IJ Verne $\{9.9$ Ast Ull. bent ${ }^{\text {begins }}{ }^{\circ}$ B. 1828 erne $\{9.9$ steak Sun Dlats 9-12. Chinese New close to correct Wrid $\delta \underset{\text { Prayer }}{ } \delta$ Vletori 196
up by 10 Fr. 11 Sa. Betier ga around M. 1840 19.8 than fall in the ditch $\delta ¢ \mathbb{C}$ These 1st\$. 3L. Linc.
 Saint
Valentine - Su are sar is sweet foreshows.

 $\left\{\begin{array}{l}\text { First thin tranu } \\ \text { Suez Canal } 1867\end{array}\right.$ - Ember $\left\{\begin{array}{l}8.5 \\ \text { Day }\end{array}\right.$ Year's lowest eve.
high tldes $(18-19)$ - Ember crackle, $2 n \mathbf{N}$. 3L. Spaln ceded Forida hens There is $n o$
lutte enemy $\mathbb{C}_{\text {hilgh }}^{\text {runs }}{ }_{7 \%}^{88.9}$ cackle. 21 Tu. $\delta \geq \mathbb{C} \begin{gathered}8853 \text { now worth } 860 .+ \text { Cherry }\end{gathered}$ 22 W. 23 Th Wash. B'dy - Yin ini:
A. ${ }_{\text {\{8.7 }}^{9.9}$ pie's in $\delta \$ 2$. Ony foolish tadies
24 Fr. St. Mathias - Full Snow 25 Sa. 26 A
27 M. 28 Tu. $\Psi_{\text {in }}^{\text {stat. }}$ ठ6 $\mathbb{C} \mathbb{C}_{\text {Per }}^{1 \text { n }}$ р.м. sky. 3rog. 31. $\mathbb{C}_{\mathrm{Eq} .}^{\mathrm{on}} \begin{cases}110.2 & \text { dealer, }\end{cases}$ ${\underset{y}{\text { Small sprats }} \text { grt catch. }}_{\text {great mackerel }}\left\{\begin{array}{l}110.9 \\ 11.0 \\ \text { barn door }\end{array}\right.$


[^2]Farmer's Calendar.
"Now early lambs begin to drop; give them a warm bed at night, and put them in the sun by day."
There is a simplicity in these lines - almost biblical - and a thought as gentle as one may have, perliaps, of a rugged New England farm.

Lambing time. To a farm boy the ealendar of the year was made up less of days than the expectancy of "tiunes" lambing time; ploughing and seed time; blossom time; growing and laying, and apple picking, and harvest time.

Lambing time was the first and, after the long winter, the best. At night the ewes and the lambs were penned in the barn. For bright days there were the sheep folds outside, roofed and boarded on three sides, but high open to the south and the sun. Though the eold was bitter and the snow loanks were high, inside the slieds it was warm and fragrant with the smell of sheep and hay and stalk bedding - if you liked that smell. Farm boys did.

To a farm boy there was nothing "sissy" in looking after the lambs from the time of their dropping. Wobbly and helpless, to their camboling. idiot stage when they would indeed have followed him to school - or a butterfly or anything anywhere.

Once there were thousands of sheep and lambs in our eounty. There are almost none at all now. Forests have eome baek to their pastures and grazings. The wilderness returns for a time.

## ASTRONOMYCAL CALCULATIONS.

| A | Days. | $0 \quad 1$ | Days. | 0 ) | Days. | 01 | Days. | $0 \quad 1$ | Days. | 0 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% | 1 | 78. 40 | 7 | $\begin{array}{ll}5 & 21\end{array}$ | 13 | 300 | 19 | $0 \quad 38$ | 25 |  | 41 |
| 断 | 2 | $7 \quad 17$ | 8 | 458 | 14 | 237 | 20 | 0s. 15 | 26 | 2 | 07 |
| \% | 3 | $6 \quad 54$ | 9 | 435 | 15 | 213 | 21 | 0N. 09 | 27 | 2 | 31 |
| $\stackrel{\text { ® }}{ }$ | 4 | $6 \quad 31$ | 10 | 411 | 16 | 150 | 22 | $0 \quad 33$ | 28 | 2 | 54 |
| $\infty$ | 5 | $6 \quad 08$ | 11 | 347 | 17 | 126 | 23 | $0 \quad 56$ | 29 | 3 | 17 |
| 0 | 6 | $5 \quad 45$ | 12 | $3 \quad 24$ | 18 | 102 | 24 | 120 | 30 | 3 | 41 |

© Last Quarter, 3rd day, 4 h. 11 m., morning, E. - New Moon, 10th day, 11 h. 30 m., evening, W.

D First Quarter, 19th day, 3 h. 32 m., morning, E.
O Full Moon, 25th day, 10 h .21 m., evening, E.



## ASTRONOMICAL CALCULATIONS.

| a | Days. | 0 | Days. | 0 , | Days. | 0 | Days. | 0 | Days. | $0 \quad 1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\bigcirc$ | 1 | 4N. 27 | 7 | $6 \quad 45$ | 13 | 858 | 19 | 1106 | 25 | 1305 |
| ${ }^{\text {a }}$ | 2 | $4 \quad 51$ | 8 | $7 \quad 08$ | 14 | 920 | 20 | 1127 | 26 | 1324 |
| Ј | 3 | 5 |  | 730 | 15 | 941 | 21 | 1147 | 27 | 1344 |
|  | 4 | $5 \quad 37$ | 10 | 753 | 16 | 1003 | 22 | 1207 | 28 | 1403 |
|  | 5 | $6 \quad 00$ | 11 | 815 | 17 | 1024 | 23 | 1226 | 29 | 1422 |
| 3 | 6 | $6 \quad 23$ | 12 | 836 | 18 | 1045 | 24 | 1246 | 30 | 1441 |

©. Last Quarter, 1st day, 3 h .59 m ., evening, W.

- New Moon, 9th day, 5 h .21 m ., evening, W.

D First Quarter, 17th day, 3 h. 48 m., evening, E.
C Full Moon, 24th day, 7 h. 04 m., morning, W. FOR POINTS OUTSIDE boSton SEE KEY LETTER CORRECTIONS - page 16



 93 3 M. 524 н 612 J 124813 94 4 Tu. 522 н 6613 J 125113 95 5 W. 520 H 614 J 125413



 | 99 | 9 | $\mathbf{A}$ | 5 | 14 | c | 6 | 19 | к | 13 | 05 | 14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | Ioo 10 M. 512 g. 620 к 1330814 $\begin{array}{lllllllllllll}\text { IOI } & 11 & \mathrm{Tu} .5 & 10 & \mathrm{c} & 6 & 21 & \mathrm{k} & 13 & 11 & 15 \\ \text { I }\end{array}$

 | 103 | 13 | Th. 5 | 07 | 6 | 6 | 23 | k | 13 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


 106 16 A 5020 a $627 \times 132516$






 | 113 | 23 | $\mathbf{A}$ | 4 | 51 | F | 635 | L | 13 | 44 | 17 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |






 I $20|30| A|441|$ E/ $643|\mathrm{M}| 1402 \mid 19$

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | - |  | ${ }^{1} 1049$ |  | B | H |
|  |  |  | 2 |  | 11305 |  |  |  |
|  |  |  | 3 |  | - $1_{1}^{P} 01$ |  |  |  |
| $S_{\frac{1}{4}}$ |  | $8_{4}^{3}$ | 3 |  | 206 |  |  |  |
|  |  |  |  |  | 309 |  |  |  |
|  |  | $0_{4}^{1}$ |  |  | - 411 |  |  |  |
|  |  | $0_{4}^{3}$ | 4 |  | 1512 |  |  |  |
|  |  | $1{ }^{\frac{1}{4}}$ | S |  | 612 |  |  |  |
|  |  |  | 5 |  |  |  |  |  |
| 0 |  | $0{ }^{\frac{1}{4}}$ | , |  | 817 |  |  |  |
| $0^{\frac{1}{2}}$ |  |  | , |  | 1922 |  |  |  |
|  |  |  | 6 |  | 10 |  |  |  |
| $1{ }^{3}$ |  |  | 7 |  | 11 p |  |  |  |
| 2 |  |  | S 07 |  |  |  |  |  |
| 3 |  |  | 901 |  | 2 M |  |  |  |
| 4 |  | $4_{4}^{3} 10$ | 10 |  |  |  |  |  |
| 5 |  | $5_{4}^{3} 11$ | $11_{\text {m }}^{1} 11$ |  |  |  |  |  |
| 0 |  | $6_{4}^{3} 12$ | 12 |  |  |  |  |  |
| 7 |  |  | 1.20 | F |  |  |  |  |
|  |  |  | 309 |  |  |  |  |  |
|  |  |  | 427 |  |  |  |  |  |
|  |  |  | 5 |  |  |  |  | , |
| $10{ }_{4}^{3}$ |  |  | 7 |  | 454 |  |  |  |
| $11 \frac{3}{1}$ |  |  | 83 |  |  |  |  |  |
|  |  |  | - |  |  |  |  |  |
|  |  | $\frac{1}{2} 11$ | $1{ }_{\text {P }}{ }^{\text {P }}$ |  | 642 |  |  |  |
| 13 |  |  |  |  |  |  |  |  |
|  |  | ${ }_{4} 12$ | - |  | 836 |  |  |  |
|  |  |  | $2{ }^{\text {x }} 54$ |  |  |  |  |  |



ASTRONOMICAL CALCULATIONS.

|  | Days | $0 \quad 1$ | Days. |  | 1 | 0 | Daps. | 0 | Days. | 0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 15 N .01 | 7 | 1645 | 13 | 1820 | 19 | 1943 | 25 | 20 |  |
| , | 2 | $15 \quad 19$ | 8 | 1702 | 14 | 1835 | 20 | 1956 | 26 | 21 | 05 |
|  | 3 | $\begin{array}{ll}15 & 37\end{array}$ | 9 | 1718 | 15 | 1849 | 21 | 2009 | 27 | 21 | 16 |
|  | 4 | $15 \quad 54$ | 10 | 1734 | 16 | 1903 | 22 | 2021 | 28 | 21 | 25 |
|  | 5 | $16 \quad 11$ | 11 | 1750 | 17 | 1917 | 23 | 2032 | 29 | 21 | 35 |
|  | 6 | $16 \quad 28$ | 12 | 1805 | 18 | 1920 | 24 | 2044 | 30 | 21 | 44 |

© Last Quarter, 1st day, 5 h. 33 m., morning, E.

- New Moon, 9 th day, 9 h. 56 m., morning, E.

D First Quarter, 17 th day. 12 h. 18 m., morning, W.
O Full Moon, 23rd day, 3 h. 23 m., evening, E.
© Last Quarter, 30th day, 8 h .52 m ., evening, W.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

 122 2 Tu. 438 E $645 \times 140719$


 $\begin{array}{llllllllll}\text { I } 26 & 6 & \text { Sa. } & 433 & \text { F } & 649 & 4 & 1416 & 19\end{array}$ $\begin{array}{lllllllllll}127 & 7 & \mathbf{A} & 432 & \text { e } & 6 & 50 & \ldots & 14 & 18 & 19 \\ 10\end{array}$ I28 S M. 431 E 651 m 14 21 19 129 9 Tu. 429 E $652 . n \mid 142319$

 I3I 11 Th. 427 E 6550142819 132 12 Fr .426 ع $656.41+3020$ $13313 \mathrm{Sa} .+25 \mathrm{E} 657 \mathrm{~m} 1432-0$ 134 14|A 424 D 658 N 143420 I35 15 M. 423 D 659 N $1436=0$ | 136 | 16 | Tu. 422 | D | 700 | 1438 | 20 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | I37, 17 W .421 D 701 N 144020 I 38 IS Th. 420 D $702 \times 1+4219$

 140 20) Sa. 418 D $704 \times 144619$

 | 142 | 22 | M. 4 | 4 | 16 | D | 7 | 06 | N | 1450 | 19 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

 I44 24 W. 415 D 7 OS




 I 50 30 Tu. 411 D 713 N 150215



Enraptur'd Spring returns again,
The farmer plants the golden grain; Hark, hark, the joy-inspiring grove, Echoes to the voice of love.


Aspects, Holidays, Heights of High Water, Weather, etc.

Farmer's Calendar.

St. Philip\&James • Law Drought's
$1 \mid \mathrm{M}$. Tu. 3 W. 4 Th. Ascellsion Day - R.I. Ind. fies bite. 5 Fr .
 Kentucky Derby $\mathbb{C}_{\mathrm{A}}^{\mathrm{pro}}$. a while, va. Goid Cup Beter $\begin{aligned} & \text { Apoba } \\ & \text { jest }\end{aligned}$. then


 Engish1

Deriny Do not travel | tomorrow |
| :--- |
| $\{9.7$ a Nile |
| 9.7 | The (pankratus $\delta \not \subset \odot$ sur. mile.



 $\left.{ }^{14}+8 \Psi \odot \delta 2 \mathbb{1}\right]$ sun, what fun.




Ember place days 20 Sa .



 Moon 3.23 P.M. $\left\{\begin{array}{l}10.0 \\ 1115 \\ \hline\end{array}\right.$ tomorrow. O.titi De marry
and
and
11.5 - tomorrow.
 Nothing buat monere is $\mathbb{C}_{10}^{\text {Kides }}$ Sut's al26 r.
 2 no r. . 9 . Dionne guints Pshaw,
 Memorial Day - Joan or art Arc and raw.

"Begin to plant Indian , corn upon high warm slopes."

Of all our foods, corn is the most truly American - American Indian, that is. But to the rest of the world, in its ignorance, corn largely means wheat or oats, not our stalked corn of cobs and kernels.

The original Indian corn was the rather smaller ancestor of the decorative ears, black and white and blue and purple and red, that we hang in braided clusters at Thanksgiving and Christmas. But to our foretathers, as lately even as great-grandfather, it was the corn they fed their cattle and ate themselves - the corn of corn pudding, and roast corn over hot coals, and husking bees. where the red ears really paid off.

What the pilgrim and the pioneer knew about corn was what the Indian had taught them. They planted it in hills upon high warm slopes, and around it their beans and squashes. They half hilled it, as the Indian did. They roasted it green, and stored it in bins in slatted cribs. They made hominy, in the ingenious Iudian way, by removing the hull with lye.

Indian corn was good, but within it were the possibilities of crosses and hybrids that would be far better; and hybridization has been to coin what grafting was to apples. White, gold, or yellow - midget, bantan or giant - more tender and sweet - we have them. But you can still plant Indian corn to eat. Greatgrandpa did.

## ASTRONOMICAL CALCULATIONS.



- New Moon, 8th day, 12 h. 14 m., morning, E.

D First Quarter, 15 th day, 6 h .12 m ., morning, W
O Full Moon, 21st day, 11 h .57 m ., evening, W.
© Last Quarter, 29th day, 1 h. 40 m., erening, W. for points outside boston see key letter corrections - - page ig




 $\begin{array}{lllllllllllllllll}156 & 5 & \text { M. } 405 & 7 & 7 & 18 & 0 & 15 & 10 & 17 & 9 \frac{1}{4} & 9 \frac{1}{2} & 2 & 28 & \mathrm{E} & 5 & 02 \\ M & \text { TAU } & 27\end{array}$



 \begin{tabular}{lllll}
160 \& 9 \& Fr. 407 \& 4 \& 720 <br>
\hline

 

I6I \& 10 \& Sa. 407 \& 7 \& 7 \& 21 \& 0 \& 15 \& 14 \& 16

 

I62 \& 11 \& A \& 4 \& 06 \& c \& 7 \& 21 \& 0 \& 15 \& 15
\end{tabular} 16

 | 16 | 13 | Tu. | 4 | 06 | c | 7 | 22 | 0 | 15 | 16 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 16514 W. 406 c 723 o $1517 \mid 16$



 | 168 | 17 Sa. 406 | 724 | 7.5 | 18 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | $\begin{array}{llllllllllll}169 & 18 & \mathbf{A} & 4 & 06 & \text { c } & 7 & 24 & 0 & 15 & 18 & 15\end{array}$






 $17524 \mathrm{Sa} .407 \mathrm{c}-726$ o 15 15 13 | 176 | 25 | A | 4 | 08 | 7 | 7 | 26 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 18 | 13 |  |  |  |  |  |  | I77 26 M. 408 c 726 o 15 18 13

 $\begin{array}{lllllllllll}179 & 28 & \text { W. } 4 & 4 & 09 & \text { c } & 7 & 26 & \circ & 15 & 17 \\ 18 & 13\end{array}$



In florid beauty all a ppears.
And nymphs, a crown of roses wear,
See the pigmy corn in rows,
And farmers busy with their hoes.

| $\dot{\theta} \mid \ddot{\theta}$ | $\begin{gathered} \text { Aspe } \\ \text { Hig } \end{gathered}$ |
| :---: | :---: |
|  |  |
|  |  |
| S | Jefterson Hol. Fia. La. M |
| A |  |
| M |  |
| 6 Tu | In ${ }^{\text {In vasion }}$ |
| 7 | ${ }_{\text {T }}^{\text {Thut }}$ |
| 8 T |  |
| 9 F | uns |
| 10 S | ¢ |
| A | $4 \mathrm{tha.7p}$. Starn. $\delta 2 / \mathbb{C}$ |
| 2 M |  |
| Tu | A. |
|  | ${ }_{\text {lag }}^{\text {lay }}$ ¢ ${ }^{\text {c C }}$ |
| Th | Hary |
| Fr. | $\mathbb{C}^{\text {E }}$ |
| Sa. | ${ }_{\text {Bunker's }}^{\text {Hill Day }}$ - Hol. Suff |
|  | 4 tty a. $\mathbb{C} . \mathbb{C l}_{\text {Perl. }}^{\text {in }}$ Day ${ }^{\text {Father's }}$ |
|  | Longest ${ }_{\text {Days }}(20-22) ~ \delta \Psi \mathbb{C}$ |
| Tu |  |
| 21 W. | Summer Peerins P.M. Ca |
|  |  |
|  | $\begin{aligned} & \text { Nou } \\ & \text { you } \end{aligned}$ |
| Sa. | John Bapt. Trees fin |
|  |  |
|  | ${ }_{\text {Am }}^{\text {Ab }}$ |
| 27 T |  |
|  |  |
|  | Ceq. ${ }^{\text {enc }}$ |
|  | $\begin{aligned} & \text { Delmarva Chicken } \mathbb{C}_{\text {Apo }}^{1 \mathrm{l}} \text {. } \mathrm{twi} \\ & \text { Festlval }(29-1 \mathrm{st}) \end{aligned}$ |

The Lord is the strength of my life, of whom
"Plough fallows while the dew is on thenln."
The fallow field, unplanted for a season, was not left idle to bake and go to weeds. Part of the farmer's husbandry was to keep, it alive and loose - and moist, if he could.

To plough while the dew is on is not idle advice. It's the best time to plough, for dew is moisture, wet and precious. and should be turned in. And June is the last dew month before Jnly aud August, dry and weed-growing.
A farmer sets great store by dew. that most gentle and mysterions of moistures. He linows a heavy dew is far better than a wild, brief, afternoon shower that streams and steams the land for a few minutes and is gone.
A farmer knows how to use dew, and how to beware of it. He dusts his potatoes and beans, and the dew sticks the dust; but he does not touch his heans, else they rust: nor does he sow, for the seeds clobber together. To handle dew-wet apples is to spoil the "bloom." and berries picked in the dew mush and rot.
But his wife sets her towels out on the grass at night, and the dew in the morning brightens them as it dries. When she sweeps the step. she shakes the white rose bush and the red rose bush with her broom, and there is a slower fior the roots. Now the boy digs his fish worms. high in the cool, wet soil. Only then to the fallows.
shall I be afrald?

| $\stackrel{\square}{6}$ | Days. | 0 | , | Days | 0 |  |  | Days. | 0 |  |  | Days. | 0 | 1 | Days. | 0 | , |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 23 N | . 08 | 7 | 22 |  |  | 13 |  | 152 |  | 19 |  |  | 25 |  |  |
|  | 2 | 23 | 04 | 8 | 22 | 30 |  | 14 | 21 | 43 |  | 20 | 20 | 43 | 26 | 19 | 30 |
|  | 3 | 22 | 59 | 9 | 22 |  |  | 15 |  |  |  | 21 | 20 |  | 27 | 19 | 16 |
|  | 4 | 22 | 54 | 10 | 22 | 16 |  | 16 |  |  |  | 22 | 20 |  | 28 | 19 | 03 |
|  | 5 | 22 | 49 | 11 | 22 | 08 | 88 | 17 | 21 |  |  | 23 | 20 |  | 29 | 18 | 49 |
|  | 6 | 22 | 43 | 12 | 22 | 00 | 0 | 18 | 21 | 104 |  | 24 | 19 |  | 30 | 18 | 3t |

- New Moon, 7 th day, 12 h .01 m ., evening, W.

D First Quarter, 14th day, 10 h .53 m. , morning, E.
O Full Moon, 21st day, 9 h .40 m ., morning, W.
© Last Quarter, 29th day, $7 \mathrm{~h} .15 \mathrm{~m} .$, morning, W.

$$
\text { FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE } 16
$$

|  |  |  | $\begin{aligned} & \because \\ & \text { Rises } \\ & \text { h. m. } \end{aligned}$ | ex | $\begin{gathered} \because \\ \text { Sets } \\ \text { h. m. } \end{gathered}$ | - |  |  | $\begin{array}{\|c} \text { Fulls } \\ \text { Bost } \\ \text { Morn } \\ \text { h. } \end{array}$ | Sea, ton. <br> Eve. <br> h . |  | 2 |  | S | $D$ <br> Place | D Age |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |











 | 193 | 12 | W. | 4 | 17 | C | 7 | 22 | 0 | 15 | 05 | 10 | $2 \frac{1}{4}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

 $19514 \mathrm{Fr} .+19 \mathrm{D} / 21 \times 150210$ 19615 Sa. $419 \mathrm{D} 720 \times 150110$
 19817 M. $+21 \mathrm{D} 719 \times 145810$ 19918 Tu. 422 n $718 \times 145610$



$20322 \mathrm{Sa} .426 \mathrm{D} / 5 \times 1449$
20423 A $427 \mathrm{D} \mid 714 \times 1448$
 20625 Tu. 428 D $712 \times 1444$ $207.26 \mathrm{~W} .+29 \mathrm{n} 711 \times 1442$ 20827 Th. $430 \mathrm{D} / 10 \times 1440$ 20928 Fr. 431 D 709 N 1438 $21029 \mathrm{Sa} .+32 \mathrm{D} 70 \mathrm{~F}$ 上 1436 2II 30 A $43: \mathrm{D} / 707 \times 1+34$ 21231 M. 434 El 706 M 14329
$91_{4}^{3}$

 4 0

| $0 \frac{3}{2}$ |
| :--- |
| 1 |
| 1 |

9
9
-
31
4
$4 \frac{1}{2}$
4

| $5 \frac{1}{4}$ | $5 \frac{3}{4}$ | 11 | 21 | D | 1 | 40 | NTAU | 23 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



ASTRONOMICAL CALCULATIONS.


- New Moon, 5th day, 9 h. 49 m., evening, W.

D First Quarter, 12th day, 3 h. 45 m ., evening, W.

- Full Moon, 19th day, 9 h. 27 m ., evening, E.
© Last Quarter, 28th day, 12 h .35 m ., morning, E. FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

$\begin{array}{lllllllllll}214 & 2 & \text { W. } 436 & \text { E } & 7 & 04 & \text { M } & 14 & 2 S & 10\end{array}$



| 217 | 5 | Sa. 439 | E 700 | $M$ | 1421 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


219 7 M. $4+11$ E 658 M 141610 2208 Tu. 443 E 656 M 141410
22I 9 W. 444 E 6 55 M 1411110
 223 11 Fr. 446 E 6523 м 140711 224 12 Sa. 447 E 651.0140411 225 13 $\mathbf{A} 448$ e $650.91402 \mid 11$ 226 14 M. 449 F $\mathbf{0} 48$ L 11359 11

 22917 Th. 452 F 6 6 44 L. 1352 12 23018 Fr. 453 r 642 1. 1349 12

 233 21 M. 456 F 638 L 133413
 23523 W. 458 F 6434 L 1336 23624 Th. 459 F 633 L. 133313
 238 26 Sa. 502 F 630 L. 1328 14 23927 A $503 \mathrm{G} \mid 628 \mathrm{k} 132514$ 24028 M. $504 \mathrm{G} \mid 626 \mathrm{~K} 132315$ 24 I 29 Tu. 505 g 625 k 13 2015 24230 W. 506 g 623 к 131715
243 31 Th. 50 07 Gl6 21 Kl13 15 16

|  |  | 12 -1 | $-3^{\mathbf{p}} 51$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S |  | 12 M 34 | B 453 |  |  |  |
| 9 |  | 125 | B 549 |  |  |  |
| 93 | 10 | 227 | B 637 |  |  |  |
| $10 \frac{1}{2}$ | $10 \frac{3}{4}$ | 338 | B 716 |  |  |  |
| $11^{\frac{1}{4}}$ | $11 \frac{1}{2}$ | 453 | D 749 |  |  |  |
|  | 0 | 611 | E S S 16 |  |  |  |
| $0 \frac{1}{4}$ | $0{ }^{\frac{3}{4}}$ | 728 | G S 40 |  |  |  |
| 1 | $1 \frac{1}{2}$ | 844 | I 903 |  |  |  |
| 2 | $2 \frac{1}{2}$ | 959 | J 926 |  |  |  |
| $2 \frac{3}{4}$ | $3 \frac{1}{4}$ | $11{ }_{\text {A }}^{\text {d }} 16$ | 1. 952 |  |  |  |
| $3 \frac{3}{4}$ | 4 | 12- ${ }^{\text {P }} 33$ | 110 101 |  |  |  |
| $4_{4}^{3}$ | 5 | 150 | - $10 \quad 59$ |  |  |  |
| $5 \frac{3}{4}$ | $6 \frac{1}{4}$ | 304 | P $11{ }_{\mathrm{m}}^{\text {P }}+4$ |  |  |  |
|  | $7{ }^{1}$ | 411 |  |  |  |  |
| 8 | 8 | 507 | r 12 $12{ }_{\mathrm{x}} 38$ |  |  |  |
|  | $9 \frac{1}{4}$ | 553 | - 142 |  |  |  |
|  | 10 | 628 | $\times 251$ |  |  |  |
| 1 | 11 | 657 | $\cdots+00$ |  |  |  |
| $1 \frac{1}{2}$ | $11 \frac{1}{2}$ | 720 | 1. 509 |  |  |  |
|  | 0 | 7 | J |  |  |  |
| $0 \frac{1}{4}$ | $0{ }_{4}^{3}$ | 759 | 1718 |  |  |  |
|  | $1 \frac{1}{4}$ | § 18 | 115 |  |  |  |
|  | 2 | \& 36 | G 922 |  |  |  |
| $2{ }^{2}$ | $2 \frac{1}{2}$ | S 57 | E 1025 |  |  |  |
|  | $3{ }^{\frac{1}{4}}$ | 921 |  |  |  |  |
| $3{ }_{4}^{3}$ | 4 | 950 | C $122_{\text {Mr }}^{\text {P }}{ }^{2} 2$ |  |  |  |
|  | 5 | 1026 | B 136 |  |  |  |
|  | 6 | $11_{\mathrm{M}}^{\mathrm{p}} 11$ | $\begin{array}{llllll}13 & 2 & 39\end{array}$ |  |  |  |
| $6 \frac{1}{2}$ |  |  | 338 |  |  |  |
| $7^{\frac{1}{2}}$ |  | $12{ }^{1} 08$ | B $4^{\text {p }}$ |  |  |  |



Now see the majestic columns rise，
Dark vapours cloud the gloomy skies；
See，forked lightning from the cloud，
Now，hideous thunder roars aloud．

| $\dot{c}$ | 5 |  |
| :--- | :--- | :--- |
| 0 | 0 |  |

Aspects，Holidays，Heights of High Water，Weather，etc．

Farmer＇s Calendar．

1 ＇Tu．Lammas D．Unlucky ${ }^{\text {Days 1－16 }}$ Col．Sunny，
2 W ．
3 Th.
4． Fr ．
5 Sa．
6 A
7 M. 8 Tu．
9 W．
10 Th．
11 Fr．
12 Sa.
13 A
14 M．
15 Tu
16 W ．
17 Th．
18 Fr.
19 Sa．
20 A
21 M．
22 Tu.
23 W ．
24 Th．
25 Fr.
26 Sa.
27 A
28 M．
29 Tu ．
30 W.
31 Th．

First St．Louls
Steamboat 1817 Bloody Mon． 1806 honey． $\mathbb{C}_{\text {high }}^{\text {runs }} \Psi_{\text {in R．A．}}^{\text {Stat．}}$ Tides $\left\{_{9.6}^{8.0}\right.$ First Borden Murders
Fall River 1892 ¢ $¢ \mathbb{C}$$\left\{\begin{array}{l}8.3 \\ 10.1\end{array}\right.$ of four The calmest husbands $\begin{aligned} & 18.7 \\ & \text { make the stormiest wipes } \\ & 10.5\end{aligned}$ storms
 Name or Name or • Earth $17 \mathrm{ti} .1961 \quad \delta 9 \mathbb{C}$ $\delta \geqslant \odot \delta \widehat{\text { © }}$ Staoting Shooting
Stars $(9-14)$ pour． $\mathbb{C}_{\text {Peri．}}^{\text {in }} \mathbb{C}_{\text {Eq．}}^{\text {on }}$－Francls Scott St Tawrence Furion＇s First Trip St．LaWIEICE SS Ciermont 1807 while
Barbadoes Hurr． 1831 Heavy Meteor
－Showers（10－13）ye may． begins 12tba． $\mathbb{1}$ ठठく $\delta \Psi \mathbb{C}$ He that riseth U．S．Flag 1846 Must trot ath late．Hol．
Assumption day Ark．，R．I．Pip for Assumption
Virgin Mary
AV
low （rides $\left\{\begin{array}{l}8.4 \\ 10.0\end{array}\right.$ a trip． $\underset{\substack{\text { Battle of } \\ \text { Bennington，vt．} \\ \text { Eng．} 1930}}{\text { R10 arr．}}$ No．S＇s Blondin crossed Nlag－on the＂line＂，
ara on tightrope 1859 Eleanor and Ananlas produced sailors Virginia－Roanoke，Va． 1587 The Full（9．27 P．M．）－Hasten Sturgeon Moon
14tha P Paratiel 9.1 of thi
141才a．抻．with Apr． 23 （10．2 of this Destroy bushes
and sprouts Tides $\{\overline{9.2}$ time． ＂Your Majesty，there ain＇t
＂Your Majesty，there ain＇t
no second＂Cowes，Eng． 185
$\mathbb{C}_{\text {Eq．}}^{\text {on }} \mathbf{\delta}$ d turn for sunburn． St．Barth．$\delta ~ \succ \odot \bigcirc$ Sup． $\begin{cases}9.8 & \text { No．} 4 \text {＇s }\end{cases}$ Gt．So Atlant1c Coast
Storm Kilied 2000,1893
$\mathbb{C}_{\text {Apo }}$ in Storm killed 2000， 1893 Apo
Hunt two hares and you＇ll
A8． Hunt two hares and you＇ll
lose one and leape the other $\left\{\begin{array}{l}8.5 \\ 8.9\end{array}\right.$ end of 14 tfa ．（IT．Confucius $\left\{_{8.50 \text { B．C．}}^{8.1}\right.$ the one

 | John Bapt． |
| :--- |
| beheaded |
| $\delta$ |$\Psi \delta ¢ \odot$ Inf．Yippy beheaded

Cleopatra
Cuns
runs
7.5
ne
 Rodgers S．F．－Haw．
Dis．Flight 1925 $\quad$ Tides $\left\{_{9.2}^{7.7}\right.$ zippy．
＂Secds nearly ripe must be gathered from the birds；such as cabbage，fennel，lettuce， mustard，etc．＂
The crops of the early farmer，the first settler，had a double necessity．They must feed him and his family and his livestock，and their seeds must be saved for next spring＇s planting．

Seeds werc as important as the crop．Loss of crops before seed time could be a calamity， for he could not just order seeds，or go out and buy them．Droughts or floods or great storms，wiping out the crops of his region，could wehl cause the wholesale abandon－ ment of the farms．And some－ times this happened．It was one contributing factor to westward expansion．

Youngsters of the farm fam－ ily at the task of scaring away birds from the fennel and the cabbages would seem a pleas－ ant picture．But at seed time it was a tedious，necessary job，as important as a reap－ er＇s or a shepherd＇s．

Everything on a farm had a value－or might have，and so nothing was discarded－ everything saved．But seeds， the irrcplaceable，weren＇t just saved－they were stored away．A handful of seeds，it a man had none，could have bought a piece of his land， or his cow．But the secds would have been given，for a gift of need is beyond value．
When a pioneer set his foot toward the west with a dream of his own cabin and clearing， he took with him three things －his gun，his axe，and his secds．

| SEPTEMBER, Ninth Month. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Days. | $0 \quad 1$ | Days. |  | - | 1 | Days. | 0 |  | 1 | Days. |  | 0 | Days. | 0 | , |
|  | 1 | 8N. 22 | 7 |  | 0 |  | 13 |  | 5 |  | 19 |  | 134 | 25 |  | 46 |
|  | 2 | $8 \quad 00$ | 8 |  | 5 |  | 14 |  | 3 | 30 | 20 |  | 111 | 26 |  | 09 |
|  | 3 | $7 \quad 38$ | 9 |  | 2 | 24 | 15 |  | 0 |  | 21 |  | - 48 | 27 |  | 32 |
|  | 4 | $7 \quad 16$ | 10 |  | 0 | 01 | 16 |  | 4 | 4 | 22 |  | $0 \quad 24$ | 28 |  | 56 |
|  | 5 | $6 \quad 54$ | 11 |  | 3 | 39 | 17 |  | 2 | 21 | 23 |  | 0.x. 01 | 29 |  | 19 |
|  | 6 | $\begin{array}{ll}6 & 32\end{array}$ | 12 |  | 1 |  | $18^{\prime}$ |  | 0 |  | 24 |  | 0s. 22 | 30 |  | 43 |

- New Moon, 4th day, 6 h. 38 m., morning, E.

D First Quarter, 10th day, 10 h .06 m ., evening, W.
O Full Moon, 18 th day, 12 h .00 m ., erening, E.
$\mathbb{C}$ Last Quarter, 26th day, 4 h. 44 m., evening, W.
FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16

| aix |  | $9$ |  |  |  |  | $\underset{\substack{\text { Rises }}}{D_{0}}$ |  | D |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24 | $1 \mid$ Fr. 508 | $\mathrm{g}_{\mathrm{G}}^{6} \mathbf{6} 20$ | к\|1312| | 16 | $S^{\frac{1}{2}}$ | $S_{2}^{1}$ | ${ }_{1}^{1} 15$ |  |  |  |  | , |
|  | 2 Sa. 509 | c 618 | к 1309 | 16 | $9 \frac{1}{4}$ | $9 \frac{1}{2}$ | 228 |  | 546 |  |  | 27 |
| 2 | 3 A 510 | a 616 | k 1306 | 16 | 10 | $10 \frac{1}{4}$ | 346 |  | 615 |  |  | 28 |
| 24 | 4 M. 511 | a 615 | к 1304 | 17 | $10 \frac{3}{4}$ | 11 | 505 |  | $6+1$ |  |  | 0 |
|  | 5 Tu. 512 | c 613 | к 1301 | 17 | $11 \frac{1}{2}$ |  | 624 |  | 704 |  |  |  |
| 249 | 6 W. 513 | c 611 | к 1258 | 17 |  | $0 \frac{1}{4}$ | 742 |  | 7 |  |  |  |
| 250 | 7 Th. 514 | a 609 | J 1255 | 18 | $0{ }_{4}^{3}$ |  | 901 |  | 754 |  |  | 3 |
| 251 | Tr |  | J 1252 | 18 | $1{ }^{\frac{1}{2}}$ | 2 | 1020 |  | - S 23 |  |  |  |
| 252 | . | H 606 | J 1250 | 18 | $2 \frac{2}{2}$ | $2{ }^{-3}$ | $111^{1} 39$ |  | 8 |  |  | 5 |
| 253 | 10 A 517 | H 604 | J 1247 | 19 | $3 \frac{1}{2}$ | $3 \frac{3}{4}$ |  |  | 940 |  |  |  |
| 25 | 11 | H 602 | J 1244 | 19 | $4 \frac{1}{2}$ | 4 | 205 |  | \% 1032 |  |  |  |
|  | 12 Tu. 519 | H 601 | J 1241 | 19 | $55^{\frac{1}{2}}$ | - | 304 |  | ${ }^{2} 111_{\mathrm{m}^{\text {p }} 3} 33$ |  |  | 9 |
| 256 | 13 V | 1 5 | J 1238 | 20 | $6{ }^{\frac{3}{4}}$ | 7 | 353 |  |  |  |  | 10 |
|  | 14 | 11. 5 | J 1236 | 20 | 73 | S | 431 |  | - $12 \cdot \hat{2}+1$ |  |  | 11 |
|  | 15 Fr | 115 | J 1233 | 21 | $8_{4}^{3}$ | 9 | 501 |  | 11 150 |  |  | 12 |
| 259 | 16 | 115 | J 1230 | 21 | $9{ }^{\frac{3}{4}}$ | $9 \frac{3}{4}$ | 525 |  | 2 |  |  | 3 |
|  | 17 A | 11. | J 1227 | 21 | $10 \frac{1}{2}$ | $10_{2}^{1}$ | 546 |  | 4 |  |  | 14 |
|  | 18 M | 115 | J 1224 | 22 | 11 | $11 \frac{1}{2}$ | 605 |  |  |  |  |  |
|  | 19 |  | 112 | 22 | $11 \frac{1}{2}$ | $11 \frac{3}{4}$ | 623 |  |  |  |  |  |
|  | 20 W. 528 |  | 11219 | 22 |  | - | 641 |  |  |  |  | 16 |
|  | 21 Th | 1545 | I 1216 | 23 | $0_{2}^{1}$ | $0 \frac{3}{4}$ | 701 |  |  |  |  | 17 |
|  | 22 F | 15 | 11213 | 23 |  | $1 \frac{1}{4}$ | 723 |  | 917 |  |  | 15 |
|  | 23 | 15 | 1. 1210 | 23 | $1{ }^{3}$ | 2 | 749 |  | c 1021 |  |  | 19 |
|  | 24 A | 15 | 11207 | 2 | $2 \frac{1}{2}$ | $2 \frac{3}{4}$ | S 22 |  | ${ }_{8} 11_{1}^{1}$ |  |  | - |
|  | 25 M | 15 | 11204 | 24 | $3{ }^{1}$ | $3 \frac{1}{2}$ | 903 |  |  |  |  | 21 |
|  | 26 T | 15 | 11202 | 24 |  | $4 \frac{1}{4}$ | 95. |  |  |  |  | 2 |
|  | 27 IW | 15 | 1 11159 | 25 |  | $5 \frac{1}{4}$ | $10_{18}^{\text {Pr }}$ 5 |  | B 2 |  | $\mathrm{r} \mathrm{CNO}$ | 23 |
| 27 | 28 Th | 15 | 1156 | 25 |  |  |  |  |  |  |  | 24 |
| 272 | 29 Fr | 15 | 1153 | 25 |  | 7 | $12{ }_{\text {M }} 04$ |  | $3+2$ |  |  | 25 |
| 273 | S: | 15 |  | 26 | S | $S_{4}^{1}$ |  |  |  |  |  |  |



The various colour'd apples glow, Upon the drowsy, bending bough, The farmer now, at his leisure, Mounts his horse, and rides for pleasure.
D.M. 8
0
0
Aspects, Holidays, Heights of
High Water, Weather, etc.
Oysters - He that knows least ..... ost This
1 Fr.16tha. 73. Hay Fever uncertainLabor Day Moses
Moses
Patriarch
rain raises the

 Ct. 1867 Ceri. spawn Vacaion First Am, Cup Race 1886 (11.0
Maytiower det. Galatea
M1.1 Nativity. Separate ewes duration. or Mary - from lambs duration. б $\Psi \mathbb{C}$ ठ $\delta \mathbb{C}$ Cal. $\left\{\begin{array}{l}10.1 \\ 10.8 \\ \text { Drools }\end{array}\right.$

 To ert is human, to repent rides 8.4 divine, to persist derllish ${ }^{10 \mathrm{w}}$ \{9.7 $\delta \mathrm{L} \odot \frac{\text { Mararet Chase el }}{}$ Mane 1948 Muggy, Holy Cross $\begin{aligned} & \text { Financlal } \\ & \text { Pant } 1857 \\ & \\ & 9.6 \\ & 8.3 \\ & \text { no }\end{aligned}$ $\begin{array}{lll}\text { Fall follage coloring } \\ \text { now through Oct. } 15 & \{9.5 & \text { fropical }\end{array}$ Sun, moon, \& stars
were made this day Hoi. storm,

 б' $2 \mathbb{C} \mathbb{C}_{\text {Eq. }}^{\text {on }}$ Tides $\{9.6$ hurricane, Ember - Royaity abol. of these we
 ${ }_{\text {American }}^{\text {Indian Day }} \cdot{ }^{\text {Nathan Hale }}$ exe. 1776 Not nowfall $\frac{1}{\text { Begins }}$ - sun enFall 12.38 P.M. - ters Libra $i t$ 's clear. 18th a. T. Mes. Army enters But
 One ounce of with bought
Is vorth a pound lauoht
$\mathbb{C}_{\text {high }}^{\text {Runs }}$ Fine
 equals Day Adm. Sims D. 1936

- Brigitte Bardot
Fluid St, Michael vaughn skied 106.5 Vaughn skied
mph Chile 1963
for St Jerome. $6 \not 4 \mathbb{C} \cdot \delta \$ \mathbb{C}$ Druids.
Farmer's Calendar.
"Put your hemp and flax a-rotting."
What do we know of hemp and flax today, except their end products of rope, linen, linseed oil, and cigarette and Bible paper? But the growing and processing of hemp and flax was a true farm industry - a laborious and intricate one, from the pulling of the stalks and threshing out of the seed, to the long wetting in the dew or the mill pond, and the final beating to separate fibres from stems. But the labor of it and the need - rope and bagging and cloth - were typical of the old farmer's skills skills that require today the focus of machines and specialists.

We wonder less that he knew all about hemp and flax, than that there was so much else he knew all about. Here was a man who could cut his timber, saw it and season it: lie could build a house or a barn or a scoot or a barrow or a wooden pipe; lie could cut posts, and split rails, and make fences, lay up walls, and dig wells. He was sower and reaper, cattle man, dairy man, shearer, shepherd, veterinarian and butcher. On the lighter side he smoked hams. tended bees, made sugar and cider, grew fruit, Yankee-traded -and was deacon.

We are amazed that the old almanac liad the temerity to advise sucli a man.

[^3]with the Winter ride.

| 1967] |  | OCTOBER, Tenth Month. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASTRONOMICAL CALCULATIONS. |  |  |  |  |  |  |  |  |  |  |
| $\dot{\square}$ | Days. |  | Days. | $0 \quad 1$ | Days. |  | Days. | 0 | Days. | 0 |
| - | 1 | 3s. 06 | 7 | 525 | 13 | 741 | 19 | 954 | 25 | 1201 |
| 告 | 2 | $3 \quad 29$ | 8 | 548 | 14 | 804 | 20 | 1016 | 26 | 1222 |
| \% | 3 | $3 \quad 52$ | 9 | 611 | 15 | 826 | 21 | 1037 | 27 | 1242 |
| ® | 4 | 416 | 10 | 634 | 16 | 848 | 22 | $10 \quad 59$ | 28 | 1303 |
|  | 5 | $4 \quad 39$ | 11 | 656 | 17 | $9 \quad 10$ | 23 | 1120 | 29 | 1323 |
| $\bigcirc$ | 6 | $5 \quad 02$ | 12 | 719 | 18 | 932 | 24 | 1141 | 30 | 1343 |

- New Moon, 3rd day, 3 h. 24 m., evening, W.

D First Quarter, 10th day, 7 h. 11 m., morning, E.
O Full Moon, 18th day, 5 h. 11 m ,. morning, W.
$\mathbb{C}$ Last Quarter, 26 th day, 7 h. 04 m., morning, W. FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16





278 5 Th. 544 J J 20 H 1113627 - 00



282 9 M. 549 JF 14 н 1112528
28310 Tu. 550 J 512 H 112229
$28+11$ W. 551 J|5 10 c 1111929
28512 Th. $552 \mathrm{k} 509 \mathrm{G} \cdot 111629$
286 13 Fr. 553 к年 07 of 111429
$28714 \mathrm{Sa}, 555 \mathrm{k} 505 \mathrm{~g} / 1111130$
28815 A 556 k . 0.4 g 1110830
$289 \quad 16$ M. 5.57 к. 502 g: 110530
29017 Tu. 558 к -701 (: $110: 30$ 291 18 W. 5.59 к +59 (: 110131

 $29+21$ Sa. $60: 3 \mathrm{k} 154$ c: 105231
 29623 M1. 60.5 K 4.51 (: $1046: 31$ $2972-4$ Tu. 606 L 450 . 104432 29825 W. 608 1. +48 F $10+132$ 29926 Th. 609 L 4.47 r. $1038: 32$

 302,29 A 61311443 F 103032
 304131 Tu. 615 1, 440 F 102532

| 3 |  | ${ }_{2}^{1} 10{ }_{-1}{ }^{\text {P }} 59$ | \begin{tabular}{l\|lll}
\hline
\end{tabular} | $\mathrm{B}$ | AP | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4 \frac{1}{4}$ | $4 \frac{1}{2}$ | 1-12 | r 1032 | B CA | AP |  |
| $5{ }^{\frac{1}{4}}$ | - $\mathrm{i}^{1}$ | - 233 | O) $11{ }_{\text {P1 }}^{\text {P }}+1$ | cal | QR | 8 |
| $6 \frac{1}{2}$ | $0_{4}^{3}$ | 306 |  |  | QR | 9 |
| $7 \frac{1}{2}$ | $7{ }^{3}$ | 331 | $\cdots 12384$ | E P | Ps | 10 |
| S ${ }^{1}$ | $8{ }_{4}^{3}$ | 3 S 2 | к 1.26 |  | isc | 11 |
| 91 | 912 | 412 | , 300 |  |  | 12 |
| 10 | $10 \frac{1}{4}$ | 429 | 402 |  | AR1 | 13 |
| $10 \frac{1}{2}$ | $10_{4}^{3}$ | 448 | , 04 |  |  | 14 |
| 11 | $11 \frac{1}{2}$ | 501 | 1: 60.5 | k |  |  |
| $11 \frac{1}{2}$ |  | 5 28 | E 708 | $\cdots$ |  | 15 |
| 0 | $0{ }_{4}^{\frac{1}{4}}$ | 552 | 12 S 12 | x ta |  | 16 |
| $0 \frac{1}{2}$ | $0{ }^{3}$ | 623 | B 916 | TA |  | 17 |
| $1 \frac{1}{4}$ | $1{ }^{\frac{1}{2}}$ | 700 | B. 10 19 | ${ }^{1}$ C' | 's | 18 |
| $\because$ | $\because$ | 747 | A $111_{\mathbf{1}}^{1} 19$ | 1. |  | 19 |
| 23 | 3 | 843 | ${ }_{3} 12{ }_{-1}^{\text {P }} 14$ | ? |  | 21 |
| $3 \frac{1}{2}$ | $33_{4}^{3}$ | 947 | 13. 100 | 1 |  | 22 |
| $4 \frac{1}{2}$ | ${ }^{\frac{3}{4}}$ | $10^{\text {P }}$, 58 | (c) 140 |  | EO | 23 |
| $5 \frac{1}{2}$ |  |  | 212 | N Le | EO | 24 |
| $6 \frac{1}{2}$ | $6{ }_{4}^{3}$ | 12 M 11 | c 23.3 | 1 |  | 25 |
| $7 \frac{1}{4}$ | $7{ }^{\frac{3}{4}}$ | 127 | F $\quad 304$ | K | IR | 26 |
| $8 \frac{1}{4}$ | $8 \frac{1}{2}$ | 24 | H 1327 |  |  | 27 |
| 9 | $9 \frac{1}{2}$ |  |  |  |  |  |

1w. in oftermen


Pomona her cheerful juices yields,
While golden harvest decks the fields. See the enamel'd drooping trees,
Shedding their leaves at every breeze.

Farmer's Calendar.

1/A
 $\mathbb{C}_{\text {Eq. }}$ ooc sweater, the warmer Halloween $\begin{gathered}\text { John Brown } \\ \text { conv. } 1859\end{gathered}$ the better.
"Rather cool, making cider." Anyone can get juice from an apple. But that was not what the old farmer meant by making cider. In late October it was business a man had to give time to - laborions if not intricate, yet a thing to be done just right.

Pressing apples in his handturned press, straining the juice, then pouring it into kegs was indeed "rather cool," not to mention wet. For there's nothing colder, wetter, stickier than apple juice and pulp. A man even sweats cold handling it. But the real finicky part was after he had funneled the juice into his three fifty-gallon kegs (most likely oak - never pine). One hundred aud fifty gallons a ton of his Baldwins, Northern Spies, or Russets.

Now he emptied in a few cups of suçar or molasses, to start the juice "working" and over the next few weeks it would do that, with a little more sweetening, while the fermentation, frothy and brown, oozed out around the loose bung. Then when the fermentation stopped, he'd drive home the bung, sheathed in burlap, so he could better pull it out come spring. He might draw some cider off in bottles, add a little sugar, cork and wire them well - for champagne cider. Or set a few gallons out in firkins to freeze, leaving the "core" unfrozen. That would, be granite-hard "apple jack." But any way he used it, cider was his drink, better for his constitution and his for his constitution and than West India Spirit, pocket than West India
at least so he thought.

1967] NOVEMBER, Eleventh Month.
ASTRONOMICAL CALCULATIONS.

| - | Days. | 0 | Days. | 0 | Days. | 0 | Days. | 0 | Days. | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 14s. 22 | 7 | 1613 | 13 | 1754 | 19 | 1925 | 25 | $\frac{2042}{}$ |
|  | 2 | $14 \quad 41$ | 8 | 1631 | 14 | 1810 | 20 | 1939 | 26 | 2054 |
|  | 3 | 1500 | 9 | 1648 | 15 | 1826 | 21 | 1952 | 27 | 2105 |
|  | 4 | $15 \quad 16$ | 10 | 1705 | 16 | 1841 | 22 | 2005 | 28 | 2116 |
| $\infty$ | 5 | $15 \quad 37$ | 11 | 1722 | 17 | 1856 | 23 | 2018 | 29 | 2127 |
| 3 | 6 | $15 \quad 55$ | 12 | $17 \quad 38$ | 18 | 1911 | 24 | $20 \quad 30$ | 30 | 2137 |

- New Moon, 2nd day, $12 \mathrm{~h} .49 \mathrm{~m} .$, morning, E.

D First Quarter, 8th day, 8 h. 00 m., evening, W.
O Full Moon, 16 th day, 11 h .53 m ., evening, W. © Last Quarter, 24th day, 7 h. 24 m., evening, E.

## FOR POINTS OUTSIDE BOSTON SEE KEY LETTER CORRECTIONS - PAGE 16



 307 3 Fr. 619 L- 366 F 1018 32 $11 \frac{1}{2}$ -

 3106 M. $622 \times 433$ E 101032 $3117 \mathrm{Tu} .624 \mathrm{~m}+32$ E 100832 312 S W. 625 n 431 e 100632 3139 Th. $626 \mathrm{n}+30$ e 100332 31410 Fr. $628 \times 128$ m: 100132 $31511 \mathrm{Sa} .629 \mathrm{M} \mid 127 \mathrm{E} .95932$ 31612 A $630 . \mu+26$ \& 95632 317.13 M. 631 al 4 25 E 9 at 31 3 I 8 14 Tu. 633 a 1425 e 95231 $31915 \mathrm{~W} .634 \mathrm{~m}+2+\mathrm{E} 95031$ 32016 Th. $635 \mathrm{~m} \mid 23 \mathrm{v}: 9$ 9 $48: 31$ 321 17 Fr. 636 M 422 世 94631 32218 Sa. $638 \mathrm{~m}+21 \mathrm{E}$

94330
2
2
3
3

3 32319 A 039.31 .120 | $1:$ | 9 |
| :--- | :--- |
| D) | 9 | $32+20$ M. $640 \times 119$ D 933930

 32622 W. 6 +2 N + 18 D 93630 32723 Th. $644 \times|17| 10.93429$ 32824 Fr. $645 \times 17$ D 93229 $32925 \mathrm{Sa} .646 \mathrm{~N} 416 \mathrm{D}-93029$ $\begin{array}{lllllllllllll}330 & 26 & \text { A } & 6 & 47 & \times & 4 & 16 & 1 & 9 & 29 & 28\end{array}$ 33127 M. 648 N $415.510 \mid 92728$ $332-28$ Tu. $649 \mathrm{~N}+15 \mathrm{n}) 925$ 28 $333-29$ W. $651 \times(414$ D 92427 33430 Th. $652 \times 1414 \mathrm{D} 92227$


The summer's past! - and all its bloom
Is giving way to winter's gloom;
The flow'ry fields have lost their pride,
And smiling pleasure's turn'd aside. High Water, Weather, otc,

## Farmer's Calendar.

 2 Th. All souls $\odot$ Total $\begin{gathered}\text { Eew moon is } \\ \text { Lech } \\ \text { underground }\end{gathered}$ 3 Fr . б母® Yrs. hishert A.M. \& summer 4 Sa. WII high ulde (11.9) Year's highest P.M. Rogers ${ }^{-}$nigh tide (11.8) weather 5 A 24tha. U. $\mathbb{C l}$ lide Fawkes Plot's
 B.C. 2948 of ( 10.8 mixed in 7 Tu.
 8 W. $W_{\text {is folly }}^{\text {Wisdom spun too fine }}\left\{\begin{array}{l}\{8.6 \\ 9.6\end{array}\right.$ Наze ${ }^{2 s}$ folley $-\quad$ - $\quad$ Gr. El. $\left\{\begin{array}{l}8.1 \\ 9.3\end{array}\right.$ then 9 Th. Power
out N.Y.C. 65 $y_{\text {in R.A. }}^{\text {stai. }}$ Desceartes: great slisery 1619 slippery St. Martin - Hol. All. St. glaze. Veterans Day exc. 4
12 A
13 M.
14 Tu . 15 W. 16 Th. 17 Fr.
18 Sa.
19 A 20 M . 21 Tu 22 W . 23 Th .
24 Fr . 25 Sa. 26 A 27 M. 28 Tu . 29 W.
 Indian (13-20) - Cellar
Summer
coot crops Behold, Shammer bres won! the western sun
cure a ferer ${ }^{\text {Methuselah }}$ born B.C. $2349 \mathbb{C}_{\mathrm{Apo}}^{\text {in }}\left\{_{8.7}^{9.4}\right.$ all. gold, The full Bpayer Moon 11.53 P.M. $\delta \Psi \odot$ this rainy
 shay . Cong. adopted told. Hawklins $\dot{T}^{\text {standard Time } 1883}$ told. 26tya. $\mathbb{C}$. Alewives back in sea This fine
 Maytiower $\qquad$ - lit steamer St . Compact Lawrence R. 18 Jonn F. Kennedy assas. 1963

Lyndon B, Jonnson Dec. Pres. shy Thanksgiving Day stay long dry. | Prune your |
| :--- |
| grapevines |
| g |
| 1 © Thanksgiving's | Days (9 h. 30 man.) now shorter clear,

 Portand
sank 1898
$\mathbb{C}_{\mathrm{Eq}}^{\mathrm{on}}$. Gieese now $\delta f \mathbb{C}\left\{\begin{array}{l}10.2 \\ \text { aylng south } \\ 9.6\end{array}\right.$ oh dear! Strote' 'em kinalv, stlul they sting Glary,


[^4]away.
"Thrash your grain of all sorts as it will never thrash better."

The passing of the old New England farm, as the passing of any way of life, leaves be hind its pathetic clutter of things - under the attic eaves, deep in the corner of barns - needful things once that have no need anymore, and to some of us who find them, no meaning.

The other day I watched my grandson coming out of our barn. There was inzzlement on his face as he looked at what le was carrying: an old flail, or what was left of it. What should he know of this strange thing, these two clackety pieces of wood held together by the tatters of a thong? Wliat should he know. who had never seen a field of wheat, or oats, or rye, or barley, or buckwheat - nor ever before had occasion to ponder that here in this broken flail was something most ancient, as important to man as the wheel or the axe?

It is not a sad commentary but a true one, not curions but understandable, that the clanges of our farm pattern and needs - how and where we should grow things, how to process them for a modern world - affected only a few generations of men whose lives and cconomy were bent, or broken, to the changing. This boy in a barn knows no more of this - wonders no more at this - than do the birch and the pine that have come back to my grandfather's wheat field.

1967] DECEMBER, Twelfth Month.
ASTKONOMICAL CACCULATIONS.

|  | Days. | 0 | 1 | Days. | 0 |  | Days. |  |  | Days. |  |  | Dars. |  | , |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 21 s | 46 | 7 | 22 |  | 13 | 23 | 08 | 19 | 23 |  | 25 | 23 |  |
|  | 2 | 21 | 56 | 8 | 22 | 42 | 14 | 23 | 12 | 20 | 23 | 26 | 26 | 23 | 23 |
|  | 3 | 22 | 04 | 9 | 22 | 48 | 15 | 23 | 16 | 21 | 23 | 26 | 27 | 2.3 | 21 |
| - | 4 | 22 | 13 | 10 | 22 |  | 16 | 23 | 19 | 22 | 23 | 27 | 28 | 23 | 18 |
| $\infty$ | 5 | 22 | 21 | 11 | 22 | 59 | 17 | 23 | 21 | 23 | 23 | 26 | 29 | 23 | 5 |
| \% | 6 | 22 | 28 | 12 | 23 | 04 | 18 | 23 | 23 | 24 | 23 | 26 | 30 | 23 | , |

- New Moon, 1st day, 11 h .10 m ., morning, E.

D First Quarter, Sth day, 12 h .58 m ., evening, E.
O Full Moon, 16 th day, 6 h. 22 m., evening. E.
© Last Quarter, 24 th day, 5 h. 48 m., morning. W.

- New Moon, 30th day, 10 h .39 m ., evening, 11. for points outside boston see key letter corrections - page ie




337
338
3395 Tu. 657 ल 413 D
3406 W. 6 58 n +13 D
34 I 7 Th. $659 \mathrm{x}+12 \mathrm{D}$
3428 Fr. $700 \mathrm{n}+12 \mathrm{D}$
343 9 Sa. $701 \times 12$ D
34410 A $702 \mathrm{~N}+12 \mathrm{D}$ 34511 M .703 O o t 12 c $34^{6} 12$ Tu. 70.3 o 413 c 347 13 W. $7040 \mid 13$ c 90921 $34^{8}$ 14 Th. 70.5 O. 133 co 908.21
34915 Fr. 7060413 c $900-2110$
$35016 \mathrm{Sa} .7060+13 \mathrm{c}$
351 17 $\mathbf{A} 707 ッ+14 \mathrm{c}$

352 is M. $7080+14 \mathrm{c}$ 35319 Tu. $7080+14 \mathrm{c}$ $35420 \mathrm{~W} .7090+15 \mathrm{c}$ 35521 Th. 710 口 415 c 35622 Fr. $7100+16$ $35723 \mathrm{Sa} .711 \mathrm{O}+16 \mathrm{C}$ 358 24 A $7110+17$ 359 25 M. $7110+18$ 36026 Tu. $7120+18$ 36127 W. $7120+19$ c 36225 Th. 7120420 36329 Fr. 7130 t 20 c $36430 \mathrm{Sa} .7130+21$ 36531 A $713 \mathrm{n}+22$ 3) 0720 | $10 \frac{1}{2}$ |
| :--- |
| $11^{\frac{1}{4}}$ |

(9) 0720 90619 90619 90618 90618 90617 90617
90616
90616
90615
90715 90714 908 14 90813



See, bursting from the northern skies,
November's fierce successor rise;
Lo! devastation makes his way,
Oaks with a bow confess his sway.
1 Fr .

2 Sa .
3 A
4 M .
5 Tu .
6 W .
7 Th.
8 Fr .
9 Sa .
10 A
11 M .
12 Tu.
13 W.
14 Tl.
15 Fr .
16 Sa.
17 A
18 M.
19 Tu.
20 W.
21 Th .
22 Fr .
23 Sa.
24 A
25 M .
26 Tu .
27 W .
28 Th .
29 Fr .
30 Sa.
31 A

Aspects, Holidays, Heights of High Water, Weather, etc.

Farmer's Calendar.

Two new moons (1st-30th) mean GutTime spell Time to cut St. Barbara's lers stuller. Kヤbent \$. $\mathbb{C}_{10 \%}^{\text {rides }}\{\overline{11.6}$ Clouds Kill pork
and beef Nat'l Grange 1867 id $\begin{aligned} & 9.6 \\ & 11.2\end{aligned}$ scurry, Suspicion is no great it $\delta \mathbf{J} \mathbb{C}$ snows Jault
St.
Nick k. Don't marry bet. 9.0 Pearl Dec. 3 \& Jan. 13 (10.0 Jlur y. Pearl Harbor • Earliest sun- 3 weather Conception
Virgin Mary Wash. crossed Delaware 1776 breeders $\left[\begin{array}{l}10 \\ \text { th } \\ \text { Stat. } \\ \text { in R.A. }\end{array}\right.$ Vocculted $^{2}$ (it'sacinch)
 Laughing Gas first used $\left\{\begin{array}{l}8.6 \\ \text { for tooth extraction } 1844\end{array}\right.$ of more $\mathbb{C}$ Apo. Showers $(12,22,23)$ than $1^{\prime \prime}$. St. LilGy Grandma doses Near clear, Geminis rendezvous 1985 Tides $\left\{\begin{array}{l}9.2 \\ 8.1\end{array}\right.$ then Bill of
Rights Gemini Rendez- $\begin{aligned} & 9.4 \\ & \text { vous } 1965\end{aligned}$ more Full Hunters Rissouri 11 snow, Moon 6.22 P.M. - quake 1811 snow, $3105.8 . C_{\text {high }}^{\text {runs }}\left\{\begin{array}{l}9.7 \\ 8.3\end{array}\right.$ we fear. $\underset{\text { Days (18-26) }}{\substack{\text { Shortest } \\ \text { Dangerous } \\ \text { evil day }}}\left\{\begin{array}{l}\text { Di.7 Sun's }\end{array}\right.$ B.C. 62 Caesar repudiated $\left\{_{19.8}^{8.3}\right.$ bright, his wife Pompela 12 cons. rainy Ember Days. 12 but 20, 22, 23 . Sats. to here-1959 but $\underset{\text { Day }}{\text { Forefathers }} \quad\left[\begin{array}{l}22 \\ \text { nd }\end{array} \sum_{\text {in R.A. }}^{\text {Stat. }} \mathbf{2} \mathbb{Z}\right]$ Winter begins D . cold as night. In the same case to others do as you would they should to you Christ
 Christmas 翟. white; Old Abe St. Stephen $\begin{gathered}\text { 3s Sioux Indans } \\ \text { hanged Minn. } 1862\end{gathered}$ was $\begin{array}{l}\text { St. John } \\ \text { Hanukah }\end{array}{ }_{t h}^{28} \delta \Varangle \odot$ sup. $\left.6 \$ \Psi\right]$ right.
 Dartmouth Coflege storm (or worse) chartered 1767
Boston forbid
rides may burst Masa. Balls 1809 Happy onthe31st.
"Put your sleds and sleighs in order."
And high time, too. Look to them indeed: your good all-purpose pung, Jour rugged wood sled, but first look to "Crumbs of Comfort," your Sunday-Go-To-Meeting sleigh - and your Grange sleigh with the town's coat-of-arms.
Yes, we remember - you especially, grandma and grandpa, this Sunday morning after church - whisking down Main Street and out to The Corners - a very proud and elegant couple in "Crumbs," so golden on the snowy white road-and you showing off a bit to your friends, and they to you in their own proud turn-outs. How secure and comfy you looked, grandma, under the buffalo robe, coy in your tippet and littie fur hat- and you, grandpa. how grand and glowing, with your white whiskers streaming away, and the obedient reins secure in your fine black driving gloves. And little dappled Molly you, and not least you; perky, independent, high-stepping (as if grandpa needed any rein to you - but let him think so).
And then, of course, us we youngsters, with our independence, headed off after church to different parts for different reasons. We in the pung behind Ben or Dan, all of us spraddled out with our backs to the sideboards, feet in the sun-warm straw, our sleds and the horse blanket any-which-way in the middle. Off to Cranch Hill for coasting. off to the top of the morning. The top of the world

## VENUS, MARS, JUPITER, AND SATURN, 1967 <br> MORNING AND EVENING STARS, TOO

Below are given the times of the rising or setting of the Pianets named, on the first eleventh and twenty-first of each month. The time of the rising or setting of any one of said Planets hetween the days named may be found with sufficient accuracy hy interpolation. For explanation of keys (used in adjusting times given to your town) see page 16. Keys appear helow in capital letters.
(A Planet is called Morning Star so long as it appears nearer the Sun to the Sun's right, or west of 1 t , and so is above the horizon at sunrlse. It is called Evening Star so long as it appears nearer the Sun to the Sun's left. or east of it. and so is above the horizon at sunset. The change from the one to the other occurs precisely when the Pianet comes closest to aligning with the Earth and Sun, either on the side of the Earth away from the Sun, when it is sald to be in Opposition to the Sun, or on the same side of the Earth as the Sun, in Conjunction with the Sun.

Mercury and Venus, the orbits of which lie inside the Earth's orbit about the Sun, are the only Planets which can neter be in Opposition, but only in Conjunction, alioning either between the Earth and the Sun at Inferior Conjunction or on the far side of the Sun at Superior Conjunction. Thev become Morning stars uchen they pass inferior Conjunction. Evening Stars when they pass Superior Conjunction. When cither of these two Planets appears at its greatest anoular distance from the Sun, it is said to hare reached Greatest Elongation.

The other Plancts become Evening Stars when they pass Opposition. Morning Stars when they pass Conjunction.


## VENUS

Venus is an Evening Srar until it reaches Inferior Conjunction on August 29th. Thereafter it is a Morning Star for the balance of the year. It attains its greatest elongation ( $45^{2}$ ) east of the Sun on June 20 th and its greatest brilliance during the year on and about July 24 th and again on or about October 6th, when it will ;be about twelve times brighter than the brightest star.


## MARS

Mars continues as an Evening Star until April 15th, when it comes to opposition. For the year's balance it will be a $\lambda$ lorning Star. Its nearest approach to the earth during the year is on April 21st when it will be $55,894,000$ miles distant from the Earth.

Jan 1st/rises 1209 A.m. J. J 11th ". 1150 P.M. J

 11 th $\quad$ ". 1043 P.M. 21 st ". 1015 P.m. Mar 1st rises 947 P.m. | 11th |  |  |
| :--- | :--- | :--- |
| 21 st | ". | $909 \mathrm{P} . \mathrm{M}$. |

APR 1st rises 728 P.M. 11 th rises 632 P.M. 21 st sets 452 A.m. 11

May 1st/sets 403 A.m. $/ \mathrm{H}$ | 11 th | " | 315 A.M. | H |
| :--- | :--- | :--- | :--- |
| H |  |  |  | Jun



JUL 1st sets 11 5.s P.M. 11th $\quad$ " 1125 P.M. C 21st " 1056 P.M. F
Aug 1st sets 1026 P.M. $F$ 11th " 1001 P.M. E 21st sets 938 P.M. E

Sep

Oct 11th \begin{tabular}{c}
sets <br>
21st <br>
\hline

 Nov 1st sets 

11 th \& " <br>
21 st
\end{tabular}

Dec 1st sets 11 th ". 21st "

14 PM.

D S 55 P.M. D S 38 P.M. 824 P.w 813 P.M. 804 P.M. 75 SP.M. C \begin{tabular}{l}
755 <br>
753 P.м. <br>
\hline

 753 P.м. C 753 P.м. D 754 Р.м. D 

756 P.м. <br>
757 <br>
\hline
\end{tabular}

## JUPITER

Jupiter is in opposition on January 20 th when it will be approximately 395 million miles from the earth. Prior to that date it will be a Morning Star, after that date an Evening Star until it comes to conjunction on August 8th. Thereafter it is a Morning Star again for the rest of the year.


| $\mathrm{Jan}^{\text {a }}$ | 1st\|rises | 554 р.м. |
| :---: | :---: | :---: |
|  | 11 th rises | 509 р.м. |
|  | 21st/sets | 714 А.м. |
| Feb | 1 st sets | 626 A.m. |
|  | 11th | 544 А.м. |
|  | 21st | 501 а.м. |
|  | 1 st sets | 427 А.м. |
|  | 11th "" | 346 A.m. |
|  | 21st | 306 А.м. |
| A?R | 1st/sets | $224 \mathrm{~A} . \mathrm{M}$. |
|  | 11th " | 146 a . |
|  | 21st ${ }^{\prime}$ | 109 |


| a | 1st\|sets | 1234 A.m. |
| :---: | :---: | :---: |
|  | 11th | 1158 P.m. |
|  | 21st | 1124 P.m. |
| Jon | 1 1st sets | 1046 Р.м. |
|  | 11th | 1013 Р.м. |
|  | 21st | 939 P.M. |
| Jol | 1 st sets | 906 P .м. |
|  | 11th | 833 P.M. |
|  | 21st | 800 Р.m. |
| Ado | 1st\|sets | 724 P.m. |
|  | 11 th rises | 435 A.m. |
|  | 21st rises | 407 А.м. |

## SATURN

Saturn is an Evening Star until it comes to conjunction on March 23rd. Thereafter, until it reaches opposition on October 2nd, it is a Morning Star before becoming an Evening Star again on that date for the rest of the year. At opposition, when it is nearest the earth during the year, it will lie about 775 million miles away.



## Jun

| 1st | rises | $138 \mathrm{~A} . \mathrm{M}$. | H |
| ---: | :---: | ---: | ---: |
| 11 th |  | $100 \mathrm{~A} . \mathrm{M}$. | H |
| 21st | $"$ | $1222 \mathrm{~A} . \mathrm{M}$. | H |

Jel

AOG 1st rises 940 P.m. H 11th ". 902 P.m. H 21st rises 821 P.m. H

| Sep | 1st\|rises | 736 Р.м. | H |
| :---: | :---: | :---: | :---: |
|  | 11th " | 656 P.M. | H |
|  | 21st | 615 Р.м. | I |
| Oct | 1 st rises | 534 р.м. | I |
|  | 11 th sets | 508 A.M. | I |
|  | 21st ${ }^{\text {" }}$ | $425 \mathrm{~A} . \mathrm{M}$. | I |
| Nov | 1st/sets | 338 A.m. | I |
|  | 11 th " | $256 \mathrm{~A} . \mathrm{M}$. | I |
|  | 21st | 214 A.m. | I |
| Dec | 1 st sets | 134 A.m. | I |
|  | 11th " | 1254 A.m. | I |
|  | 21st " | 1216 A.m. | I |
|  | 31 st sets 1 | 1138 р.м. |  |

## MERCURY

Mercury is most easily seen when near its greatest elongation. For observation just aiter sundown the best dates wili be on and about February 16, June 12, and October 8 , (the dates of its greatest eastern elongation), when it will set $1 \mathrm{~h} .34 \mathrm{~m}, 1 \mathrm{~h} .47 \mathrm{~m}$., and 45 m ., respectively after the sun. For obscrvation just before sunrise, the best dates will be those on and about March 31, July 29, and November 17, (the dates of its greatest western elongations), when it wili rlse 51 m ., 1 h .28 m ., and 1 h .43 m . respectively before the sin. Mercury will be in Superior Conjunction on January 17, May 11, August 24 and December 18, and in Inferior Conjunction on March 4, Juiy 9, and November 1.

## OCCULTATIONS OF SATURN

Three occuitations of Saturn by the Moon, visible to the naked eye of observers in the United States, will occur during 1967.

October 16, 1967: This occultation will be vislble, near or after sunset, to most observers in the Eastern and Centrai Standard Time zones. Its beginning will occur within the hour starting at 5 P.M. E.S.T. (4 P.M. C.S.T.): the exact time depends upon the observer's iocation. Its ending will be generally visible to observers as far west as the Rockies. Saturn will be hidden by the Moon for about 50 minutes.

November 12, 196\%. This occultation, both lts beginning and ending, will be generally visibie to observers in the Mountain and Pacifc Staodard Time zones, and in Alaska. Its beglnning will occur around 8 P.M. M.S.T. (7 P.M. P.S.T.). Saturn will emerge from behind the Moon slightly more than an hour later for most observers.

December 20, 1967: This occultation will be visible to observers in the Alaskan and Bering Standard Time zones. Its beginnlng will be around midnight (Dec. 9-10) A.S.T. ( 11 P.M. December 9 th B.S.T.) and its ending wll occur about 40 minutes later.


## "FLYING SAUCERS" OR "FAIRY RINGS"?

"Flying saucers" are not exclusive with this generation. We have had many reports about these. Aviators, postmasters, housewives, anto-mobilists-in fact, they have been reported during the last twents years from almost every walk of life. In mans instances, that which had been thought to be a flying saucer has, upon investigation, turned out to be an optical illusion, a satellite, a weather balloon. a reflection. or something readily explained. It seems unfortunate, however, to classify flying saucers with the black panthers and the sea serpents, both of which are rooted in mistaken identification or in the minds of those fond of spoofs. To he sure, a certain percentage of those reporting sancers are also spoofiug or too credible. However, it mist be granted. Whatever their ldentity is (no one really knows), these flashes of light in circular form have not only leen recorded by seientists of the highest standing for the past 150 ycars but also have left their clearly visible marks on various ficlds, or forests, upon the earth.
"So from dark clonds the playful lightning springs:
Rives the firm oak or l'RINTS THE FAIRI-RINGS."
This couplet is taken from the Botanic Garden, a long poem (178) by Erasmms Darwin (1731-18(12), qrandfather of the eminent English naturalist, Dr. Charles Darwin. The Fairy-Ring, ilhustrated above, was sketched at Shrewshury, England, the birthplace of the latter. ILis explanation of it is found in a footnote towards the end of the poem on Page wh, note xill.
"There ls a phenomenon, supposed to be electric. which is yet unaccounted for; 1 mean the Fairy-rings, as they are called, so often scen on the grass. The mumerous flashes of lightning which occur ceery summer are, I belices, wenerally discharged upon the earth, and but seldom (it ever) from one clond to another. Moist trees are the most frequent conductors of these flashes of lightning, and I :m Informed by purchasers of wood that inmmerable trees are thus eracked and injured. At other times larger parts or prominenecs of clouds gradually sinking as they move along, are discharged on the molster parts of grassy plains. Now thas knob of corner of a cloma, in being attracted by the carth will beome nearly eyllndrleal, as loose wool would do when drawn out into a thread, and will strike the carth with a stream of clectrlelty perhaps two or ten yards in diameter. Now as a stream of electricity displaces the air it passes through, it is plain no part of the grass can be burnt by it, but just the extermal ring of this cylinder, where the grass can have access to the air; since without alr nothing can be calcined. This earth after
having been so caleined beeomes a richer soil, and either funguses or a bluer grass for many years mark the place. That lightning displaces the air in its passage is evinced by the lond crack that succeeds it; which is owing to the sides of the aerial vacuum elapping together when the lightning is withdrawn. That nothing will ealeine without air is well understood, from the acids produced in the burning of phlogistie substances, and may be agreeably seen by suspending a paper on an iron prong, and putting it into the centre of the blaze of an iron furnace; it may be held there some seconds, and may he again withdrawn, without its being burnt, if it be passed quickly into the flame and ont again, through the external part of it which is in contaet with the air. I know some circles ot many yards diameter of this kind near Foremark, in Derbyshire, whieh annually produce large white funguses and stronger grass; and have done so, I am informed, above thirty years. This inereased tertility of the ground by calcination or charring, and its continuing to operate so many years, is well worth the attention of the farmer: and shews the use of paring and burning new turt in agrieulture, whieh produces its effect, not so much by the ashes of the vegetable fibres, as by eharring the soil which adheres to them.
"Those situations, whether from eminenee or from moisture, whieh were proper once to attract and discharge a thunder-cloud, are more liable again to experience the same. Hence many fairy-rings are often seen near each other, either without intersecting each other, as I saw this summer in a garden in Nottinghamshire, or interseeting each other, as deseribed on Arthur's seat, near Edinburgh, in the Edinb. Trans. Vol. II p. 3."

In quoting the above, it may not be amiss to add that in the summer of 1965 a similar Fairy-ring was discovered at Jaffrey, New Hampshire and reported tully in the loeal Monadnock-Ledger as having been left there by a Flying Saucer. The ring, apparently, had been made by the Sancer, at or elose to the time when several Jaffrey residents reported they had seen the Saueer close to its location.

## RAPID DISORGANIZATION OF THE HUMAN BODY

On the night of the 16 th of March, 1802 , in one of the towns of the state of Massaehusetts, the body of an elderly woman evaporated and disappeared from some internal and unknown cause, in the duration of about one hour and an halt. Part of the family had gone to bed, and the rest were abroad. The old woman remained awake to take care of the house. By and by one of the grand-children came home, and diseovered the fioor near the hearth to be on fire. An alarm was made, a light brought, and means taken to extinguish it. While these things were doing, some singular appearances were observed on the hearth and the eontiguous Hoor. There was a sort of greasy soot and ashes, with remains of a human body, and an unusual smell in the room. All the elothes were consumed; and the grandmother was missing. It was at first supposed she had, in attempting to light her pipe of tobaeco, fallen into the fire, and been burned to death. But on considering how small the fire was, and that so total a consumption could searcely have happened if there had been ten times as much, there is more reason to eonelude that this is another case of that spontaneous deeomposition of the human body, of which there are sereral instances on reeord. It is to be regretted the partieulars have not been more earefully noted.

## THE COMET IKEYA-SEKI

diseovered in September 1965 by two Japanese astronomers, eame in full view of Japanese and mid-Paeific observers on Octuber 25, 1965. Good photographs of it were taken by the Smithsonian Astrophysieal Observatory at Woomera, Australia. Other scientists, jet propelled from the NASA Ames Researel Center, were foiled by the proximity of the comet and its 4 -million-mile-long tail to the brilliance of the sun. It did not collide with the sun or do anything mueh but disappear.

## OUTDOOR PLANTING TABLE, 1967

The best time to plant all flowers, and vegetables which bear their crops above ground (peas, bcans, etc.), is during the LIGHT of the moon. The LIGHT of the moon begins (see pages 24 to 46) with the exact moment the moon is NEW and ends the exact moment the moon is FULL. For vegetables which bear crops below ground (parsnips or potatoes), the best time to plant is in the DARK of the moon. The DARK of the moon begins the exact moment (see pages 24 to 46) the moon is FULL and ends the exact moment the moon is NEW. These "moon" planting dates for 1967 are given below in the columns headed "Moon Most Favorable." Estimated seasonal limits without reference to the moon are given in the columns headed "Plant Anytime".
Those who wish to plant also in the most favorable Siga should consult the Moon's Place, next to last column on pages 24 to 46 . After learning the "most favorable" dates below, consult the Moon's Place column and determine on which day or days of those given below the Signs ARI, CNC, L1B, AQR, and PSC appear. These days are best for planting flowers and aboreground crops. TAU is the only good sign for below-ground regetables.
For your particular locality, find the latitude of your town (see pages 91-10S). For every 500 feet above sea level, plant one week later than the dates given below. If your latitude is halfway between those given, your planting dates will be halfway between those given below.

| Above Ground Crops Marked (*) Plant Bet. New and Full MoonAll Others Bet. Full and New E means Early, L means Late. | $42^{\circ} 21^{\prime} 44^{\prime \prime}$ <br> Boston Latitude |  | $39^{\circ} 56^{\prime} 59^{\prime}$ <br> Phila. Latitude |  | $\begin{gathered} 33^{\circ} 40^{\prime} 10^{\circ} \\ \text { Atlanta Latitude } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Plant |  | Plant |  | Plant |  |
|  | Anytime | Moon | Anytime | $1100 n$ | Anytime | Moon |
|  | Between | Most | Between | Nost | Between | Most |
|  | Dates | Favorable | Dates | Favorable | Dates | Favorable |
|  | Below | Between | Below | Between | Below | Between |
| *Barley | 5-15/6-21 | 5, 15-23 | 3-15/4-7 | 3, 15-25 | 2-15/3-7 | 2, 15-24 |
| *Beans (E) <br> (L) | 5-7/6-21 | 5, 9-23 | 4, 15-30 | 4, 15-24 | 3-15/4-7 | 3, 15-25 |
|  | 6-15/7-15 | 6, 15-21 | 7, 1-21 | 7, 7 -21 | 8, 7-30 | 8, 7-19 |
| Beets (E) | 5, 1-15 | 5, 1-8 | 3-15/4-3 | 3-26/4-3 | 2, $7-29$ | 2, 25-29 |
|  | 7-15/8-15 | 7-22/8-4 | 8, 15-30 | 8, 20-30 | 9, 1-30 | 9, 19-30 |
| *Broccoli (E) | 5, 15-30 | 5, 15-23 | 3,7-30 | 3, 10-25 | 2-15/3-15 | 2, 15-24 |
|  | 6-15/7-7 | 6, 15-21 | 8, 1-20 | 8, 5-19 | 9, 7-30 | 9, 7-18 |
| *Brussels Spr. <br> *Cabbage Pl. (E) | 5, 15-30 | 5, 15-23 | 3-7/4-15 | 3, 10-25 | 2-11/3-20 | 2, 11-24 |
|  | 5,15-30 | 5, 15-23 | $3-7 / 4-15$ | 3, 10-25 | 2-11/3-20 | 2, 11-24 |
|  | 6-7/7-7 | 6, 8-21 | 7-1/8-7 | 7, 7-21 | 8, 15-30 | 8, 15-19 |
| Carrots (E) | 5, 15-30 | 5, 24-30 | 3, $7-31$ | 3, $7-9,26-31$ | 2-15/3-7 | 2-25/3-7 |
|  | 6-15/7-21 | 6-22/7-6 | 7, 7-30 | 7, $22-30$ | 8-1/9-7 | 8-20/9-3 |
| *Cauliflower Pl. (E) | 5, 15-30 | 5, 15-23 | 3-15/4-7 | 3, 15-25 | 2-15/3-7 | 2, 15-24 |
|  | 6-15/7-21 | 6, 15-21 | 7-1/8-7 | 7, -21 | 8, 7-30 | 8, 7-19 |
| Celery (E) | 5-15/6-30 | 5-24/6-7 | 3, 7-30 | 3, 7-9, 26-30 | 2, 15-2S | 2, 25-23 |
| * (L) | 7-15/8-15 | 7-22/8-4 | \&-15/9-7 | 8-20 9-3 | 9, 15-30 | 9, 19-30 |
| *Corn, Sw. (E) | 5-10/6-15 | 5, 10-23 | 4, 1-15 | 4, 9-15 | 3, 15-29 | 3, 15-25 |
| * (L) | 6, 15-30 | 6, 15-21 | 7, 7-21 | 7, 7-21 | 8, 7-30 | 8, 7-19 |
| ${ }^{*}$ * Cucumber | 5-7/6-20 | 5, 9-23 | 4-7/5-15 | 4, 9-24 | 3-7/4-15 | 3, 10-25 |
|  | 6, 1-30 | 6, 8-21 | $4-7 / 5-15$ | 4, 9-24 | 3-7/4-15 | 3, 10-25 |
| Endive (E) | 5, 15-30 | 5, 24-30 | 4-7/5-15 | 4,25/5-8 | 2-15/3-20 | 2-25/3-9 |
| *F (L) | 6, 7-30 | 6, 22-30 | 7-15/8-15 | 7,22,8-4 | 8-15/9-7 | 8-20/9-3 |
| *Flowers (All) | 5-7/6-21 | 5, 9-23 | 4, 15-30 | 4, 15-24 | 3-15/4-7 | 3,15-25 |
| *Kale (E) | 5, 15-30 | 5, 15-23 | 3-7/4-7 | 3, 10-25 | 2-11/3-20 | 2, 11-24 |
| Leck Pl. | 7-1/8-7 | 7, 7-21 | 8, 15-31 | 8,15-19 | 9, 7-30 | 9, 7-18 |
|  | 5, 15-30 | 5, 24-30 | 3-7/4-7 | 3-26/4-7 | 2-15/4-15 | 2-25/3-9 |
| *Melon (Musk) | 5-15/6-30 | 5, 15-23 | 3, 1-31 | 3, 10-25 | 2-15/3-7 | 2, 15-24 |
| Onion Pl. | 5-15/6-7 | 5, 15-23 6 | 4-15/5-7 | 4, 15-24 | 3-15/4-7 | 3,15-25 |
| *Parslcy | 5, 15-30 | 5, 15-23 | 3, 1-31 | 3, 26-31 | 2, 1-28 | 2,25-28 |
| Parsnip | 4, 1-30 | 4, 1-8, 25-30 | 3, 7-31 | 3, 10-25 | 2-20/3-15 | 2, 20-24 |
| * Pcas (L) | 4-15/5-7 | 4, 15-24 |  | $3,26-31$ $3,10-25$ | 1-15/2-4 | 1-27/2-4 |
|  | 7, 15-30 | 7, 15-21 | 8, 8 , $7-31$ | 3, 10-25 8, 7 -19 | 1-15/2-7 | 1,15-26 |
| - Pepper Pl. | 5-15/6-30 | 5, 15-23 | 4, 1-30 | $8,7-19$ $4,9-24$ | 9, 15-30 | 9, 15-18 |
| Potato | 5, 1-15 | 5, 1-8 | 4, 1-15 | 4, 1.8 | 3, 1-20 $2-10 / 3-1$ | 3, 10-20 |
| *Pumpkin | 5, 15-30 | 5, 15-23 | 4, 23/5-15 | 4, 23-24 | 3-7-20 | $2-25 / 3-1$ $3,10-20$ |
| Radish (E) | 4, 15-30 | 4, 25-30 | 3, 7-31 | 3, 7-9, 26-31 | 1-21/3-1 | $\begin{aligned} & 3,10-20 \\ & 1-27 / 2-8 \end{aligned}$ |
| *Spinach (E) | 8, 15-30 | 8, 20-30 | 9, 7-30 | 9,19-30 | 10, 1-21 | $\begin{aligned} & 10,19-21 \\ & 10-2-8 \end{aligned}$ |
|  | 5, 15-30 | 5, 15-23 | 3-15/4-20 | 3, 15-25 | 2-7/3-15 | 2,9-24 |
| (L) | $7-15 / 9-7$ $5-15 / 6-15$ | 7, 15-21 | 8-1/9-15 | 8, 5-19 | 10, 1-21 | 10, 3-18 |
| *Summer Squash | $5-15 / 6-15$ $5,1-30$ | 5, 15-23 | 4-15/5-1 | 4, 15-24 | 3-15/4-15 | 3,15-25 |
| *Tomato Pl. | $5,1-30$ $5,15-30$ | 5, 9-23 5, 15-23 | 3-15/4-15 | 3,15-25 | 2-7/3-15 | 2, 9-24 |
| Turnip (E) | 4, 7-30 | 5, 15-23 | $4,7-30$ $3,15-30$ | 4, 15-24 | 3, 7-20 | 3, 10-20 |
| (L) | 7-1/8-15 | 7-22/8-4 | 3, 15-30 | 3, 26-30 | 1-20/2-15 | 1-27/2-8 |
| *Wheat (Winter) | 8,11-15 | 8, 11-15 | 9 9,15/10-20 | 8, 1-4 | 9-1/10-15 | 9-19/10-2 |
| (Spring) | 4, 7-30 | 4, 9-24 | 3-1-20 | 9, 15-18 | 10-15/12-7 | 10, 15-18 |
|  |  |  |  | 3, 10-20 | 2,15-28 | 2,15-24 |



## PLANTING

 HINTSGRLDN THUMBS: This expression originated in old Scotland. Exnerlenced farmers there were seen to have green thumbs because they handled so many green pots, the stain from which colored their thumbs. It now applies to anyone who has the knack or art or intuition of making plants do well. It is not an oversimplification to say that those who really love plants and gardens are born with green thmms - ion phats, children, as well as adults and minals. (d) respond to love.

The planting tables on the opposite page indicate the best planting times for the three major planting latitudes of continental U. S. A. As has been explained there, and worked out for you in the "Moon Most Favorable" columns, the best time to plant flowers or vegetables which bear their crops above ground is in the light of the moon; the light of the moon is between the time the moon is new and when it 1 s full. For underground crops, the best time is in the dark of the moon. The dark of the moon is after the moon is full until it is new again. Certain astrological signs are more favorable, as noted, than others. These times of the full moon and new moon, as well as the sign for each day, are given on pages 24-46. Plant just before. or in the early part, of a rainy spell.
PKNPARATION OF SOIL: A Fall ploughing and harrowing (with manure) is a good idea but not necessary. In the Spring, plough early - let the ground dry - then put on manure and harrow. Rake out all stones and twigs and hardened mannre just before yon plant. It your garden is on a slope it is a good idea to plant your rows sideways to the slope and make a 12 -inch-wide terrace in the center of each row with the extra dirt on the lower side. This will provide against the washing away of your seed - as well as extra dirt for you to hoe over the roots after your plants are up 6 inches or so. Allow at least 2 feet between rows.
HILLS OR FURROWS: If you are expecting a wet growing season, it is better to plant (particularly corn and potatoes) in mounds or hills a toot or so high and 2 teet wide- 4 plantings to a hill-one on each side of the hill, evenly spaced bet ween the north, east. south, and west. For the corn, run in your thumb up to your palin in each planting. dron in 3 or 4 kernels, and when the plants are 3 inches high, pull ont the weaker 2 of the 4 , it all 4 come up. You can leave 2 if your soil is rich enough to support them.

For potatoes, put in 2 eye sections in each of the 4 segments of the hill and don't pull up any aftergrowth. Later onl, be sure you keep the hills well hilled up so that all roots are covered. Squash, pumpkins, cucumbers, etc., like corn and potatoes. do better in wet weather in hills, 8 seeds to a hill (2 in each segment).

It you are expecting a dry season use furrows abont 4 inches deep and plant 2 or 3 seeds together at 6 -inch intervals, weed out later to eighteen inches. Potatoes should be at least 12 inches between plants.

Other seeds should be planted just deep enough so they won't wash away - and the little spurs trom the seeds when they come up have enough soil to steady them. Peas, tor example, do better from 2 inches under the surface than they do from less than that.
WEEDING AND THINNING: Don't get at this too early. Carrots. tor example, come up very close together and when up an inch or so are almost impossible to thin. It is better to wait for abont a 3-inch growth. By that time yonr plants will be fairly strong, easicr to identity and pull. Many weeds resemblc your plants and are more easily identified when larger. It is best to weed when it is very lot, preferably just betore a storm.
SPIRAYNG: Plants in well-manured gardens, withont commercial growth-hastening tertilizer and kept watered. should get along very well without any spray at all. But there are cutworms and other chewing insects which, when noticed, should be controlled with nicotine or arsenic (keep your supply ot these wisons up on a ratter out of reach of children). But good hoeing, watering, etc., is more impor-
tant than any spray will ever be. Remember, too, in the black fly season, which is usually when you are planting, to keep well covered - wear gloves, elastic your sleeves to your wrists, aud your slacks or trousers to your ankles, wear a mask, smoke. and be liberal with 606 or some such ointmeut.
FENCING: Woodchucks, raccoous, even field mice, deer, squirrels, and hedgehogs will be watching your garden from the very day you begin it. They love the new lea shoots- they somehow know the exact minute your corn is ripe and steal it all before it is yours. A good wateldog will elinuinate the need of a fence. If you don ${ }^{\circ}$ hare one, then fence you must. This comes last - after you have planted. We don't know what to adrise-some use electric feucing, others clicken wire, etc. Some add rustling aluminum "flays." We have tried all but have yet to find one which was not, at some point, broken through or down or jumped over.
SCARECROWS, et al: The best way to keep out crows is to plant seed which has been treated against these lirds. some say a dead crow hung by a string is good protectiou. Others build imitation men or women. Still others use alumiuum flags or pieces of wary cloth. There is a belief, too, that if wou will plant fowers with strong odors, such as nasturtiums, in between about every fourth row, this is the natural way to keep out insects. Further we are also told a sprinkling of dried animal blood all around the edge of the garden will keep out the mice, woodchucks, raccoons, ete.
SIZE OF GARDEN: For a family of 4 , i2 tomato plants are enough. If rour rows are about 50 feet long, ? rows of corn, one of potatoes, half a row of beets, carrots, swiss chard, spinach, beans, etc. is ample. For lettuce, radishes, squash, pumpkin. cucumbers, one-quarter of a row of each will do. A garden $50^{\prime} x 50^{\prime}$ should be large enough. And remember, a good garden can be a thiug of beauty as well as utility. Take pride in it and you will be well rewarded.

## WISDOM FROM THE ANCIENTS

"The Lord hath caused medicine to grow out of the earth and he that is wise will not abhor them fur with such doth He heal men and taketh away their pains."

Medicine and the art of healiug were first discovered through the observation of Nature. Man's earliest conclusions were that, basically, the natural effects of sympathy and antipatlyy, preordained at the beginning of all things, were ali one needed to know. Aromatic herbs and sweet-smelling flowers, for example, used against infectious air, acted by repulsion or antipathy; whereas lremlock and poisonous herbs, acting by sympathy, trew into their pores the infectious atoms in the same way lorse-radish will draw in vinegar.

From such conclusions, it was thought that rhubarl, ant the leares of senna, would cure welanclioly. Serpeuts preserved thelr sight by fennel, the juice of colewort made a man solver. laudanum would cure toothache, sweet marjoram and nutmeg were good for the head, wormwood for the belly, sulphin for the lungs.

Vegetables were thought to be superior to minerals and, as men stidied plants, they further concluded that there was a relation between them and the seven planets as well as a connection betweeu the appearance of the plant and the part of the body it wonld affect. Thus, plants which in any way resemhled the eyes would be good for the eves; scabiosa, marigold, chamelion, starwort. etc. For the llis of the head, one looked for walnuts and used the oil thercof. Apples or beets were used for the heart oil from the shells of sea snails, which resemble ears, was helieved to restore hearing. Potatoes and trufles helped the woml, parsuips would restore virilityFemmel antl flax, being stringy, would help tlie nerves. It was thought. too, that the color of plants had a meaniug. Water lilies would lelp anh phlemmatle dlseases: yellow hurged eholer: strawherry juice helped the complexlon; sassafras cleared the hladder: bean flowers would bring fertillty.
llants, as do people lave for each other likes and dislikes. By reason of something like the otor of perspiration, asparagus gets ahong fondly with penny-royal, fir trees with aconitum, rue with water-lilies, lilies with roses. Inst so, roses and onloms slould he kept far apart, cahbages away from cyclamen, ete. l"lowers and herbs have bern seen to droop when touclied hy sweaty hands. Dandelions. pimpernel, oxali are several which when irritated iu ths way will actually go into motion.
The sun whose heat was thoupht to attract thls Internal flud of plants is scen to dlate or contract those like the grenadille (whleh in good weather will show the time of day), heliotrope, tulip, and

Persial lily. There is a certain kind of clover which, by reason of this effect of the sun, appears white in the morning, purple at noon, and yellow in the evening.
lt is the abondance of this fluid in some plants, notably peppermint, roses, lilacs, gardenia, etc., which inspires men and beasts with the desires of love and the want of it in others (skunk cabbage, onions, cabbage, etc.) stops the progress of rising passion.

In this century, when food is so much taken for granted, considerable joy is added to gardening hy the realization of how plentiful, if one will only arail one's self of it, the Creator's supply of sustenance, etc., in vegetation is. Peruvian Bark is for allaying fevers, Bread-Fruit from the tree of that name is a substitute for bread. Cinnamon stimulates appetite. Coffee beans and tea leaves provide energy. The juice of the marsh-mallow tree provides flavor, helps hoarseness. Rachel, being barren, craved the mandrake. The nutmer tree furnishes a finc spice for dessert and is a deterrent against dysentery. Then there is the banana, the grape, the apple. The list is so long no book could conceirably be all-inchusive. Perhaps about all one can conclude is that, in planting your flower or vegetable garden, trees, or shrubs, you will be as close to the natural purposes and rhythm of the Universe as anyone can be - and what is more, in harmony with it. Few miracles are more exciting than the first appearance of a plant from its tiny seed.

## ADVICE ON DAYLILIES

Miss Dorothy French, of Houston, Texas makes a successtul business of "Top Variety Daylilies." She tells us she would never plant or transplant any of her daylilies in the dark of the moon ... and especially not in the last four days before the new moon. Daylilies, their seedlings, and seeds of daylily crosses. seem to do best when planted from the new moon to about the middle of the last quarter. Seeds germinate best during the first quarter.

Daylilies are not bulbs such as tulips, gladioli, etc. They are a fleshy rooted peremial. some have dormant foliage, some are green all year. They grow all over the world and are most rewarding plants. If you wish to learn more about these plants or gardens of them, you can visit or write her at 2203 Devonshire Lane.

## KILLING FROSTS

 and GROWING SEASONSCourtesy of U.S. Weather Bureau

| City | $\begin{gathered} \text { G.S. } \\ \text { (Days) } \end{gathered}$ | Last <br> Frost Spring | First <br> Frost <br> Fall |
| :---: | :---: | :---: | :---: |
| La | 123 | May 18 | Sept. 18 |
| Bismarck, N.D | 133 | May 11 | Sept. 21 |
| Alpena, Mich | 141 | May 13 | Oct. |
| Helena, Mont | 145 | May 7 | Sept. 29 |
| Reno, Nev | 145 | May 14 | Oct. 6 |
| Marquette, Mic | 149 | May 13 | Oct. 9 |
| Coneord, N.H. | 149 | May 7 | Oct. 3 |
| Duluth, Minn. | 152 | May 6 | Oct. 5 |
| Green Bay, Wise | 157 | May 5 | Oct. 9 |
| Pocatello, Ida. | 160 | Apr. 29 | Oct. 6 |
| Deuver, Colo. | 160 | May 3 | Oct. 10 |
| Pierre, S. Dia | 160 | Apr. 30 | Oct. 7 |
| Minneapolis | 166 | Apr. 27 | Oct. 10 |
| Detroit, Mich | 170 | Apr. 28 | Oct. 15 |
| Des Moines, Ia. | 171 | Apr. 21 | Oct. 9 |
| Fort Wayne, Ind. | 171 | Apr. 25 | Oct. 13 |
| Ludington, Mich. | 172 | May 2 | Oct. 21 |
| Albany, N. ${ }_{\text {Madison, Wise }}$ | 174 | Apr. 24 | Oct. Oct. Ot. ct |
| Santa Fe, N.M. | 177 | Apr. 25 | Oct. 19 |
| Hartford, Conn. | 177 | Apr. 20 | Oct. 13 |
| Toledo, Ohio. | 179 | Apr. 22 | Oct. 18 |
| Portland, Mainc | 181 | Apr. 19 | Oct. 17 |
| Spokane, Wash. | 182 | Apr. 14 | Oct. 13 |
| Parkersburg | 184 | Apr. 17 | Oct. 18 |
| Omaha, Nebr. | 184 | Apr. 14 | Oct. 15 |
| Salt Lake City | 185 | Apr. 18 | Oct. 20 |
| Chicago, Ill. | 186 | Apr. 16 | Oct. 19 |
| St. Joseph, M | 191 | Арг. 9 | Oct. 17 |
| Trenton, N.J | 191 | Apr. 16 | Oct. 24 |
| Springfield, Mo. | 193 | Apr. 12 | Oct. 22 |
| Boston, Mass. | 195 | Apr. 14 | Oct. 26 |
| Wichita, Kans. | 197 | Apr. 9 | Oct. 23 |
| Cincinnati, Ohio | 198 | Apr. 8 | Oct. 23 |
| Lewiston, Ida. | 201 | Apr. 6 | Oct. 24 |
| Harrisburg, Pa | 202 | Apr. 9 | Oct. 28 |
| Evansville | 207 | Apr. 5 | Oct. 29 |
| Cairo, Ill. | 212 | Mar. 31 | Oct. 29 |
| Richmond, | 216 | Mar. 31 | Nov. 2 |
| Roseburg, Ore. | 217 | Apr. 8 | Nov. 11 |
| Oklahoma City | 218 | Miar. 30 | Nov. 3 |
| Chattanooga. | 220 | Mar. 29 | Nov. 4 |
| Raleigh, N.C. | 223 | Mar. 27 | Nov. 5 |
| Little Rock, Ark | 241 | Mar. 18 | Nov. 14 |
| El Paso, Tex. | 242 | Mar. 19 | Nov. 16 |
| Tucson, Ariz | 243 | Mar. 11 | Nov. 9 |
| Macon, Ga | 245 | Mar. 14 | Nov. 14 |
| Columbia, S.C | 246 | Mar. 17 | Nov. 18 |
| Montgomery, Aia.. | 250 | Mar. 8 | Nov. 13 |
| Shreveport, La | 251 | Mar. 6 | Nov. 12 |
| Portland, Ore | 251 | Mar. 15 | 5 Nov. 21 |
| San Bernardir | 259 | Mar. 8 | Nov. 22 |
| Eureka, Calif. | 277 | Mar. 16 | Dec. 18 |
| Del Rio, Tex | 277 | Feb. 23 | Nov. 27 |
| Sacramento. | 283 | Feb. 19 | Nov. 29 |
| Phoenix, Ariz | 296 | Feb. 10 | Dec. 3 |
| Yuma, Ariz. | 334 | Jan. 20 | Dec. 20 |
| San Francis | 350 | Jan. 13 | Dec. 29 |

# PART TWO <br> Serets of the zodiac \&e 3lamets 

(Being the interpretation, astrologic, and just for fun, Of all serious scientific data in Part One.)

## FAMOUS DEBOWELLED MAN of the SIGNS

$T$ Aries, head. ArI Mar. 21-Apr. 19
४ Taurus, neck. TaU Apr. 20-May 20
ㅁ Gemini, arms. G'm May 21-June 20

- Cancer, breast. cnc

June 21-July 22
凡 Leo, heart. Leo
July 23-Aug. 22
Iff Virgo, belly. vir Aug. 23-Sept. 22
$\simeq$ Libra, reins. LIB Sept. 23-Oct. 22
M Scorpio, secrets. sco Oct. 23 -Nov. 21
7 Sagittarius, thighs. sGR Nov. 22-Dec. 21
V. Capricornus, knees. cap Dec. 22-Jan. 19

- Aquarius, legs. $A Q R$ Jan. 20-Feb. 18
$\nrightarrow$ Pisces, feet. psc Feb. 19-Mar. 20


Man of the Signs used by Abe Weatherwise, 1784 These signs, abbreviated, appear for each day on pages 2$\}-56$. Their meaning is given on pages 56-59. The illustrations, pages $57-59$, are the actual patterns as seen in the sky by the ancients (see Hygini, Augusti Liberti, 15:0).

The ancients believed (but we do not) that from the knowledge of the location of eaeh planet in the heavens at the exact hour of one's birth one can foresee what kind of a life a child whll hare. what are the child's inclinations, and what sort of education will best serre the child. The heavens (called the Zodiac) were divided into 12 sections (ealled Signs) of about \$30 days cach. There follow on the next three pages brief resumes of the (ancient) meanings of each Sign by which the lives of those born within the priod shown are governed. Those using the meanings of these signs for themselves should also be guided by the sign for each day of the year whleh appears in the next to the last column on bages of throligh 46 . For example: if you were born on February 12, your ruling sign is always Aquarins: but on February 12, 19 m the moon's pace in the Zodiac is ARI (T,g. 2f). Therefore, for all of this year you will be under the influence of hoth Aimarius and Aries.

Also please remember that where the following letters appear under rach following slgn, these Indicate the best times for

A Cutting grass or brush, weeding.
B Cutting and settling posts or timbers.
C Cutting hay, mruning.
D Plantlige above ground erops.
E Plantlng root crops, house painting.
F Marvesting erops or herbs.
G Breeding, setting hens, creatlug, baking.

## If Weaning.

I Slaughtering.
J Operations, pulling teeth.
K Hairdos, sheep shearing, buying clothes.
L Rusiness, gambling, taking risks.
M Flshing.
N Travel, marriage, romanee.

## ARIES

ABBR: "ARI"
SIGN: LAMB Controls the head and face
Belongs to those born Mar. 21-Apr. 19
Ruling Planet, Mars; Birthstone
Jasper, Bloodstone, Aquamarine;
Colors, Red, Green.
Best for D, L, G, F, I.


These males are meek, undecisive, unromantic and not lewd; At math, refereeing, moderating, and science are good. The girl is chaste, even-tempered, for better or worse, Excels at housewifery, town affairs, and being a nurse.


## TAURUS

ABBR: "TAU" SIGN: BULL
Controls the throat and neck
Belongs to those born Apr. 20-May 20 Ruling Planet, Venus; Birthstone Diamond, Sapphire; Color, Blue. Best for E, K, B, I, F, G.
Tauri are strong, amorous, ambitious, and fickle, Good athletes, builders, artists - no good with a sickle. Taurae are independent, courageous and cold, Good travelers, career gals, love praise we are told.

## GEMINI

ABBR: "G'M" SIGN: TWINS
Controls shoulders, lungs, arms, hands, and the nervous system.
Belongs to those born May 21-June 20 Ruling Planet, Mercury; Birthstoue, Emerald; Color, Green.
Best for J, G, L, A, I, F.
These Gemini men understand, imagine, remember.
They make fine lusbands, teachers, mechanics,
 inventors.
She is jealous, fretful, vindictive, but casily appeased; A good teacher, writer, by her first love most pleased.


## CANCER

ABBR: "CNC"
SIGN: CRAB
Controls breast and stomach Belongs to those born June 21-July 22

Ruling Planet, Moon: Birthstone, Agate, Pearl. Alexandrite, Moonstone; Color, Blends.

Best for D, M, K, G, I, A, C.
He is serious, faithful, provident, sedate, and tender;
Likes farming, business, anything domestic - better borrower than lender.
The female is cheerful, captious, opinionated, and discreet,
As fine a wife, mother, partner, creator as you'll ever meet.

## LEO

ABBR：＂LEO＂SIGN：LION Controls the heart
Belongs to those born July 2：－Aug．29 Ruling Planet，Sun；Birthstone， Turquoise，Luby；Color，Blue－Red．

Best for K，B，A，F，ふ．


Turbulent guys，rapacious．mhappy，always quick to sue，
Fine at law，insurance，seience，and at gambling too．
The ladies are langnid，indliscreet，flippant，and lond．
Fine horsewomen，car racers，athletes，but for love much too moud．


## VIRGO

ABBR：＂Y゙IR＂SIGN：VIRGIN Controls the lower intestines Bolongs to those born Ans．M：Sent．2n Ruling Planet．Mereury Firthstone， Carnelian．Peridot，Kardonyx： Colors：Red－Brown．Green－l ellow．
liest for J．K，L．A．I．F．
Cautions，reserved，romantic，real devils if they dared－
Trustworthy accomitants，treasurers－to steal they de scared．
The women are warm，modest，clean，and sincere．
Succeed at everything，includiug a professional eareer．

## LIBRA

ABBR：＂LIB＂
sIGN：SCALES
Controls the loins
Belongs to those horn Sept．No－Oct．른 Fuling Planet，Venns：Rirthstone，

Chrssolite，Saphire：
Colors，Green－Blue．
Best for D，N．K，G，I．


These boys are respereted，truthful，contented，and humble Fine doctors，politicians，vif．pos－into marriage eisily tumble． The gals are modest，rirtmons．prodent，and lowe to obey： Good Girl Frhdas，homelodies，W゙ACS or W゙AV゙ES，so they say．


## SCORPIO

ABBR：＂sco＂SIGN：seolipion Controls the wemeratire organs
 Iiuling Ilanet，alars：liorthstene， leryl．Opal，Tomrmaline； Color，Blends．
Hest for M，（ $\mathrm{B}, \mathrm{I}, \mathrm{A}$ ．
Bad luek，not hrght，these men make more enemies than friends Inless as polierencen or explorers their interest bends． The women are hanghty，inconsiderate，designing，fill of ambitions． Work best for the government，as detectives，fand are expert
dietitians．

## SAGITTARIUS

ABBR: "SGR" SIGN: ARCHER Controls the thighs
Belongs to those horn Nov. 23-Dec, 21 Ruling Planet, Jupiter; Birthstoue, Topaz; Color, Gold.
Best for J, N, K, F, I, H.


Manly and kind, pllegmatic, furious when misled, and cold.
Become top-tlight surgeons, psychiatrists, and sportsmen bold. The distaff side is gossipy, bossy, scolding, over-demanding in bed. Does best as a vet, institutional attendant, or kindergarten head.


## CAPRICORNUS

## ABBR: "CAP" <br> SIGN: GOAT

Controls the knces
Belongs to those born Dec. 22-Jan. 19 Ruling Planet, Satnrn; Birthstone, Raby, Turquoise, Zircon; Colors, Red-Blue-Green.

Best for J, G, I, H.
Restless, tronblesome. weak, dull but amorous lovers; rine as ministers, scientists, businessmen and drovers. The females, however, are timorous, silly, and easily won; Had best stick to school teaching, home, and from all evil run.

## AQUARIUS

ABBR: "AQR" SIGN: WATER BOY Controls the legs
Belongs to those born Jan. 20-Feb. 18 Ruling Planet. Uranus: Birthstone, Garnet; Color, Dark Red.
Best for D, K, B, I, H, A.
Bad husbands these, fickle, violent, vague, unreliable.
A life as poet, playwright, or artist seems desirable.
She is studious, sedentary, not over-passionate, devout:
A good iibrarian, wife, and knows what life
 is about.


## PISCES

ABBR: "PSC"
SIGN: FISH Controls the feet
Belongs to those born Feb. 10-Mar. 20 Ruling Planet, Neptune; Birthstone, Amethyst; Color, Purple.
Best for D, M, B, G, I, H, C.
Undependable, selfish, scheming, expert double-crossers, Choose these men for lawyers, pols, scientists, airfield bossers. Affectionate, soft, loyal, passionate, you'll find these gals.
Make wonderful wives, teachers, nurses, and just plain pals.

A summary of developments in various fields of endeavor of presumable interest to lay readers. Sources (available on request) are scientific journals published from May 1965 through April 1966.

## QUASARS

The knowledge that matter in the nniverse, to its farthest known reaches, generates and transmits radio signals (in the range from 26 to 8,000 megacyeles) began with its startling. accidental diseovery by a Bell Telephone engineer. Karl Jansky, in 1981.

Pinpointing these radio sonrces has very recently unleashed great excitement in astronomical eircles. Among the objeets pinpointed have been the quasars (shorthand for quasi-stellar objects), a new elass of eelestial object.
The quasars are among the most distant of all objects of whieh man has knowledge. The farthermost lies so far distant that the light by Which we observe it today departed the quasar 8 billion sears ag. long before the estimated time our solar system eame into being. This gives astronomers a look farther back in time than they have ever liad before. Its light travels close to 48 sextillion miles wefore it reaelies the earth. Other quasars lie between the nearest, at a distance of 1.: billion light years, and this farthest 'fuasar.

If the distanees attribnted to the quasars are correct. then the eosmological signifieanee is great. It is believed the "hig hang" oeeurred about 10 billion years ago. The quasar seen today then represents a stage in the evolution of matter within the universe rery shortly after its theoretical birth. Such an early stage has never been observed before.

## LASERS

The beam produced by a laser is a concentrated siaft of monoehromatie lipht that is purer than that produced by any other light souree. The beam*s high intensity eomes from the exact ranking of the multitude of identieal light waves in the shaft as they teave the laser. Each is exactly matehed, crest to erest, with all the others, so that the light is said to be eoherent rather than jumbleci. The greatest lutensity: produeed by any laser eurrently available has heen rated at 100 millon times that of a spot of the same size on the sum. let one of the men wito developed the first commercial laser has recently announced a new one which produees a beam neariy three times brighter than this.

The beam, which can be made narrower than a pin's point breadth as it leaves the laser, tans out so inappreciably as it travels that one such beam, which started out with a pencils thichness, lighted bit a two-mile wide pateh on the moon after its travel of $\because(0)$, (M) miles to the monn's surface.

The practical applicathons seem so mmerous and so promising that an estlmated thousand and more eompanles are currently researehing eommercial uses of the laser. Government, civillan, and military agencies and non-protit organizations are equally exporing its notieommercial applications.

Becanse of this lntensive effort, it is becoming currentiy common to have a potentlal, new applieation announced amost every pussing day. They rante on the one side from the laser's use in communication to its lise hy a thpist to erase typing errors by evaporating the ink without damaging the paper. 11 may prove the means of providing threedimensional color televislon. It has already been effectively used as a knife for bloodiess surtery, prehide to a possibiy great tuture in the medical ream. It has been reported as suceesstully apmlied in such diverse wass truing un sewer lines, beremg the rery tiny hoies in industral diamonds thronyh which extremely tine wires are drawn. spotting turbilence in what anpears to be absoiutely clear air not visible to radar so that smooth fifht is more nearly achieved, and providing a highly semsitive and accurate surveying tonl. But if the
laser becomes a popular replacement for a pretty girl at ribbon-cutting ceremonies, as it was recently at the University of Colorado, that's more menacing than its prospect as a "death ray."

It is as a means of communication that the laser may most widely serve the world's needs. When devices for nodulating a laser's beam in a fashion parallel to that by which a radio wave is modulated to carry speech, music, pictures, codified computer data, to mention a few among the many, the single laser beam will theoretically have the capacity to carry a hundred simultaneous telecasts or inore than 100,000 simultaneous telephone conversations.

## GUIDED MISSILES

The whole nature of air combat has been changed by the missile which, after launching toward a heat-bearing target, a nother plane for example, follows that heat source wherever it goes to destroy it. During the first air engagement of the Viet Nam affair, one from an American fighter found its way into the exhaust pipe of its Viet Cong challenger. This nissile is now in use by the foot soldier who fires it from a shoulder-held, bazooka-like piece. It gives him unprecedented protection from oncoming attacking airplanes. Sight, pull the trigger, and wait for the plane to disintegrate, since the missile cannot miss. Its name is Redeye.

Other new missiles, in use by the U. S. Navy - named Tartar and Terrier - sense a radar beam reflected from the target and, using their inbuilt computers and steering equipment, race to it. Shipboard computers keep the radar beam on the target. So cooperation between ship and missile breed the target's destruction.

## AIR CUSHION VEHICLES

The British Hovercraft, that completely new, wheelless vehicle which rides above land and sea atop an interposed cushlon of air passed into commercial operation this year, making Channel crossings. The Navy has its equivalent, called "Charlie Victors," which travel at 60 miles an hour over water, marsli, mud, ice, snow and can top a 4 -foot high obstacle. Their usefulness in the Viet Nam conflict is evident, where coastal conditions often thwart passage of a standard vessel even of the shallowest draft.

## COMMUNICATIONS

All the information in a 10,000 -volume library may soon be transmitted in 15 minutes over a new high-speed PCM system. A system of communication satellites will not only make possible transmission of television into the house directly from any place in the world but also provide delivery of copies of letters anywhere in the world in minutes after they are posted. An orbltal or world-wide newspaper will bring detailed news in any language from any place and international business meetings made commonplace by the use of global conference facilities.

Two-way TY systems will soon provide for automatic translation of the speaker's tongue so that if you are to call someone in Japan on your private portable radio-phone, your man or lady at the other end will hear your message in Japanese - and his or her Japanese answer will come back to you in English.

Global networks of computers will, in the 1970's give scholars, buslnessmen, etc., instant recourse to all known and recorded data on any conceivable subject.

Homes will one day have a single integrated system (probably a screen?) that combines all of the radio, television, book, magazine, and newspaper information scattered about the house today.

## GEOGRAPHY

The geographic center of contermenous United States is near Lebanon, Kansas. Mt. Mckinley ( 20,320 ft.) is the highest pont in the U.S.A. - Death Valley ( -282 ft .) the lowest. Rose Island, nine acres, uninhabited, is the most southernmost land under U.S.A. control
( $14^{\circ} 32^{\prime} \mathrm{S}-168^{\circ} 11^{\prime} \mathrm{W}_{\mathrm{j}}$ ). The center of California is ncar Madera: of Florida, near Brookrilie; of Illinois, near Springfield: of Massachusetts. in Worcester; of New York, near Oneida; of Georgia, near Macon: and of Texas, near Brady.

The earth is now seen to be shaped like an egg plant - say the satellites.
We know more about the surface of the moon than we do about the interior of the earth. The appareut limit besond which access is impossible $1 \mathrm{~s} 1 \%$ of the earth's radins ( 6,400 kilometers). Drill holes thus far have been made down to about fire miles - or $1 / 10$ of $1 \%$.

## AGE DETERMINATION

Considerable information has becn in the press about the determination of the age of archeological and other finds by the use of Carbon 1t tests. In general the theory is that carbon loses a ueasurable amonnt of streugth over the years. Once the strength of the Carbon content of a find is determined, its age is also approximately known. As the geoloric meaning of ages becomes more aplarent. Arcon. Strontimm, Lead, Uranimite, Zircon, and Monazite - and other yarents and daughters in the radioactive isotope scheme of decay - will be used for accuracy of not less than $95 \%$.

The oldest known fortified town in the world - says Carbon 1tjust now is Jericho: 6800 B.C.

## PSYCHOANALYSIS

Conventional psychoanalysis is gradually being superseded by new techniques. One of these, described by Dr. William Wolf, is the establishment of goals of desirable living: self-fulfilment. inuer freedom, creativity, humor, inuer security, and self-love. To ohtain sueh goals one needs au ability to relax, to become emotionally indifferent (when desirable), to aroid compulsive attachments, to qef to the core of a problem, to feed proper ends, to starve the improper, to use senses rather than sensations, and to stress being rather than having.

Jack A. Dorland, in a study of daily moods, has found there is a seven-day cycle anong human beings - with the peak falling on a Wednesday, the low on Sunday. In his correspondence with the author John Steinbeck, the latter stated "all human art - literary, taetile.: graphic, imaginative - is governed by thls built-in rhythm factory.: Perhaps. Dorlaud concludes, we are mere pawns of destiny. Mr. A. . Kunz interprets such a conclusion to mean that the morld we feel and sense is just a foreground to a non-materlal stability and consistency of being.

## MEDICAL

Pregnant women, susceptble to German measles, are now helng told to avoid contact with babies known to have been exposed to this discase either in utero or lin the nursery or home.
The most conslstently dangerons animal to man is the dy. Of insects, we kill fewer of them than they do of us.

Long jet trips upset the time sense of the human hody-canse psychological disruntion for 24 hours - abnormal boty functions for from three to five days.

Pigs, hecause they eat amost anythlug and have the same gastroIntestinal tracts as does man- have a simllar dental structure. bone mass, body mass, and skin, are the Ideal medieal research animal. The only thing is they get to weigh too much. This has becn overcome by the A.E.C's Pacific Northwest Laboratory which now has a breeding herd of 100 "Hanford Mniatures" which stay at between $160-180$ pounds.

Entirely artlicial hearts powered hy Plutoniun 238 are now lu the "drawng-board" stare. Thesc would be surtically implanted and provide stealy elcetrle pulses for the otherwise erratic beat of the patient's heart. In May 1066 an artiticlal heart was used to sustain a paticnt's llfe while his human heart had time to repair itself.

Menopause slows down in women bodlly production of the femate bormone, estrogen. If estrogen is not replenishet, fatty deposits,
wrinkles, facial hair appear. Many women do not avail themselves of estrogen replenisher as they fear it will cause cancer. No more so, says one authority, than the body's own production of estrogen would do.

## SUBMARINE AGE

The 1970s will be an Age of Submarine Exploration. By then, vehicles will descend to 20,000 feet with ease. Hundreds of tourists each day will be taken on tours from Miami to under the Gulf Stream at speeds of hundreds of miles per hour. Piccard and Walsh began all this with their seven-mile dive aboard the underwater balloon Trieste on Jan. 23, 1960. The Thresher disaster spurred further research. Cousteau's Diving Saucer was completed in 1957 - the first research submarine. Since Feb. 2, 1960, after its perfection, it has made hundreds of ocean dives. Piccard's mesoscaph (middle depth hoat) was launched in $196 t$ - and carried more than 20,000 people in its 40 -passenger (each with his own porthole) cabin into the depths of Lake Geneva, Switzerland. Piccard plans include a drift in it with the Gulf Stream from Florida to Newfoundland. The Aluminaut, brainchild of J. Louis Reynolds, is a 51 -footer which will carry three men to depths of around $15,000 \mathrm{ft}$. Deepstar III, for three men, will have a depth of around $20,000 \mathrm{ft}$. The Navy's 60 -foot atomic-powered research submarine will be the first research submersible entirely free of mother slips - and completely on its own.

On the Navy's drawing boards is a flying submarine - or submersible aeroplane. The three-jet plane will fly 1000 miles at $300 \mathrm{~m} . \mathrm{p} . \mathrm{h}$., land on the sea, submerge to a depth of 200 feet, and travel at $10 \mathrm{~m} . \mathrm{p} . \mathrm{h}$. under water for as long as 10 hours. It can then resurface and take off again as an airplane.

## PHOTOGRAPHY

A new photomap technique has been developed br which tree colors and surface elevations will be so clearly marked that an experienced map reader will be able to make his way over photographed areas by vegetation and other information on the photomap.
Cameras, now making simultaneous observation with laser, of satellites, are more accurate range measurers than radar. A Wratten \#70 filter is used - with film emulsion which will pick up the laser 6943 angstran light - a laser $10^{20}$ photon pulse - and expert marksmanship.

Photography at 15 million trames per second has long been possible. However, most of the high-speed picture-taking today falls into the 1-3 million frames per second speed-plenty fast enough for studying fired projectiles, trajectories, recoil, muzzle velocities, and impact ineasurements.

## AURORAL SEASONS

Six years' study of auroras by West German scientists indicate the chances of seeing one are better in March and April and in September and October than at other times of the year.

## FOOD PRESERVATION

A peaceful use of atomic energy is that which promises completely new food preservation method, that of radiation processing. The U. S. Army is researching the method for radiation sterilization of foods for long-term storage without refrigeration. The Atomic Energy Commission's successful research is radiation pasteurization of perishables to extend their marketing time, but requiring their post-radiation refrigeration. Food and Drug Administration approval must be cleared before such processed foods will be found in the market.


## FROZEN DEATH

There appeared in this Almanac (1943) an article under the above title which purported to quote the diary of a Vermont natire. This diary told of the observance by the diarist of a thrifty practice among Vermont farmers of the 19 th century - that of freezing up the old people in the early Winter by exposing them, with only the covering of a sheet, to below zero temperature. These old people were then transferred, trozen stiff, to a mountain cave, their bodies covered with spruce boughs, and left to sleep the winter out. Come spring, the farmer revisited the cave, brourht the frozen people into the warm sun - and thawed them to life, readr. good as new, for spring and Summer chores. As this diary was accepted by so many as the truth and by as many more as the opposite, it soon became, and still is, a popular subject of discussion.

In some localities, notably Vermont and Jassachusetts, researchers -unsatisfied to allow such a fassinating story to remain unspoiled set out to prove "it warn't so." To their own satisfaction. at least. they did just that by proving the diary was fiction contributed verbally by one Allen Morse of Calais, Yermont to a birthday gathering and then transplanted by his granddaughter to a Vermont newspaper on December $21,1857$.

However this may be, this Frozen Death story is for sure not dead yet. Shortly after the "debunking" jnst mentioned took place. we received a letter from a member of a Maine seafaring family. The letter stated that one of the sea eaptains of this family lad discovered, during one of his voyages to Haiti, a drug which was said to revlre the dead and make of their bodies - despite absence of mind and soul-living slares. The letter mentioned the possibllity that this drug had been carried from Haiti to Vermont - and there used for injection into these old people so that ther conld live in a frozen state throughout the Winter without sustenance. Despite a trip to Haiti and consultation with George C. Simpson, an anthority on magical practices in Haiti, we have not been able to contirm the existenee of any such dring - much less its importation to Vermont. There exlsts in Haiti today, however, at least a superstlion that this practice is still carrled on.

In the meanwhile, the tacts of hlbernation in Winter by mans animals - woodchucks, bats, snakes, etc. - are well known and undisputed. These facts are explained hy the rednction ln these animals during the Winter sleep of thelr need for heat or energy while they sleep. Without food, excretion, or mersipiration, ther live on the very little which the "intermal combusthon" of their bodies provides. Carried further, it is seen not only among the ancients but also in the present that human helngs can survire being fully frozen for at least 96 hours. (Mrs. Goldie Jenkins of Pikeville, Kentucky did just that a few years hack.) By lmitating anlmal hllernation, foctors are now performing "impossible" operations throngh freezing to sare eyeslght, accident vhetims, feehle bahes, and old folks. Thls practice is protessionally known as hypothermia - the lndustry of producing ultra-low temperatures as cryogenies.

Varlous hman belngs have survived, frozen or not frozen, long periods of fasting. At one extreme is the account of seven Ephesian boys (see Eccleslastical History hy Neciphorns, Book 14, Chapter 45). These youths were walled up in a cave during the persecntions of Declus. Three hundred years later, in the days of Theodosius, ther were freed, alive and well, from thls long sleep. Perhaps the most meticulons acconnt of a fast, beyond the recognlzed present-dar limits of about 30 days, Is that contalned in a book called the NonSuch Wonder of The Peak published in London, 1689. Herein is described the observations by its author of the suffering and survival of one Martha Taylor wlthout food or sustemance of any kind during the whole year of 1688.

Satisfied in our own minds that survival, without sustenance, is, among animals or human beings, possible for at least as long as a Winter, our attention again reverted to these old people in Vermont to which the diary referred. Even if fictional, where did its author, Allen Morse, find his source for such a story? Nothing, as far as we can discover, was printed in America on this subject up to 1887. However, this country is not as old as are those elsewhere, so perhaps the facts behind it originated abroad.

In this book, the Non-such Wonder Of the Peak, there is a reference on Page 54 which reads as follows:
"The Lucomorians who inhabit the northern mountains, in the most remote parts of Muscovy, near to the Frozen Sea, where the stern Boreas keeps his Blustring Court and hath his Imperial Throne seated; There this People towards the close of November every year, are glad to betake themselves of Dens and Caves, where they lye Frozen up till the grateful influenee of the Vernal Sun awake them out of this cold sleep: of these see Citesius in his Abst. Confol, pages 57, 103, etc. and Guvagninus in Moscovia Descript de Lucomor."
Again, on page 61: "Dr. Harvet, who was learned Joubert's Antagonist about the possibility in point of Nature, being reduced to a strait, concerning the Lucomori, forementioned whose brumal (winter) tasting' he supposed was unquestionable, be granted, 'They did live but it was only a Life of Vegetation?' (Cites. ubi sup. 151)"

Pursuing these two references last fall throngh Professor Ernest Simmons (Columbia University and Wesleyan) who was in residence at Moscow, we learned that in the Lenin Library in Moscow there is a book by Alesandro Guegnini (Latin Guagninus, Polish Gwagnin) which was published in Verona 1534, in Cracow 1614. Also, Sarmatiae Europaca descriptio, Speier, 1581. Included also in Kerum Polonicareum tomitres, Frankturt, 1584. These titles, despite the fact the books do contain the freezing references, were all he could obtain from the scholar at the Lenin Library whom Professor Simmons chose to ask for the translation of the 1687 London reterence to the Lucomoriaus. It is doubtful that we can get anything more from the Russians about the Lucomorian natives and their practice of Winter hibernation. Hypothermia is being studied there, we understand, as a means of survival on long trips into onter space . . . and for this reason is highly classified.

In conclusion, we believe that even if the Vermont diary is fiction, 1) the author of it had run across the source of it elsewhere than in his own mind, and 2 ) the treezing up or hibernation of human beings: for the Winter months is not only possible but has been done in Northern Russia and perhaps elsewhere.

Cold weather has long interested those who live in northern climes. As early as 1683, the Hon. Robert Boyle set down some of his notes abont it in a book called New Experiments and Observations Touching Cold. Those quoted below are taken, in shorthand form, from it for your perusal.

1. The juice of lemons set to freeze in a wide mouth glass will torm odd figures - such as trees without leaves on the surface.
2. Many people can easily pass naked from a very hot room, roll in the snow out of cloors, and return without ill effects.
3. In Russia in the cold months many people have been seen to drop in the streets and travelers brought in on sleds from the country are seen sitting up dead - frozen stiff.
4. The Dutch explorers in Nova Zembla washed their sheets but it was so cold that when they tried to dry them by the fire the sides next to the fire thawed but the other sides did not.
5. At the siege of Smolensko it was so cold in the fields the spittle of the soldiers would freeze into icicles between their mouths and the ground.
6. Water in Moscow thrown into the air has been seen to be ice betore it reaches the ground.
7. Frost penctrates about ten feet into the ground iu Greenland, two feet is the deepest it has reached in England, about five teet here.
8. Frozeu meat. cheese. or drink, eggs, apples, etc. should be thawed in cold water. If thawed in lot air they lose taste and nutritional value.
9. Cold, for various reasons, is not registered as accurately by thermoneters as by our own senses.
10. Frozen noses, ears, fingers, toes - any part of the human body - should be rubbed with snow or ice - or bathed with rery cold water - never thawed in warm temperatures.

## FISH AND GAME SUMMARY

（Format copyrighted－must not be copied．）
Based on latest（mostly 1965－66）available laws courtesy of State Fish \＆Game Commissioners For the inost part 1967 laws not released until after press date（June，1966）and so no attempt is made here at accuracy；in fact，only approximations of the months which may include seasons are given．This table useful only for vacation planning considerations and to satisfy curiosity as to what the various states offer in the way of hunting and fishing．Migratory Bird Regulations are available at any post office．

EXACT DATES，LIMITS，ETC．MUST BE VERIFIED LOCALLY．

| $\begin{gathered} \text { 留 } \\ \text { STATE 穿 } \\ \hline \end{gathered}$ |  | $\underset{\sim}{\underset{\sim}{\mid c}}$ | 皆 | $\begin{aligned} & \text { E } \\ & \text { 家㖹 } \\ & \text { 空 } \end{aligned}$ | 尝 | $\frac{\text { 岂 }}{2}$ | $\begin{aligned} & \frac{5}{y} \\ & \\ & \hline \end{aligned}$ | $\begin{aligned} & \sum_{0}^{3} \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\begin{aligned} & \text { E } \\ & =\underset{y y y y}{y} \end{aligned}$ | $\begin{aligned} & \text { Z } \\ & 8 \\ & 0 \\ & 0 \\ & \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Alabama |  | C | 11－12 |  |  | 11－2 | 11－2 | 11－2 | 10－2 |  |  |
| Alaska |  | 9－6 | 8－12 | 8－12 | 8－12 | 11－1 | 11－6 |  | 9－4 | 0 | 0 |
| Arizona． | 9 | 9－2 | 9－11 | 12 | 9－11 |  | 0 |  | 0 | 0 | 9－11 |
| Arkansas |  |  | 10－1 |  |  | 11－1 |  | 11－1 | 11－1 | 11－1 | 9－1 |
| California | C | 9－12 | 8－11 | c | C | 11－2 | 11－3 | 0 | 9－1 | 0 | 11－12 |
| Colorado | P9 | 4－10 | 9－12 | P8， 11 | 10－11 | 11－1 | 11－4 | 0 | 9－2 | － |  |
| Connecticut |  |  | 11－12 |  |  | C | C |  | 10－1 | 9－1 | 10－1 |
| Delaware |  |  | 11 |  |  | 12－3 | 12－3 | 11－1 | 11－12 | 11－1 | 9－10 |
| Florida． |  | 11－12 | 11－12 |  |  |  |  |  |  | 0 | 11－2 |
| Hawain． | C |  | ${ }^{10-1}$ | 0 |  | 11－2 | 11－2 | 10－2 | 11－2 | 10－2 | 10－2 |
| Idaho． | S | 0 | 9－12 | 9 | 9－12 | 11－12 | 11－12 |  | 9－2 | 0 | C |
| Illinois． |  |  | 11，12P |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 11－1 | 8－10 |
| Indiana |  |  | 11－12 |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 11－1 | 8－10 |
| Iowa． |  |  | S |  |  | 11 | 11－1 | 11－2 | 9－2 | 10－2 | 9－12 |
| Kansas．．． | C |  | P12 |  |  | 12－1 | 12－1 | 12－1 | 12－10 |  | X |
| Kentucky |  |  | 11 |  |  | 11－1 | 11－1 | 11－1 | 11－1 | 10 | 11－12 |
| Maine． |  | ${ }_{6-12}$ | 11－12 |  |  |  |  |  | 10－2 |  | ${ }^{10-1}$ |
| Maryland |  | C | 9－11 |  |  | 1－3 | 1－3 | 9－3 | ${ }_{11-1}^{10-3}$ | 8－12 | 10－11 |
| Mass． |  | 10－12 | 12 |  |  | 11－1 | 11－12 | 9－12 | 10－2 | 9－12 | 10－11 |
| Michigan． |  | 9－11 | 10－12 |  | S | 10－1 | 10－1 | 0 | 10－2 | 10－12 | 10－11 |
| Minnesota， |  | O，${ }_{\text {C }}$ | 11 |  |  | 11－12 | 11－12 |  | 10－2 | 10－12 | 10－12 |
| Mississippi |  | C | 11－1 |  |  | 12－1 | 12－2 | 11－1 | 10－2 | ${ }_{11-1}^{10}$ | 10－1 |
| Montana |  | 3－11 | 1111 |  |  | 12－1 | 12－3 | 11－1 | 5－2 | 11－1 | 5－12 |
| Nebraska | ${ }_{9}$ | 3－11 | $10-11$ | 9－11 | 10－11 | 11 －3 | 11－3 | － | 0 | 0 | 0 |
| Nevada | 8－9 |  | 10－11 | 12 | 10－11 | $11-3$ | 11－3 | 0 | 10 | 0 | 9－1 |
| New Hampshire |  | 9－12 | 11－12 |  |  | 11－2 | 11－2 |  | 10－3 | 9－12 | 10 |
| New Jersey． |  | 8 | 12 |  |  | 12 | 11－12 |  | 11－12 | 11－12 | 11－12 |
| New York | 9－10 | 8－11 | 10－12 | X | 10－12 | 12 | 11－4 |  | 0 | 0 | － |
| Long Istand |  |  | ${ }_{\text {C }}^{11-12}$ |  |  | $10-3$ $1-3$ | 10－4 | 0 | 10－2 | 10－3 | 1012 |
| North Carolina． |  | 10－12 | 10－12 |  |  | ＋11－2 | －1－3 | $\stackrel{0}{0}$ | 11－3 | 11－2 | ${ }_{10}^{11-12}$ |
| N．Dakota．． | 9 |  | 9－11 | C | C | 11－12 | C | I | ${ }^{1}$ | 10－2 | ${ }_{9}^{112}$ |
| Oklahoma |  |  | 115 |  |  | 11－2 | 11－2 | 11－2 | 11－1 | 11－2 | 9－11 |
| Oregon | Ps |  | S |  |  | ${ }^{12}$ | 12－1 | 12－1 | 0 | 12－1 | 5－12 |
| Pennsylvania． |  | 11 | 11 | P | $\begin{gathered} 10-11 \\ \mathrm{C} \end{gathered}$ | 11－1 | 11－3 | 0 | ${ }_{10}^{0}$ | 0 | ${ }^{0}$ |
| Rhode Island．． |  |  | 10 |  |  | 11－1 | 11－3 | 0 | $\xrightarrow{10-1} 1$ | ${ }_{10}^{0}$ | ${ }_{10-1}^{10}$ |
| South Carolina South Dakota |  | C | 9－12 |  |  |  |  | S | 11－1 | ${ }^{10} \mathrm{~S}^{-1}$ | 11－12 |
| Tennessce． | X |  | 1112 | C | C | 11－12 | 11－12 | 11－4 | S | 0 | 0 |
| Texas | 9－10 | 11－12 | ${ }_{11-12}^{11}$ | C | ${ }_{12}$ | 110－2 | 12－2 | 10－2 | 11－2 | 10－2 | 9－12 |
| Vtah | P |  | 10－11 | C | ${ }^{12}$ | $110-5$ | $11-3$ 0 | $\bigcirc$ | 0 | $\bigcirc$ | S |
| Vermont |  | 9－11 | 11 |  | ${ }_{\text {C }}$ | 10－2 | 10－4 | ${ }^{1}$ | － | －${ }_{\text {S－12 }}$ | 0 10 |
| Virgma | C | 11－1 | 118 |  | ${ }_{\text {C }}$ | 12－1 | ${ }^{10-4}$ | 10－1 | 11－1 | 8－12 | 10 |
| West Virginia |  | 11.12 | 10－11 | 9 | 11 | 11－1 | 11－3 | 0 | 10－2 | 0 | c |
| $W_{\text {tseonstm }}$ ． |  | －9－11 | － |  |  | 11－2 | 11－2 |  | 11－1 | 10－1 | 10－12 |
| Wyommg | 9－11 | 4－6，9－11 | ${ }_{9-11}$ |  |  |  | 11－12 | 11－12 | 10－1 | S | 10－1 |
| － | 0－11 | 4－6，9－11 | 9－11 | 9－11 |  | 11－5P． | 0 | 0 | 9－4 | 0 | 0 |

## SPECIALS IN CERTAIN STATES：

ALLIGATOR：Ala．（C），Ga．（6－1）；Fla．（6－1）；Miss．（C）．CHACHALACA：Tex．（12－1）
WILD BOAR：Cal．（10－3），Fla．（S），N．C．（10－12），
BUlFALO，Tcnn．（10，2），Tex．（10）
BUlFALO：Alas．（C），Ariz．（10），Utah（P），Tex．（C）
CARIBOU：Alas（（S），COUGAR：Nev．（O）．
13EX，KUDU，GEMSBOCK：N．Mex．（68）
JAVELINA：Ariz．（2），N．Mex（2）， Tex．（11－12）
Moose：Alas．（8－11），Idaho（P）， Mont．（ $9-11$ ），Utah（ P ）
Wyo．（9－10）

## SYMBOLS USED PAGES 66 AND 67

Months: January is represented by the numeral " 1 " - February by the numeral " 2 "; etc. Seasons: In the columns under the various animals, birds, and fishes you will note numerals. Thus "12-3" means the season opens in December and closes in March. A number alone means the season opens and closes within that month. Thus " 12 " alone means the season is December. A number followed by a comma denotes two seasons: thus " 9,12 " would mean one September and another in December. " 0 " means no closed season; " X " not available; " S " special seasons; "C" closed; "P" permit only.

VERIFY EXACT OPENING \& CLOSING DATES IN EVERY CASE.

|  |  | $\stackrel{\underset{8}{3}}{\stackrel{3}{8}}$ |  |  | $\dot{m}_{\infty}^{\infty}$ |  |  | $\begin{aligned} & \text { Z } \\ & \sum_{i}^{S} \\ & \text { in } \end{aligned}$ |  |  | $\begin{aligned} & \text { 密 } \\ & \text { 空 } \\ & ~ \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 11-2 | 11,12,4 | Alabama | 0 | 0 | 0 | O | O | 0 |  |
| 8-5 |  |  |  | Alaska | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | X | 10-1 | 10 | Arizona. | 0 | 0 |  |  | 0 | 0 |  |
| C | C | 12 | 4 | Arkansas | 0 | 0 | 0 |  |  |  |  |
| 9,10-1 | 11-12 | 11-12 | C | California | 0 | 0 | 0 | 2-11 | 5-10 | 5-10 | 5-10 |
| 9 | 11-12 | 11-12 |  | Colorado. | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-12 | 10-12 | 10 | C | Connecticut | 4-10 | 4-10 | 4-10 | 4-2 | 4-10 | 4-10 |  |
| 10-12 | 11-12 | 11-12 |  | Delaware | 0 | 0 | 0 | 0 | 4-11 | 0 | 0 |
|  |  | 11-2 | 11-1 | Florida | 0 | 0 | 0 | 0 | 0 | 0 |  |
| 10-2 |  | 11-2 | 11-1 | Georgia | 0 | 0 | 0 | C | 4-10 | $\bigcirc$ |  |
| 11-1 | 11-1 | 11 | C | Hawaii | 0 | O-X-0-X | X | X | X | X | X |
| 9-12 | 10-12 | 9-12 | C | Idaho. | 0 | 0 | X | S | 6-10 | 4-11 | 0 |
| 11-12C | 11-12 | 11-12 | C | Illinois | 0 | 0 | 5-11 | 0 | 0 | 0 | 0 |
| 11-12 | 11-12 | 11-12 | C | Indiana | 0 | 0 | 0 | 0 | 5-8 | 0 | 0 |
| 11-12 | 11-12 | 11-12. |  | Iowa | 0 | 0 | 5-2 |  | 0 |  |  |
| 11 | 11-12 | 11-12 | C | Kansas. | 0 | 0 | 0 |  |  |  |  |
| 12-1 |  | 11-1 |  | Kentucky | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  |  | 11-2 | 4 | Louisiana | 0 | 0 | 0 |  |  |  |  |
| 10-11 | 10-11 |  |  | Maine. | 6-9 | 4-9 | 4-9 | 4-9 | 4-9 | 4-9 | 4-9 |
| 11-1 | 11-1 | 11-1 | 10-11 | Maryland | 0 | 0 | 4-11 | 0 | 4-3 | 4-3 | 0 |
| 10-11 | 10-11 | 10-11 | C | Massachusetts.. | 4-2 | 4-2 | 4-2 | 4-10 | 4-2 | 4-10 | X |
| 10-12 | 10-11 | 11 | C | Michigan. | 6-12 | 0 | 5-3 | C | 4-9 | 0 | $4-9$ |
| 10-11 | 10-11 | C | C | Minnesota. | 5-2 | 0 | 5-2 | X | 4-9 | 1-9 | 0 |
|  |  | 12-2 | 4 | Mississippi | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|  | 11 | 11-1 | 4 | Missouri. | 5-2 | 0 | 0 |  |  |  |  |
| 9-10 | 10-11 | X | 9, 10, 4, 5 | Montana | 0 | 0 | 0 | 5-11 | 5-11 | 5-11 |  |
| $9-10$ | 10-1 | 10-12 | 10,11 | Nebraska | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 11 | 11 | 01-11 | Nevada ........ | 0 | 0 |  | S | 0 | 0 | O |
| 10-12 | 10 | C |  | New Hampshire | 4-10 | 4-10 | 4-3 | 4-9 | 4-9 | 1-9 | 1-9 |
| 11-1 | 11-12 | 11-2 | C | New Jersey... | 0 | 0 | 0 | $\mathrm{C} 3-4$ | C3-4 | C3-4 | ${ }^{0}$ |
| 9 | 12 | 11-12 | 4-11 | New Mexico | 0 | 0 | $\mathrm{O}-\mathrm{X}$ | X | 5-11 | 5-11 | X |
| 10-1 | 10 | 10 | 11 | New York. | 6-11 | 0 | 5-2 | 4-9 | 4-9 | 4-9 | 4-9 |
| 11-12 | 11-12 | 11-12 | C | Long Island | 6-11 | 0 | 5-2 | 4-9 | 4-9 | 4-9 | 4-9 |
| 10-2 | 11-2 | 11-2 | 11-2 | N. Carolina. | O | 0 | 0 |  | 4-9 |  |  |
| 9-12 | 10-12 | X | 11 | N. Dakota | $\mathrm{S-12}^{\text {5-12 }}$ | 0 | $5-2$ | X 0 | ${ }_{5}^{5-2}$ |  | X |
| 11-1 | 11-1 | 11-1 | 5 S | Ohio. | 0 | 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |
| 0 | 11-12 |  | S | Okla. | 0 | 0 | - | O | ${ }_{4}^{0}$ | - ${ }_{4}^{0}$ | 0 0 |
| 10-11 | 10-11 | 10-11 | X | Oregon. | 0 | 0 | X | 4-10 | $4-10$ | 4-10 | O |
| 10-1 | 10 | 10 | 10 | Pennsylvania... | 6-3 | $5-3$ | 5-3 | 0 | 4-9 | 4-10 | 0 |
| 11-1 | 11-12 | 11-12 |  | Rhode Island. . | 42 | 0 | 4-2 |  | 4-2 |  |  |
| S | S |  | S | So. Carolina. | O | $\mathrm{O}_{0}^{0}$ |  |  |  |  |  |
| ${ }_{11-2}^{9-10}$ | 10 | 111 | 11 | So. Dakota, | O-S 0 | O-S | O-S | X | 0 <br> 0 | X | X |
| 11-2 | C | 11-2 | $4-5$ <br> 112 | Tennessee...... | 0 0 | 0 0 | 0 0 0 | X X | - | X |  |
| $\mathrm{C}_{\text {C-12 }}$ | S | 11-1 | ${ }^{11-12}$ | Texas. | 0 <br> 0 | 0 0 | 0 0 0 | ${ }_{6-11}^{\text {X }}$ | $\underset{6-11}{\text { X }}$ | $\underset{6-11}{\text { X }}$ | $\underset{6-2}{ }$ |
| ${ }_{10}^{9-12}$ | 10 | 110 | 10 | Vermont. | 6-11 | 0 | $5-3$ | 4-9 | 4-9 | 4-9 |  |
| 11-1 | P | 11-1 | 12-1 | Virginia........ | 0 | 0 | 0 | 0 | 4-12 | 4-12 | 0 |
| 9-12 | 10-12 | 10-12 | C | Washington... | 4-10 | 4-10 |  | 0 | 4-10 | 4-10 | S |
| 10-1 | 11-12 | 11-12 | $10-11$ | W. Virginia. | 0 | 0 | 0 | $\stackrel{0}{\mathrm{O}}$ | - 0 | - | O |
| $10-11$ $10-11$ | 10-11 | \|10-11 | S $10-11$ | Wisconsin Wyoming | $\stackrel{5-2}{5-10}$ | 0 $5-10$ | $5-2$ $5-10$ | $\underset{5-10}{\text { X }}$ | $\stackrel{5-9}{5-10}$ | $\stackrel{1-9}{5-10}$ | $\stackrel{\mathrm{O}}{5-10}$ |

BLUEGILL: Ind. (0), Mich., Iowa (0), N. M. (0), S. D. (0), Tenn. (0)

BUFFALO: Minn. (0), S. Dak. (0), Tex. (0)
BULL FROGS: Ariz. (6-11), Ark. (4-12), Del. (5-12), Haw. (0), Ida. (6-10), Ill. (6-8), Ia. (0), Ind. (4, 6-10); Kans. (7-9); Mo. (7-11), Neb. (7-10), Nev. (0), N.Mex. (8), Ore. (0), Pa. (7-10), Tenn. (0), Ohio (7-4),
W. Va. (6-7), Wis. (5-12)

RAINBOW: Haw. (8-9), N. Mex. (0), Ark. (0) SHAD: Calif. (0), Conn. (4-6), Del. (3-6), Fla. (1-4), Ga. (1-4), Ia.; (O), Md. (3-9), N.H. (1-8), Ore. (O)
STURGEON: Ida. (O), Ia. (O), Mich. (0), S. Dak. (O), Wis. (S)

TERRAPIN: Fla. (X), Pa. (11-3)


Migration of the Canada Goose. The northuard movement keeps pace with the advance of Spring. The advance of the $35^{\circ}$-temperature line, as noted above, agrees with the northward movement of the gecse. Courtesy: U.S. Fish \& Wildlife Service.

## THE FASCINATION OF MIGRATION

Elsewhere in this issue (see page 104) we have described at some length the migrations of the Seventeen-Iear Locust. Of other migrating insects, butterflios come to mind and how atomle fallout or other hazards are perhaps interfering with the natural cyclical movements north aud south of these beautiful migrators.

Man, of conrse, moves, primarly, for reasons of liealth or to cscape another cold Winter. With hlrds, beasts, and insects, the motiration seems to be food and sustemance. The lemmings, or small mlee, in Canada, for example, in certain recurring vears follow the pattern of the locusts. Buffalo herds, when there were these, used to migrate from monntain to blain and back again evers year. The Musk Ox, lieindeer, and Antelope now do the same. The Black Bear, which requires a certain amomut of fat for successful hibernation, will also migrate if it does not have, come cold weather, sufficlent fat.

Of migratlons, however, those of the birds and fishes are perhaps most interesting. Food amd smstenance are factors in their amnual travels but many feel that propitious weather and places for brecding are of equal lmportamee. Many fishes and birds migrate long before a food supbly is exhausted or the cold (hot) weather has begun... notably, the salmon and the alewives, the cuckoo and the swift.

The Arctic Tern is probably the champion, as far as distance is concerned, migrator. J'hese remarkable hirls disappear from North Amerka, after their young are rrown, amd a few months later are found in the Antiretic-11,000 miles awas. Night hawks and harn swallows have been known to travel fomo miles - from Alaska to Argentina, Flshes, such as salmon, will swim from the rivers of North Ameriea to nnknown distant points in the sea: the American
eel has been said to leare our shores for breeding grounds near Bermuda.

Birds usually migrate at about 3000 feet above the ground or ocean; their speed of migration is casual - perhaps 100 to 300 miles a day. As they fly at about 50 miles per hour, this is ouly a few hours' travel per day.

Probably because of their size -and formation - Canada Geese are most often noticed. One will often hear Spring heralded with "the geese are flying north," or Fall announced by "the geese are Hying south." These birds (see accompanying map) move north and south exactly as does $35^{\circ}$ Fahrenheit temperature. This is one of the most regular migrations there is.

No less interesting are the herring, whose native home is in the Arctic. From there they migrate thrice: Spring, Summer, and Fall. They move in a definite order and divide, as they proceed, into bands to visit different locations. In this they are said to be accompanied by the sea ape (Chimerra monstrosa) who is King of the Herring. In Norway 20 million of these fish have been taken at a single fishing - the catcli lias been as high as 400 million. A Dutchman. William Deuhelzoon, is credited with having been the first to salt herring. This was before 1400 A.D. Emperor Charles V risited Deuhelzoon's tomb and in his honor ate an herring on his grave. Smoked herring was first established as an industry at Dieppe in Normandy.

For those who would know more about Bird Migrations. Circular 16, issued by the U. S. Fish and Wildlife Service in 1950 , is valuable. It is available from the Superintendent of Documents, Washington D. C. 20025, 35 cents.


## STUDY IN DISHABILLE

The maples have disrobed, and though
They wear a negligee of snow,
I doubt if such attire will keep
Them cozy while they try to sleep.
Margaret Fishback


## BEST FISHING DAYS,

## 1967

There are probably more "fishing calendars" sold each year than all the almanacs put together. It is likely that the more mystifying the ingredients of these calendars are, the more popular they become. Almost all agree, however, that fishing is better whel 1) the barometer is rising or high; 2) when the moon is between the new and the full; and 3) when the moon is in the astrological sign of Cancer, Pisces or Scorpio. The days listed herewith are days during which two or three of the above are seen to occur.

> Jan. 10-16, 23, 24
> Feb. $9,11-14,20,21$
> Mar. $10-13,19-24$
> Apr. $9-13,15-17$
> Mar $13,14,18,22$
> June $8-11,17,18$
> July $7-11,15,16$
> Aug. $5,6.12-19$
> Sept. $4-13,17,18$
> Oct. $3-11,13,14$
> Nov. $2-8,11,12$
> Dec. $1-3,7-9$

However, even under the best of conditions, those who know how to catch fish will be far more successful than those who don't. Some, of course, like ,,gardeners with "green thumbs," are born that way. Others hare made themselves expert in knowing the best places, hours, tackle, and lures.

Here are a few observations, taken from a room full of fishing books and clippings, which may or may not prove helpful.

Water temperatures between $55^{\circ} \mathrm{F}$ and $74^{\circ} \mathrm{F}$ are best.

The clearer the water, the better, preferably with a slight ripple.

South and West winds are the best, or any offshore breeze.


Engraved for The Life of Benjamin Franklin by Alexander A. Anderson

ALL-AMERICAN RECIPE SELECTIONS<br>by Duncan MacDonald

"America The Beautifui From Sea to Shining Sea" is also America the delicious from coast to coast.

Just as the original members of Plymouth Colony enjoyed the foods of the first Thanksgiving. so did iater colonists enjor the fish. fowl, flesh, and fruit of this outwardly stern. hint potentiaily amiable. continent.

As they moved west, they took their recipes with them. and dereloped new ones-with the result that now each state prides itself on certain culinary delights.

## New England

New Euglanders are deservedy prond of their clam chowder. Surely, such mixtures had been simmered and served long before New England "chowder" derives from the French chaudicre, meaning pot or kettle. and chaud means hot) but New England clan chowder? Just try it and compare with the forelgn pots an feu!

## New England Clam Cbowder

1/+ 1h. sait pork, diced 2! medinm-sized onions, aliced 3 eups potatoes, dieed 1/2 trp. salt 1/t tsp. pepmer
$\because$ cups boiling nater
1 quart clams, chopped,
with liqnor
1 fluart mikk
$\because$ ths. hintter
1 bint light crean

Cook salt pork in pan mitil crisp: remore pork and add onions, potatoes. sait and pepper. Saute for 10 minutes. Cover with water and simmer for 15 minutes. Add dams and their liqnor. Cook for 20 minntes. Add milk, butter, and crean. Heat and verve.

## Maine

People who live way up in Maine (it's just a step away from Canada:) secm confusing to some of us when they call themselves "Down hasters," hut there is no quibhing about their mastery in the trapping of the lobster and its preparation for the table.

## Boiled Lobster

Put ife iobster, head first, into boiling sea water or salted water, allowing enongh water to coser lohster completely. Rring water to boil again and cook bobster 15 to 18 minutes, depending mpon size. Split lenghwise, remove inedible portions. Sere with melted inter.

## Eastern Shore

Before leaving seatood we should stop in at the Eastern Shore of Maryland to remind ourselves how the famous liastern Shore cooks (using crabs from Crisfield) prepare their

## Crab Cakes Maryland

1 lb crab meat, flaked
1 egg , heaten
1 tsp. salt
1/4 tsp. pepper
1 tsp. dry mustard

2 tsp. Worcestershire sauce
1 ths. chopped parsley
1 tsp. lemon juice
1 tbs. melted butter
1/2 cup fine bread crumbs

Combine all ingredlents (excent bread crumbs). Shape into cakes and coat with dry bread crumbs. Pre-heat fry pan $375^{\circ}$. Fry in deep fat until golden brown.

## Southern Charms

As we travel South, two famous recipes come to mind which are claimed as specialties by more than one southern state: Southern Fried Chicken and Pecan Pie.

## Southern Fried Cbicken

Select frying chickens about 3 lbs. in slze. Cut up for frying, disjoint, wash, and pat dry. Sprinkle ehicken with salt and pepper, and roll in flour. Melt shortening and butter ( $2 / 3$ shortening and $1 / 3$ butter) to provide $1 / \mathcal{Z}$-inch-deep fat in heary skillet. Add chicken and brown quickly on all sides. Then lower heat, cover pan, and fry until golden brown (about 20 minutes), turning occasionally.

## Pecan Pie

1/3 cup butter
$1 / 3$ cup brown sugar
1 tbs. flour
1 cup dark corn syrup

2 ths. melted butter
1 cup pecan halves
4 eggs
Unbaked 9 -inch pie shell

Mix brown sugar and flour, then cream with butter. Add corn syrup, butter and pecans. Beat eggs lightly, and fold into mixture. Fill the pie shell and bake in moderate oven ( $350^{\circ}$ ) tor about 45 minutes, or nutil filling is set. (Cool the pie betore cutting. It will cut better if allowed to stand for 8 to 10 hours.)
We would be very remiss if we did not give some notice to the culinary achievements of New Orleans, espccially the sea food recipes. Many fine and famous dishes have been brought to perfection on the Delta; among them

## Sbrimp Gumbo

1/4 cup butter
2 tbs. flour
1 large onion, chopped
1 one-pound can tomatoes
1 green pepper, chopped
1/4 tsp. Tabasco sauce
$1 / 8$ tsp. thyme
1 bay leaf
3 cups liquid (taken from sea food, or water)
1 package frozen okra
3 cups slielled and deveined medium-sized shrimp

Melt butter in heavy skillet. Add the flour and brown lightly Add all the other ingredients except okra and shrimp. Simmer for 30 minutes. Then add okra and shrimp, simmering an additional 10 to 12 minutes. Serve with rice.

## Mid-West

The great mid-West is world-famous for its beef. Chicago, as the meat packing center of the nation, has affected the eating liabits of all Americans. "Kansas City Beef" is known to every lover of good food.

No elaborate preparation or fancy recipe can improve a steak, broiled under a hot flame, a few minutes on each side. A real Kansas specialty, from the days when Kansas cowboys drove the cattle over the Texas Trail, is hamburger made from Kansas beef and served with a hot barbecue sauce. Hamburgers, like steak, require no recipe. Here is

## Hot Barbecue Sauce

$1 / 2$ cup onion, chopped fine
1 cup chopped celery
1 tbs. melted butter
1-1/2 rups chili sauce
1-1/: cuis water

3 tlos. lemon juice
1 ths: brown susar
2 ths. Worcestershire sauce
1 ths. prepared mustard
1 tsp. salt

Combine liguid ingredients, then add seasonings, sugar, onion and celery. Cook over low flame until tender.

## West Coast

The West Coast is responsinle for two important concepts in the American approach to food: the "salad" ass a main course, and the preparation of toods on the outdoor grill. A favorite in many parts of the country

## Lamb Sbish Kebabs

Thread lamb cubes on skewers, alternating with bay leares. Season with salt and pepper. Broil all sides until deep brown in color. Marinating is not necessary but brushing the meat with a sauce does add flaror. (Simple sauces can be prepared by combining equal parts of oil and vinegar: or by adding chopped pursley, dry mustard, garlic salt and pepper to melted butter.) Fruits and regetables cook more quickly than the meat and are best mepared on separate skewers. The possibilities are endless. A few farorites that comline well with lamb are: mushrooms, tomatoes, onions, cooked potatoes, cauliflower, sreen peppers, egrplant, pineapple, dried fruits which have been cooked, such as apples, lears, peaches.

## The Great Outdoors

In nearly all parts of the United Stater, the huntlng season changes the menu. A simple and delicious recipe is this one for

## Broiled Venison Cbops

Brush chops with olive oil. Season with salt and penper. Sear under the broiler for 15 seconds on each side. Brush chops again with olive oil and broil 2 to 3 minutes on each side.

## The Northwest

Our state of Oregon plants its seedling trees in the midst of a vast fertlle area cooled hy ocean breezes and ideal for the growing of fruit. llums and prunes are among the lmportant products of this coastal state, and creative women would inevitably conjure up recipes for thelr use, such as:

## Deep Disb Plum Pic

4 eups flums, diced
1 cup sugar
1/t cup four

1/t tsp. salt
1 ths. butter
Pastry for 9-iuch pie

Place plums in pie tin. Combinc sugar, flour, and salt, then sirinkle mixture over plums. Dot with butter, Roll pastry on floured surtaee to $1 / 8$-ineh thickness. Moisten rimof pie tin and phe matry orer plum mixture. Seal edges and prick top. Bake in hot oven ( $4(0)^{\circ} \mathrm{F}$.) approx. 35 minutes.

With 50 states in the Cnion and only three pages in the Almanac, many reghan specialties have had to be omitted. But omitted only on paper. Fortunately tor all of us, each one of these favorites continues to be served every day throughout the land, a constant source of delight to visitors from other countries who are as interested and curious about our traditlonal Anerican foods as they are about other aspects
of Amerlcan life.

## TABLE OF MEASURES

## Apothecaries

1 scruple $=20$ grains
1 dram＝3 scruples
1 ounce $=8$ drams
1 pound＝12 ounces

## Avoirdupois

1 pound＝16 ounces
1 hundredweight $=100$ pounds
1 ton $=20$ hundredweight $=$
2000 pounds
1 long ton $=2240$ pounds

## Cubic Measure

1 cubic foot $=1728$ cubic inches
1 cubic yard $=27$ cu．feet
1 register ton（shipping measure） $=100$ cubic feet
1 U ．S．shipping ton $=40 \mathrm{cu}$ ．ft．
1 cord＝128 cubic feet
1 U．S．liquid gallon $=4$ quarts $=231$ cubic inches
1 imperial gal．$=1.20$ U．S．gals．
$=0.16$ cubic feet
1 board foot $=144$ cubic inches

## Dry Measure

2 pints ．．．．．．．．．$=1$ quart（qt．）
4 quarts ．．．．．．．．．$=1$ gallon（gal．）
$\left.\begin{array}{l}2 \text { gallons or } \\ 8 \text { quarts } . . . . .\end{array}\right\}=1$ peck
4 pecks ．．．．．．．．．．．．$=1$ struck bushel

## Linear Measure

1 foot $=12$ inches
1 yard＝3 feet
1 rod＝ $5^{1 / 2}$ Fards $=161 / 2$ feet
1 mile $=320$ rods $=1760$ yards＝
5280 feot
1 U．S．nantical mile＝6076．1033 feet
1 knot＝1 nantical mile per hour
1 furlong $=1 / 8$ mile $=660$ feet $=$
220 yards
1 league $=3$ miles $=24$ furlongs
1 fathom＝2 yards＝6 feet
1 chain $=100$ links $=22$ yards
1 link＝7．92 inches
1 hand $=4$ incles
1 span $=9$ inches

## Square Measure

1 square foot＝144 square inches 1 sq．yard＝ 9 sq．feet
1 sq．rod＝301／4 sq．yards＝
$2721 / 4 \mathrm{sq}$ ．feet
1 acre $=160 \mathrm{sq}$ ．rods $=43560 \mathrm{sq}$ ．ft．
1 sq．mile $=640$ acres＝
102400 sq．rods
1 sq．rod＝625 square links
1 sq．chain $=16$ square rods
1 acre $=10$ square chains
Troy
（Used in weighing gold，silver． jewels）
1 pennyweight＝24 grains
1 ounce $=20$ pennyweight
1 pound＝12 ounces


## Household Measures

120 drops water $=1$ teaspoon
60 drops thick fluid＝ 1 teaspoon
2 teaspoons＝ 1 dessertspoon
3 teaspoons＝1 tablespoon
16 tablespoons $=1$ cup
1 cup＝1／2pt．
1 cup water $=1 / 2 \mathrm{lb}$ ．
3 tablespoons flour＝1 oz．
2 tablespoons butter $=1 \mathrm{oz}$ ．
3 teaspoons soda $=1 / 2 \mathrm{oz}$ ．
4 teaspoons baking powder＝ $1 / 2 \mathrm{oz}$ ．
2 cups granulated sugar＝1 1 b ．
$33 / 4$ cups confectioners＇sugar＝ 1 lb ．
$21 / 2$ cups wheat flour＝1 lb．
$31 / 2$ cups whole wheat flour＝ 1 lb.
$21 / 2$ cups buckwheat flour $=1 \mathrm{lb}$ ．
$51 / 8$ cups coffee $=1 \mathrm{lb}$ ．
$61 / 2$ cups tea二 1 lb ．
2 cups lard＝1 lb．
2 cups butter＝1 1 b．
2 cups corn meal＝1 lb．
2 cups powdered sugar二 1 lb ．
$2^{3 / 4}$ cups brown sugar二1 1 b ．
cups raisins $=1 \mathrm{lb}$ ．
cups currants $=1 \mathrm{lb}$ ．
9 eggs $=1 \mathrm{lb}$ ．

## Liquid Measure

4 gills＝1 pint（O．）
2 pints＝1 quart（qt．）
4 quarts $=1$ gallon（gal．）
63 gallons＝1 hogshead（hlid．）
2 hogsheads＝1 pipe or butt
2 pipes $=1$ tun

## Metric

1 inch $=2.54$ centimeters
1 meter $=39.37$ inches
1 yard $=0.914$ meters
1 mile $=1609.344$ meters $=$
1.61 kilometers

1 sq．inch＝6．45 sq．cm．
1 sq．yard＝0．84 sq．m．
1 sq．mile $=2.59 \mathrm{sq} . \mathrm{km}$ ．
1 acre $=0.40$ hektars
1 cu. yard $=0.76$ cubic meters
1 cu．meter $=1.31$ cubic yards
1 liter $=1.06$ U．S．liquid quarts
1 hektoliter $=100$ liters＝
26.42 U．S．liquid gallons

1 U．S．liquid quart $=0.94$ liters
1 U．S．liquid gallon＝3．76 Jiters
1 metric ton $=1000$ kilograms
1 kilogram＝2．20 pounds
1 pound avoirdupois＝
0.45 kilograms

# Aneciotes ano 腲leasantries 

## JOE MILLER'S JESTS

Joe Miller's Jests, published in London (1739), the most popular "joke book" of all time, contains in its oriminal edition only three jokes cout of the 246 in the volmme) by Joe Miller. The remainder were put together by a hack writer, John Mottley, also known as Elijah Jenkins. Joe Miller was a kind of Will Rogers of his day and the joke book was as much a name-dropping cossil, colnmn as it was the writing down of jokes, old long hefore they appeared in print. Today. most of Mottley*s collection would be considered bawdy and not funny . . . despite the fact that the name "Joe Miller" still suggests otherwise.

## VERMONT RETYCENCE

The eminent humorist, Sammel Clemens, who spoke and wrote under the name Mark Twain, at one time appeared before a gathering of Vermont natives in the town of Brattleboro. Vermont. During his allotted time on the platforin he told story after story which, before other audiences. had brought gates of laughter. These Vermonters, however, never eracked a smile. Afterwards, Clemens decided he would mingle with the erowd to try to learn why the reaetion had been so unfavorable. Standing nearly a earriage into which a man from the andienee was lifthog his wite, he heard him say:
"Mabel, you know that speaker was real mood. It was all I could do to kerp from laughing."

## "BLITZ-STEES"

During World War II, many American families volunteered to care for and edueate roung ehildren of Euglish parents whe were heing subjerted to the hlity of london and other parts of England lis the Nazis. One English family who sent over six of their youngsters to some childless
foster parents in a small Massachusetts town were surprised to receive, within a few months after the arrical of these children in America. the following cableqram: "Take back your children and send us the blitz."

RECEIPT TO KEEP WARM
A recelpt to keep one*s self warm a wlole winter with a single billet of wood: Take a Billet of Woodi of a competent size. fling it out of the Garret Window into the lard and then run down stairs as hard as ever rou can drive, and when rou have zot it, run up again with the same measure of sipeed: and thus keep throwing down and fetching up. till the Exercise shall hare sufficiently heated you. This renew as often as the Occasion shall require.

Nathaniel Low, 175


## COSTLX KISS

A Mr. Whard, who visited New England in ligs sald of loston: "The bulldings, like their wonen, are neat and handsome, and their streets, like the hearts of their men, are pared with peblnes. They have fonr churehos. built with clapboards and shingles and supplied with fonr ministers, one a seholar, one a centleman. one a dunce, and one a elown. The (ヶptain of a ship) met his wife in the street atter a long royage, and kissed her, for which he was fined ten shillings."

Boston Police Records, 1631-1S65

## SENSIBILITY, 1831

A lady from a society to prevent cruelty to animals went to her butcher to remonstrate with him on his cruel practices.
"How," said she, "can you be so barbarous as to put innocent little lambs to death ?".
"Why not, madam?" said the butcher. "Surely you would not eat them alive, wonld you?"

## FIRST ADVERTISING CHARGES

Charging for advertisements in publications began at a very early date... perhaps before 1700. The Observator, an English publication, charged a shilling for eiglit lines in 1704, the Country Gentleman's Courant (1706) two pence a line.

## READ THIS ALOUD QUICKLY

As I was going down the street I saw two bootblacks. One was a black bootblack and the other a white bootblack, and both had black boots, as well as blackiny and blacking bruslies. The black bootblack asked the white bootblack to black his, the black bootblack's, black boots with blacking.

The white bootblack cousented to black the black boots of the black bootblack with blacking, but when he, the white bootblack, had blacked one black boot of the black bootblack with blacking. he, the white bootblack, refused to black lis, the black bootblack's, other black boot with blacking unless he, the black bootblack, paid him, the white bootblack, the same as what he, the white bootblack, got for blacking other people's black boots; whereupon the black bootblack grew still hlaeker in the face, calling the white bootblack a blackguard, at the same time hitting the white bootblack with the black boot that he, the white bootblack, had already blacked with blacking.

Author Unknown

## RANGE OF THE HUMAN VOICE

The range of the human voice is quite astounding, there being about nine perfect tones, but $17,592,186,044,515$ different sounds: thus fourteen direct muscles, alone or together, produce 16.383; thirty indirect muscles, ditto, $72,741,823$, and all in cooperation produce the number we have
named; and these independently of different degrees of intensity,

Editor's Repository, 1863

## KATHERINE OF CLERMONT

America's first successful steamboat, usually known as Robert Fulton's "Clermont," made her first trip (Albany to just beyond Kingston, N.i.) on Angust 10, 1807. Although the steanmer was cluristened the "Katherine of Clermont" in honor of Robert's wife, perlaps posterity has overlooked the full name in riew of this description of the vessel on the day of ler first trip: "a rude built craft, about 125 feet long, nearly 20 feet wide, with side paddle wheels, and a sheet iron boiler. she could make about six miles an hour." Surely Katherine livingston Fulton was better than that?

## HE WORRIED ABOUT IT

The sun's heat will give out in : million years more-
And he worried about it.
It will sure give out then if it doesn't before-
And he worried about it.
It will surely give out, so the scientists said
In all scientifical hooks he had read.
And the whole boundless universe then will be dead.
And lie worried about it.
His wife took in washing-half-adollar a day.
He didn't worry abont it.
His daughter sewed shirts the rude grocer to par.
He didn't worry about it.
While his wife beat her tuneless rub-a-dub-dub)
On the washboard drum of her old wooden tul)
He sat by the stove, and he just let her rub.
He didn't worry about it.
Sam Walter Foss



## THE PRESIDENTS AND PRESIDENTS TO BE.

Washington, Adams, Jefferson. Madison, Monroe
From '89 to '25 as Presldents were seen
Adams (J. Q.), Jackson, Van Buren served until ' $\ddagger 1$ or so
Harrison, Tyler, Polk, Taylor, and Filmore made thirteen,
Then came Pierce, Buchanan, Lincoln and Johnson
Grant, Hays, Garfield, Arthur, adding up to twenty-one.
Cleveland, Harrison (B.), (Cleveland aqgain), then McKinley,
T. R. (twice), Taft, Wilson, Harding, total twentr-eight really.

Next were Coolidge, Hoover. F. D. R. (thrlce), and Trnman, Harry "Ike" (in •53), and John F. Kennedy. L. B. J. is fifth-and-thirty.
Ot V. P.'s there were thirty-seven, ( $n 0 \pi$ it's Humphrey),
Of these Gerry, King, Wilson, Hendricks, Hobart, and Sherman Died in office (Calhoun resigned), that makes seven you see While eight, as Presidents, were lost to this country.

All those in italics in office died or were assassinated. Several served when the V. P. should have been nominated.
Now we have a new Constitutional Amendment making the rounds, Thirty-eight states (three quarters), the way it sounds,
Will have ratified it in " 67 and clarified "successlon."
To wit, in case of removal, death, or resignation
The Vice President becomes Iresident is the regnlation.
If the V. l'.s gone, the President appoints with Congressional contirmation.
If the Presldent notities the sinate's Prexy pro tem And the Speaker of the llouse, that its np to them. 'That he's no longer able, the V. I' automathally takes over. That same V. I', and a majority of excentive officers, howerer. Or, of another Congressional body, may go over the l'resldent's head, Submit to the Senate's Proxy, and hlouse speaker he's as good as dead.
In wheh ease this V. P. succeeds even if the President (or his wife) sees red.
The President, in writhg, then can argue he's well and fine Gets back his powers unless within four days
The $\mathrm{V} . \mathrm{l}$ '. and his buddes proclaim the man's ont of hls mlud. Thereupon the full Congress must meet in 48 hours, the law says, Decide within twenty-one days and by two-thirds vote, determine That Mr. President is not OK, the V. $\mathrm{I}^{\prime}$. is to suceeed him. Otherwise, the l'resident, presumed well aud s:me, takes orer again.


## STANDARD AND DAYLIGHT SAVING TIME, 1967

The system of STANDARD TIME throughout the world uses Greenwich, England, as a base point. From there to the East there are 12 time zones, one for eaeh of the 12 meridians 15 degrees apart, eaeh succeeding zone East being one more hour behind Greenwich Timeand to the West, 12 more time zones of similar $1 \overline{0}$-degree size, eaeh succeeding zone West being one more hour ahead of Greenwich Time. The above map shows the four major Time Zones of eontinental U.S.A. The Atlantie Zone (adjoining the eastern border of Eastern), which includes part of Maine and Newfoundland. Puerto Rieo and the Virgin Islands is one hour faster than Eastern and four hours faster than Greenwieh. The Canal Zone observes Eastern Zone Time. Yukon Standard Time is now in effect in the degree segment adjoining Paeifie Zone to its West and this ineludes part of Alaska. Another part of Alaska and Hawaii are now on Alaska-Hawaii Time in the zone of that name which is one zone to the West of the Iukon Zone. Finally, if we include the Atlantic Zone in the East Coast as the first, the last is the eighth or Bering Zone eovering the Aleutians, one to the west of Alaska-Hawaii. As the above map indieates. more than one state observes more than one Time Zone within its borders.

Until President Johnson signed (April 1966) the Uniform Time Act of 1966, Daylight Saving Time regulations in some states caused confusion. For example, in Minnesota, there was Central, D.S.T., and Extended D.S.T. all going at onee. In Tennessee, Nebraska, and Utah, states split by the Time Zones anyway, D.S.T. got in to divide them further.

Under the new Aet, except for states which vote to exempt themselves, Daylight Saving Time will begin at 2 A.M. everywhere (in all eight U.S. Time Zones) on the last Sunday of April and end at 2 A.M. on the last Sunday of Oetober. ("A.MI.," ineidentally. stands for "Antemeridian.") This new Act takes effect April 1, $196 \overline{6}$ except that any state which observed D.S.T. in 1966 was obliged to conform to the uniform beginning and ending dates. States which have more than one Time Zone must observe D.S.T. in both Zones. States which rule themselves exempt under this new Act from D.S.T. must exempt both Time Zones within their territories, and not just one. Full and detailed information on this subjeet is obtainable from the Interstate Commerce Commission, Washington, D.C. 20423.

Any world map will reveal the territories whieh the 24 Time Zones of 15 degrees longitude eaeh (12 to the West of Greenwieh, 12 to the East, respeetively) include. When the rebroadcasts from the television satellite become more frequent, no doubt all sets will have these Time Zones on them for easy referenee.


# THE HORSE IS HERE 

 TO STAYby Raleigh S. Burroughs

Though the automotire industry has made spectacular progress since 1910, what your great-grandfather said then still is true: the automobile never will take the place of the horse.

Oh, gas-fueled vehicles are all right for delivering milk, transporting people and alleviating the problem of alcoholism by allowing the drunks to exterminate one another, but a three-rear-old Pontiac would look pretty silly running in the Kentuck Derby.

And whoever heard of playing "Pin the Tail on the Volvo ?" It's got to be a donkey.

The engineering geuins of Ford, General Motor: and Chrysler never will be able to create a five-gaited convertible that will win ribbons at Madison Square Garden. And if vou turned ont a pair of Ramblers in a field, and came back a year later, there d still be only two of them.

While only a few horses are earning their livellhood pulling brewery trucks and yegetable wagons, the animal still is in great demand, and producers of them get bigger prices per unit than for any other type of livestock.

Fashionably-bred one-year-old racehorses go for sing.000 at public auctions without causing comment. Stallion fees run to $\$ 15,000-\$ 5,000$ is commonplace-with 30 or more engagements per rear.

It's better than raising Rock Cornish hens.
Several states have instituted special bonus funds to encourage the breeding of horses within their borders. Now, the breeder receives money not only when he sells the horse. but when it wins. It's like the aetors with movies on the late show.

Everybody with an acre of grass is getting lnto the husiness. Animal husbandmen whose previons experience never weut besond Belgian hares, now are setting up Thoroughbred factories.

Fortunately for the poor, mones does not make success certain (though nothing has been found that comes closer to providing a guarantee).

As it is among humans, the best bloodlines, at times, produce some outstanding bums, and brillant performers of ten are spawned by undistinguished parents.

One thing you've got to say for horse-brceders, they're alwars happy to aid a newcomer. If a total stranger eomes along with only a few handred thousand in his pocket, he"ll be made to feel like "home folks." Horse traders will befriend him, advise him aud, if posslble, sell him a horse or two.

If a man tells rou he's in the horse business, but has mothing to sell. he's a fraud, and rou should notify your nearest FBI office.

While roses are strewn in the pathis of well-hecled potential buyers. the prospect with a limited hundle is not ignored. Satnrally, he will not be shown the deference that is acoorded the rery wealthe, as there isn't as much to show deferonce to. But no matter how modest a man's hudget may be, if he wishes to buy a horse, there will be some one to take him-or, rather, take care of him.

The best way to get into Thoroughbred farming is to bur three or fonr berfectly-bred mares, already in foal to stallions of fabulons worth. Sheh mares can be pieked up in almost any large hreeding center and rarely are worth more than their wefpht in uranium.

If you happen to be the kind of person who doesn't have half a million dohars, soull have to he satisfied to start slonly and work your way hil.

A sage breeder of vears ago bequeathed his formula for snecess to the genesthon that fontowet his.
"Breed the best to the best." he advised, and added. "and hope for the best." From this you gather there are no certainties, and that miracles of genetics provide disappointments and pleasant surprises.

If you cannot afford what savants consider the best, you have to take the best you can afford, and acquire the services of the best stallions that come within your budget.

Don't scrape the bottom of the piggy bank at the beginning. If the mare you come up with should produce a foal that goes on to win a Santa Anita Handicap or a Belmont Stakes, she will become a valuable piece of property. Her subsequent foals will be greeted eagerly at the sales, and fat prices will be paid for them. Almost orernight, you will attain opulence.

The chances against your mare's accomplishing such a feat are about 100,000 to 1, but if you can't drcam, this isn't your spot of tea.

The experiences of "Wendell Noviss" illustrate, sticp by step, procedurcs that may be followed by anyone secking the benefits accruing to small-scale Thoroughbred breeders.

After attending a mumber of Saratoga sales, and seeing horses going for anywhere from $\$ 7,000$ to $\$ 80,000$, Mr. Noviss decided to put himself in a position to scoop up some of the loot.
He broached the subject to a close fricnd (and horse breeder), "Merv Subtle," who put his stamp of approval on the idea at once.
"You're very wise." said Mr. Subtle. "Choose carefully. If I may be of service, don't hesitate to say so. First of all, look for the best breeding you can get. There's no horse in our time that compares with Hyperion. Get Hyperion blood if you can. Remember what Lord Derby said, during World War í: 'Though England fall, Hyperion shall never leave these shores.' That's the kind of bloodlines you want to get."

Mr. Subtle pansed for breath, and Mr. Noviss said, "Gee that's exciting. But how can a man in modest circumstances pick up anything by Hyperion?"
"It isn't easy," explaincd Mr. Subtle. "But you're a friend, and I promised to help. I wasn't going to sell this marc, but she's a granddaughter of Hyperion, and shed be a great one to start somebody on the road to financial independence.
"I'll talk to my partner about it. He likes rou, too. A nother thing, this mare is in foal to Triple Bourbon, and you know what a fine stud he is."

Mr. Noviss said, "Well, gosh -"
"Doggone it, you talked me into it," Mr. Subtle said. "But, mind you, I can't say for sure until I talk to my partner Lennie. Better still, you talk to him. He likes you, like I said. He"ll be at the barn tomorrow."

Mr. Noviss was thrllled, but there still was a question that had to be asked. "How much?" he inquired.
"Oll yes, of course - almost anything you want to give. I just want to see you in this business. Make it a thousand. Don't forget, She's in foal to Triple Bourbon, and you know what a fine stud he is. Don't thank me now. It isn't okay, though, until you see Lennie. He'l! be at the barn in the morning.,"

Not sure he was doing the right thing, Mr. Noviss went to the barn in the morning. Lennie was there and he was very displeased.
"Merv Subtle had a big nerve selling that horse to rou for a thousand without talking to me." Lennie hegan. "I got a fellow up in the county who's been begging me to take fifteen hundred, and I turned him down."
"Well," said Mr: Noviss, "I wouldn't want you to get in wrong with the fellow up in the county."
"Forget him," Lennie responded hastily. "I like you and my partner gave you his word. We re stuck."

That's how easy it is to get into the game.
As this is a true story, it must be reported that the road to financial independence was not a four-lane boulevard.

As predicted, the mare foaled the following spring. As was not predicted, the outcome of her mating with the great Trinle Bourbon resulted in twins (an unhappy circumstance) which had barely hit the ground when rigor mortis set in.

The next year, though. there was a fine chestnut filly. (Triple Bourbon had nothing to do with its genesis). She went for $\$ 2,400$ at the yearling sales, a far piece from $\$ 80,000$ and numbers like that, but it was encouraging.

Mr. Noviss feels that the operation is "off the ground" and he will be ready when the road to financial independence is open to traffic. What Mr. Noviss did, you can do.

As a matter of fact if a deserving person should come along, Mr. Noviss may be prevailed upon to sell this very marc. He d have to diculse the riatter with his partner, though. (Better still, you do it.)


COMMENTARIES ON COMMON SAYINGS

by Noah Webster

1833

## He does not work it right.

I knew a young man who left the army with an invincible attachment to gambling. He followed it closely till he had lost most of his wages; he then purchased a shop of goods, mostly on credit: he had his nightly frolicks: he kept it up; he was a blood of the first rate; his goods were soon gone and not paid for: his creditors called and he began to shrug his shonlders: in fact, he did not work it right. But his friends helped him out of six scrapes, yes ont of seren. At length necessity broke his spirit; it tamed him: he married: became a man of business; recovered his lost credit; and now he works it right.

I often say to myself, as I ride about the country, what a pity it is our farmers do not work it right. When I see a man turn his cattle into the street to rmn at large and waste their dung, during a winter's day, I say this man does not work it right. Ten loads of good manure at least, are lost in a season by this slovenly practice; and all for what? For nothing indeed, but to ruin a farm.

So when I see cattle, late in the fall or early in the spring, rambling in a meadow or mowing field, poaching the soll and breaking the grass roots, I say to myself, this man does not work it right.
So when I see a barn-yard with a drain leading into the highway. I say the owner does not work it right: for how easy it is to make a yard hollow, or lowest in the middle, to receive all the wash of the sides, which will be thms kept dry for the cattle. The wash of the yard, mixed with any kind of earth, or straw, is the best manure in the world: yet how much do our farmers lose: In fact, they do not work it right.

When I pass along the road and see a house with the clap-boards hanging an end by one nail, and old hats and cloths stuffed into the broken windows, and the fences tumbllng down or destrosed. I conclude the owner loves rum and brandy: in truth he does not work it right.

When I see a man frequently attending courts. I suspect he docs not work it right.

When 1 see a countryman often go to the retallers with a bottle, or the laborhg man carrying home a bottle of rum, after his work is done on Saturday-night, 1 am certain the man does not work it right.

When a farmer divides a farm of 100 acres of land among five or six sons, and builds a small house for each and sets them to work for a llving on a little patch of land, I questlon whether he works it right. And when these sons are afterwards unable to live on these montiated farms, and are compelled hy a host of children, to go to work by the day to get bread, I believe they are all conslnced that they have not worked it right.

When a man tells me his wife will not consent to go from home into new settlements, where he may have land enough and live like a nabob, and theretore he is ohliged to sit down on a corner of his father's farm, l laugh at him, and some time or other he will own, he has not worked it right.

A man in trade who is not punctual in his payments, certainly does
not work it right; nor does the man, who trusts his goods to any body aud every body.

Whether in Congress or a kitchen, the person who talks much is little regarded. Some members of Congress then certainly do not work it right. A hint to the wise is sufficient; but twenty hints have not been sufficient to silence the clamorons tongues of some congressional spouters.

Family government gives complexion to the manners of a town; but when we see, every where, children profane, indelicate, rude, saucy, we may depend on it their parents do not work it right.

I once knew a young man of excellent hopes, who was deeply in love with a lady: The first time he had an opportunity to whisper in her ear, and before he had made any impression on her heart in his favor, he sighed out his sorrowful tale to her, iu full explanation: the lady was frightened; she soon rid herself of the distressed lover; she said he did not work it right.

## How should I work it?

According to what is to be done. If you would do a great deal and do it well, write in large letters and paste up over the fire place of your keeping-room, the following maxim of the great De Wit, Pensionary of Holland, DO ONE THING ONLY AT A TDNE.

Are you a farmer? keep each kind of work, as much as possible by itself. Don't ruu to half a dozen fields iu a day and work a little in each; unless necessity obliges you to do it. That work which may be done at any time, should be done in winter or when you have leisure. Get wood in winter and cover it; if I see a man, in midst of harvest, forced to go after a load of wood, I am sure he has not worked it right. Keep a complete set of instruments or tools. When I see a man running to one ueighbor after a fan, and to another after a shovel, I set hin down, not only as poor, but as doomed to be poor. His neighbor's fan or his shovel will do for the present, but the occasions for them occur often, and how much time and labor are lost in going after them! If you would work to advantage keep a complete set of utensils for your business; keep them housed, that they may last long; and in their place, that yon may easily find them.

Do not run in debt to buy land. Land will not generally support a family, and pay taxes and interest on its value. If you liave but a small piece of land, cultivate it well, make it produce as much as possible, and if you can get more than will maintain you from this little farm, lay out the surplus in buying more. If you cannot get more thau a subsistence, it is time to think of lessening expenses, or selling out and buying new land. Depend on it, farmers who pay interest, do not work it right.

Never do work to the halres. If you build a house or a barn, lay a plan that is within your power and then finish what you begin. For want of the last half, the first is often totally lost.

## He would have his own way.

And no way is so good as mine. The question is not whether this or that is the better way, but whether it is my way or your way. Orthodoxy is my doxy and heterodoxy is your doxy.

If a man is successful in an undertaking, every neighbor he has cries out, ah, I thought so; that is my way. If unsuccessful, every one says, ah, I told him so, but he would have his own way.

Said a very complyiug husband to his wife, "shall I put the winter apples into the east or west cellar." "Just which you please," said the wife; "you know which is best." In the winter the apples froze and were spoiled; the good lady found it out, and complained to her husband, "My dear, the apples are all froze and spoiled; you put them into the wrong cellar; but you would have your own way."

## STONEHENGE WAS (AND IS) AN ALMANAC(K)

The Theological Triads of the Druids is a collection made about 1.50 A.D. from various manuscripts of considerable antiquity by Llewelyn Sion, a Welsh bard. From The Triads - and other manuscriptsWelsh scholars have beliered that the traditonary annals of the Cymry (or Welsh) extend back eren to the creation of the Tniserse.
"God, in vocalizing His name, said /|I, and, with the word, all worlds and animations sprang co-instantaneonsly to being. ..."

The erection of Stonehenge is recorded in The Triads as one of the three mighty labors of the Isle of Britain - the other two being "erecting the stone of Ketti, and heaping the pile of Cyrrangon."
The Llanover MS. points out that the Welsh. from the earliest times, had a "knowledge of the course of the stars, their names and kinds. . . ." They paid attention at an early period to astronomy. One of the earliest known words which was, and still is, used to denote time is AMSER - the literal meaning of which is "revolution of the stars." The name Luna commonly given to the moon is but a modification of the old Welsh word llun.

The "Voice Conventional" in the Iolo Mss. states that the formation of the "sacred circle" was regulated according to the principle of solar orientation. Tradition, however, is silent as to whether or not the stones of which it was formed were meant to represent the Signs of the Zodiac. The number twelre seen in the circle at Caernarronshire would seem to point to the zodiac. At Stonehenge, formations of 19,30 , and 60 stones gave Manrice (in his Indian Antiquities) reason to state:
"The number of stones and uprights (in the outward circle), making together exactly sixty, plainly allndes to that pecnliar and prominent feature of Asiatic astronoms, the sexagenary cycle - while the nomber of stones forming the minor circle of the cose, being exactly nineteen, displays to us the famons Metonic, or rather Indian, erele: and that of thirty, repeatedly ochrring, the celebrated age or generation of the Druids."

Triad 39 also makes it quite clear that these early Welsh settlers were acqualnted with not only astronomy but also with astrology, the so-called science of foretelling future events from the aspects and positions of the heaventy hodies.

From the foregoing. it seems clear that stonehenge, at least in part. was huilt before 1, en A.D. . . . and that the Welsh, who bullt it, considered it, among other things, a nseful almanac. And that's abont the way history had riewed these ruins until 1923.

In 1953, one Gerald Hawkins grew chrious. This English-born astronomer is now Director of the Boston Cniversity Observatory and a staff member of the Harvard College Observatory aud the Smlthsonian Astrophysical Observatory. Ife knew that the single most famous scientitic dlscovery erer inade at stonelonge was an astronomic finding: the momment is so oriented that lts major axls points northeasterly, to the horizon posithon of the rising sim on midsummer morning. He wondered if the old stones, so caretully placed to direct the viewers gaze through double archways down narrow ristas, coutd hold other astronomic secerets.

Other astronomers had theorized about possible astronomic significance of stonchenge alignments, hut they had beon prevented from testing any theorles by the appalling amount of calculation necessary. There are scores of alignments at the site, and handreds of rise-set positions of stars and other heavenly bodies to which they might polnt; the task of calculation and comparison lnvolved was almost beyond human endurance.

Dr. Hawkins was human. Rht he had a non-hmman assistant: Harvard's electronle computer. Ite gave that hyhtning-fast, untiring most modern calculating machine (not quite rightly called the "riant brain" - computers can't "think." yet) the ancient problem. First he fed lnto it the geographic locatlons of the most important stonehenge
positions - the archway midpoints and other key spots - and instructed the machine to determine where those positions, aligned in pairs, intersected the horizon. Then he checked those horizon points against the rise-set horizon points of the heavenly bodies. With the stars there was no particular correlation. Nor with the planets. But with the sun and moon-BANG: The machine showed that all of the most important Stonehenge positions were aligned in pairs, without exception, to 15 of the 18 unique sun/moon positions! The accompanying diagram shows eight of these alignments.

Stonehenge Decoded by Gerald S. Hawhins in collaboration with John B. White, published by Doubleday (\$5.95-(C) 1965 by Gerald S. Hawkins and John B. White), describes in detail the astronomic discoveries Hawkins has made with regard to Stonehenge, its builders, users, and prehistoric men. It tells, among other things, how Stonehenge was built in several great waves of activity between 1900 and 1600 B.C. The tremendous, awe-inspiring structure, Hawkins believes, is younger than the oldest of Egypt's pyramids, and contemporary with both the Cretan Labyrinth and the Lion Gate of Mycenae. There is evidence of Mediterranean influence in its construction, but because it was so far away from the southern centers of culture, it was all but forgotten by classic times.

Final solution of one of the oldest, most puzzling, and onerous problems of Stonehenge - the mystery of the obriously meticulous relative orientation of the stones - took the machine some 56 seconds. That 56 -second finding has profoundly affected our concept of prehistoric man. It has given new impetus and direction to our studies of the deep past.

That which is perhaps most astounding of all is how these intelligent people of 3500 B.C., during the late Stone and early Bronze Ages, in the far north of the then-known world, moved the tremendous stones of Stonehenge (the largest weighs 50 tons) to the site - and how, once there, they so skillfully, artfully, and accurately constructed it.

A prehistoric farmer, or king, or priest, who knew how to "use" in his day these silent stones could have predicted, and followed, the progress of the year by seasons and by months, predicted eclipses, etc., almost as closely as can the calendarized, computerized science of today which makes up this Old Farmer's Almanac.

Furthermore, as a really complete observatory-almanac should, Stonehenge was able to follow the sun's sister. The only doublearchways which did not direct the viewers gaze to those seasonal positions of the sun were aligned to the extreme winter-summer riseset positions of the moon.


This diagram of Stonehenge as it was in 1600 B.C. (many stones have fallen and some have disappeared since) shows how the vistas through the double archways directed the viewer's gaze toward unique rise-set positions of the sun and moon, making the whole structure an accurate almanac. To see the midsummer sunrise, the viewer stood in the center of the monument and looked out over the distant "heel stone." (Thousands of modern viewers come to Salisbury Plain every June to see the same sight). Other similar astronomic alignments were created by pairs of specially-placed stones and mounds not shown on this simplificd chart.


## OLD-FASHIONED PUZZLES

(For answers, see page 120)

## I

Conrad the Counterfeiter stood before the King of Ruritania for sentencing. Conrad's accuser, Alex Schleswig, Director of the Royal Mint, spread eleven genuine gold kronur before the King for comparison, then held out the evidence: one counterfeit krona.
"O, King," informed Schleswig. "This counterfeit was seized in Germany and forwarded with the report that it could not be distinguished from the genuine by size, color, or markings, but only by its slight difference in weight."
"Heary or light?" asked the King.
"The report does not state," replied Schleswig.

And Conrad, to the same question, honestly replied that he did not know.

The king took and examined the coin.
"A most cxcellent piece of Work," he commented to Conrad. "How menfortunate it is that by your choice of profession the Royal Mint has lost a master craftsman and that yon, now, must lose your head.,

He then returned the coin to Sehleswig, who phaced it, along with the other cleven, in, a hag. Necing this, the King's face turned as purple as his robes.
"Dumkopf!" he roared. "You have lost the evidence!"
"A thonsand pardons, o Klug!" pled the flustered schleswig. "lhut if the King will allow the loyal Balance to he hrought in, I sliall retrieve it."
"In how many balanclngs?" asked Conrad.
"In eleven at most," snapped Schleswig.
"It ,"could be done in four at most," scoffed Conrad.
"Find the counterfeit in four balancings," said the King to Conrad, "and you shall keep your head.

When the balance arrived, Conrad placed three of the twelre coins in the left pan. and three in the right. The left pan went down. Perceiving this. Conrad turned to the King.
"O, King," he said, "I shall require but two more balancings."
"He gambles!", cried Schleswig. "Or else he lied when he denied knowing whether the counterfeit was heary or light!"
"Enough !." said the King. He turned to Conrad. "If rou can do this, you are worthier of the Director's post than its incumbent. Reveal, then, rour system in adrance, and if it bears reason's scrutiny, the post is yours:

Conrad then revealed his system. and became Director of the Roval Mint. What was his system?

## II

A farmer used steel pipes $31 / 2$ inches in diameter to move heary machinery. How far did the machinery move when the pipes made one revolution?

## III

I have one room in my house which is too large, it is square. and I want to partition off from one corner of that room a square room, to contain one-fourth part of the large room. Then I want to divide the remaining threcfourths of the large room into four rooms, in such a manner that each of the four rooms will be of the same shape and of the same size. How shall I do it?

## IV

If seven podestrians start at the same time and point to travel around a circular plot of ground 125 feet in eircumference, and travel respectively, three, five, six, seven, nine, ten, eleren feet ber minute, at what time will they all be together at the point of starting?

$$
\begin{aligned}
& \text { V } \\
& \text { From six take nine, } \\
& \text { From nine take ten, } \\
& \text { From forty take fifty, } \\
& \text { And six will remain. }
\end{aligned}
$$

## CHARADES, REBUSES, CONUNDRUMS, ENIGMAS, etc.

(For answers, see page 120)


I am composed of 25 letters. My 12, 4, 1, 18, 20, is a word meaning empty.
Ny $11,3,22,9,12,13,10$ is a kind of monk.
My 2, $2 \mathrm{t}, \mathbf{1 7}, 5,19$ is a piece of money.
My $6,16,8,22$ is a division of time.
My 25, 3, 10, 25, 7 are sometimes bad.
My 17, 21, 5 are thought after dinner.
My $13,3,1 t$ is large.
My whole is an old saying.

## III

What bird is that whose name represents nothing, twice yourself and fifty?

## IV

My first in cities is well known, And by me many live,
Obtain their freedom in the town And then a vote can give; My second we can never see, Whether on the land or sea; My whole the sailor ofter braves, When he plows the briny waves.
WSOT - $x^{r}+4$

## VI

Why does a man in paving the streets correct the public morals?

## VII

Entire, I am a companion; beheaded, a verb: replace $m y$ head, curtail me, and $I$ am found in nearly every house; curtail again, I am a nickname; reversed, a verb.

## VIII

My 1-2-3 designates abbreviations of three states. The whole these states would be before the Revolution. See:

## IX

There is a word of five syllables -take away the first and no syllable will remain.

## X

I am found in a jail; $I$ belong to a fire;

And am seen in a gutter abounding in mire;

Put my last letter third, and then 'twill be found; I belong to a King, without changing my sound.

## XI

My first is irrational, my second is rational, my third is mechanical, and my whole is scientifical.

## XII

What word is that to which if you add a syllable, it will make it shorter?


## XIV

What is that which is lengthened by being cut at both ends.


## YOUR FACE

## IS YOUR FORTUNE

Printed for the Purchaser,
Brookfield, Mass. 1816

The man whose hair is rery black and smooth, hanging far orer his shoulders and in large quantity, is mild but resolute: cool, until greatly provoked: not much inclined to excess of any kind, but may be persuaded to it: constant in his attachments, faithful and affectionate to his family: not addicted to lewdness. though sensible of and submissive to the empire of love: he will be prosperous in his undertakings, and not liable to many misfortunes.

A woman of the same kind of hair is moderate in her desires of every kind, temperate in her diet, addicted to reflection: steady in her resolution and, though not subject to violence in love, is no enemy to its pleasures, and steady in her attachment : of a constitution neither rigorous nor ret feeble.

If the hair is very black, short and curling. the man will be given to liquor, somewhat quarrelsome, of an unsettled temper, more amorous, and less steady in his undertakings. though ardent at the beginning of an enterprize: he will be rery desirous of riches, but in general miss his aim, and be subject to much discontent.

The same may be said of a woman.
A man with dark brown, long, and smooth hair is generally of a robust constitution, obstinate in temper. eager in his pursiits. a lover of the other sex. fond of variety in his ordinary pursuits, exceedingly curious, and of a flexible disposition: in his ammsements very fickle; will not continue long attached to the same froman unless she takes extraordinary pains to mlease him: he will live long, unless guilty of early intemperance.

A woman of the same kind of hair, will be nearly the same as the man, but more steady in her conduct and attachments, especially in love: she will be of a good constitution, have many children, he much respected, enjoy good health, and a reasonable share of happiness.

If the hair is short and bushy, it will make rery little alteration in man or woman; but that man will be more forward to strike when angered, and the woman more of a scold.

A man with light brown. long. smooth hair is of a peaceable, eren. and rather generous temper: will pretent mischief if in his porrer, but when provoked will strike furionsly, is sorry for his passion, and soon appeased: strongly attached to women, and will protect them from any insult: money he will be desirous of having. more to do good than for the sake of hoarding: if he is guilty of infidelity to his wite, it will be very discreetly; upon the whole. he is in general an amiable character, affable and kind.

A woman of the same kind of hair is tender hearted. hut hasty in her temper: neither ohstinate nor hanghty, her inclinations to love never unrcasonable, her constitution will be good: but she will be seldom very fortunate.

It the hair is short, bushy, and apt to curl by nature, the man will be more industrious, and the woman more sedentary.

A man with fair hair will be of a weak constitution, his mind much given to reflection. especially on religious matters: he will be assiduous in his occupation lut hot given to rambling: rery moderate in his amorous wishes, and must take great pains to live to a middling age.

A woman of this colored hair is, on the contrary, of a good consti-
 love affairs; never easy unless when in compans. and delights in hearing herself praised, especially for beauty; delights in dancing. romping, and violent excreises, and commonly lives to a great are.

A man with long red hair is cunning, artful, and deceitful: he is
very much addicted to trathe of some kind, restless in his disposition, constantly roving, if he possibly can indulge himself in the desire; oftener desirous of the pleasures of love than capable of indulging himself in them; greedy of getting money, he will often spend it foolishly; in every thing he undertakes is indefatigable, no obstacle will induce him to forsake his enterprize until he has seen the issue of it: he is by nature rather inclined to timidity and dread of pain, but by reflection may correct it and pass for a man of courage.
A woman of the same kind of hair is glib of tongue, having words at will, talkative and vain; her temper is inpatient and fiery, and will not easily hear contradiction; she has a constant flow of spirits, and excessively given to the pleasures of love: however delicate her person may seem, her constitution is generally vigorous, but she seldom lives to old age; her promise is seldom to be depended upon, because the next object that engrosses her attention makes her forgetful of every thing that preceded it: she will give nothing withont a valuable consideration and, lastly, will resent any disappointment she mar meet with.
We will now proceed to give some few instructions concerning the hair in other particulars: first, with respect to baldness.
If the hair falls off at the fore part of the head. the person will be easily led, though otherwise rational, and will ofteu find himself duped when he thinks le is acting right: le will frequently meet with disappointments in money matters, which will either hurt his credit or force him to contract his expenses.
If the hair falls off behind, he will be obstinate, peevish, passionate. and fond of commanding, others, thourl he has no right, and will grow angry if his advice is not followed. however preposterons; he Will be fond of hearing and telling old stories and tales of ghosts and other incredible things; but will be a domestic man and provide for his family to the utmost.
If the hair forms an arch round the forehead. without being much indented at the temples, both man and woman will be innocent, credulous, peaceable, fond of good eating but without excess; moderate in all their desires, and though not ardent in their pursuits, will still be persevering; they will be mild, modest and good-natured, moderately prosperous, but not very long-lived.
If the hair is much indented at the temples, the person will be affable, steady, good-natured, a great breeder, prudent, and attentive to business, of a solid constitution, and likely to live long.
If the hair descends low upon the forehead, the person will be selfish and designing. of a surly disposition, unsociable, and given to drinking; he will be addicted to avarice, and will uot spend unless he expects to gain by it; his mind will be always iutent upon the means of carrying on his schemes; he will not live to be of a great age.

If the eyebrow is very hairy, and that hair long and curled, with several of the hairs starting out, the man or womau is of a gloomy disposition. litigious, and uarrelsome but rather cowardly; greedy after the affairs of this world, perpetually brooding over some melancholy subject, and not an agreeable companion; he will be diffident, penurions, and weak in his understanding.
If the eyebrow is thick and even. that ls , without any or few starting hairs, the man or woman will be of an agreeable temper, of a sound understanding, and tolerable wit.
If the eyelrow is smiall, thin of hair. and even, the man or woman will be weak-minded, timorous, superficial, and not to be depended on: he will be desirous of knowledge: but will not have patience and assiduity enough to give it the necessary attention.
If the eyebrow is thick of hair towards the nose, and goes off suddenly, very thin, ending in a point, the man or woman will be surly. captious, jealous, fretful, and easily provoked to rage: Whatever he undertakes he will pursue with violence until he meets with some great obstacle, and then he will abandon it entirely.
The eye that is large, tull, prominent, and clear. denotes a man or woman to be of an ingenious and candid disposition. roid of deceit. and of an even, agreeable and affable disposition; he will have several children, but more girls than boys, and will be careful in educating and providing for them.
The eye that is small, hut advanced in the head shews the man or woman to be of a quick wit, sound constitution, iively genius, agreeabhe in conversation, and it foed morals; lut inellied to jealousy, though never without some foundation.
The man or woman whose eyes are sunken is of a jealous, distrustful, malicious, and envions nature; deceitful and hypocritical in words Continued on page 106

## WEATHER FORECAST-1966-\%

Continued from page 19
rain $1^{\prime \prime}$. northeast storm; 2731 , clear.
rain, southeast storm 1.1"; 2931, clear.

Apr.: Temp. $46.8^{\circ}$ (normal $45.7^{\circ}$ ) 1'rec. 4" (normal 4.06"). Snow $4^{\prime \prime}$ (normal 8.6")
$1-5$, rain $1^{\prime \prime} ; 6-7$, clear; 8-12, rain $1^{\prime \prime} ; 13-16$, clear; 17-20, prec. $1^{\prime \prime}$, snow $4^{\prime \prime}$; 21-22, clear; 23-26, rain $1^{\prime \prime} ; 27-30$, clear.
May: Temp. $56.7^{\circ}$ (normal). Prec. $4.6^{\prime \prime}$ (normal 3.48").
1-2, rain . $6^{\prime \prime}: 3-4$. clear: $5-7$, rain $.5^{\prime \prime} ; 8$, clear $; 9-11$, rain $1^{\prime \prime}$; 12-15. clear; 16-17. unsettled: 18-20. clear; 21-24, heavy (1.5") rain: 25-27, clear; 28-30, rain 1"; 31, clear.

June: Temp. 67.9 (normal). Prec. $4.3^{\prime \prime}$ (normal 3.48")
$1-2$, clear: $3-5$, rain $1^{\prime \prime}: 6-7$, clear; $8-10$, rain $1^{\prime \prime} ; 11-12$, clear; 13-15., rain .7"; 16-19, clear; 20-22, warm rain $1^{\prime \prime}$ : 2328 , clear, hot; $29-30$, rain $.6^{\prime \prime}$
July: Temp. $71^{\circ}$ (normal $60.9^{\circ}$ ). Prec. $3.8^{\prime \prime}$ (normal 3.27").
$1-2$, clear; $3-4$, thunderstorms, $1^{\prime \prime}$ rain ; 5-7, hot ; 8-13, thanderstorms, rain $1^{\prime \prime}: 14-18$, hot: 19 22, rain $1^{\prime \prime} ; 23-26$, clear: 2- -29 , rain $.8^{\prime \prime}$; $30-31$, clear.

Aug.: Temp. $71^{\circ}$ (normal 69.4 ${ }^{\circ}$ ). Prec. t.1" (normal t.03").
1-2, clear: $3-6$, rain $1^{\prime \prime} ; 7-9$, clear; 10-12, rain $.5^{\prime \prime}: 13-14$. clear; 10-21, rain, southeast storm $1.5^{\prime \prime}$; 22-23, clear; 2t-2.

Sept.: Temp. $64^{\circ}$ (normal 62. $4^{\circ}$ ). Prec. $4^{\prime \prime}$ (normal 3.95").
1-5, heavy rain, 1.25": 6-8. clear: $9-11$, rain $.7{ }^{\prime \prime}: 12-13$. clear; 14 . rain $.25^{\prime \prime}: 15-20$. tropical (hurricane?) storm, $1^{\prime \prime}$ rain: 21-22, clear; 23-2t, rain (hirricane? ). $25^{\prime \prime}$ : $25-27$, clear; 28-30, rain . $\mathbf{5}^{\prime \prime}$

Oct.: Temp. $5^{\circ}{ }^{\circ}$ (normal $54.6^{\circ}$ ). Prec. 4.8" (normal 3.75"). 1. clear: $2-3$, rain $. \bar{b}^{\prime \prime}: \pm 10$. clear: $11-14$, rain $1^{\prime \prime}: 15-1 \%$, clear: $18-19$ rain $1.5^{\prime \prime}$. turns to snow: 20-20, clear; 23-25. rain $1^{\prime \prime}: 26-27$, clear; 28-31, rain.$^{\prime \prime}$.
Nor.: Temp. $43^{\circ}$ (normal $42^{\circ}$ ). Prec. 4. '" $^{\prime \prime}$ (normal 4.53"). Snow 6" (normal 2.16").

1. clear: 2-4. rain $1^{\prime \prime}$ : $\overline{5}-\overline{7}$, clear: S-11, prec. . $S^{\prime \prime}$. snow 2"; 12-14, clear: $15-1 \%$ rain $1^{\prime \prime \prime}: 1 \bar{\delta}-20$. clear: 21-2.2, rain $1^{\prime \prime}: ~ 23-25$. clear: 26-28, prec. $1^{\prime \prime}$. snow $4^{\prime \prime}$; 2)-30, clear.

Dec.: Temp, $33^{\circ}$ (normal $30^{\circ}$ ). Prec. $4^{\prime \prime \prime}$ (normal 3.6"). Snow $14^{\prime \prime}$ (normal 12.0").
$1-\because$ rain $1^{\prime \prime}: 3-4$. clear: ī6, prec. .25". snow 2" : $7-9$, clear: 10-11. prec. $\mathbf{5}^{\prime \prime}$, snow 2": 12-14. clear: $1 \overline{5}-18$, wrec. $1^{\prime \prime}$, snow $5^{\prime \prime}$; 19-23. clear: $2 t-28$. prec. $1^{\prime \prime}$. snow $6^{\prime \prime}: 20$ 20. clear; 31, prec. ここ", snow 2".

## MYSTERIOUS EVENT, 1817

The Rev. Artemms Shattuck, $2=$ in the Winter of 1817 , was chopping down a tree in his family lot 1200 yards from his home. As the tree fell, it caught his foot between stump and butt. Cnable to free himself (his axe being out of reach), or make himself heard, he ampntated his toot by means of his pocket knlfe, then crawled in the below zero temperature back to his honse. A surgeon. summoned from Batavia, New York, 15 miles distant, managed to save his life.
In the meanthme. Shattuck asked his brothers to go to the tree and bring back the amputated member. In the interests, perhaps, of piring a Chiristian burial to a shattuck foot, thes did as asked. When it was brought into the kitchen, he said.."The foot ls suffering wickedly from the cold : put it in warm water." To humor him, they did. The kitchen stove had kettles of water of various temperatures on it, and the one they used was scalding. Artemus was ln a room down the hall, out of sight of the kitchen, and he had no way of knowing whleh kettle was used. Nevertheless he screamed. "The water is too hot: pour in some cold!" He added that he would wiprle his toes when the water was cool enough. A certain amonnt of cold water was added. the toes whgled, and the pouring was stopped.

Mr. Shattuck turned his attention to study, and the following year went south, where be became a baptlst preacher. He decided that Moore County, North Carolina was too poverty stricken even for a minister and whet to jotu as uhter byot tref the had become a momer in Mississippi. He spent the rest of his life in the south. rounding out an otherwise uneventful career.
" A staid religious, paper of the day had reported the incident as

## PART THREE xiegional 1 forecasts

Thus far all the calculations in this Almanac have been for Boston. The following pages in this Part III will enable readers to adjust these calculations (see pages 91, $92,96,102,108$ ) and weather forecasts (pages 91, 93, 97, 103, and 109) for anywhere in the United States.

1. New England except Boston - see page 91.
2. Eastern States except New England - see pages 92, 93.
3. Midwestern States - see pages $96,97,98,99$.
4. Western and Mountain States - see pages $102,103,104,105$.
5. Southern States - see pages 108, 109, 110, 111.

## DIRECTIONS FOR USING REGIONAL FORECAST PAGES

Simple and easy directions for using the regional forecast pages which follow appear at the top of each of these pages. However, the following additional information which also applics to these pages should be carefully noted.

## Weather Forecasts

The OFA has long been known for its "accurate" weather forecasts. In previous editions these have been made for Boston and New England only, with the proviso these could be used elsewhere by considering the weather as forecast would arrive one day earlier for each Time Zone west of Boston. This year, however, on pages $91,93,97,103$, and 109 you will find separate weather forecasts for five different regions besides Boston. In reading these forecasts please remember it is impossible today to predict (successfully) the weather for more than a day or two in advance. Every known scientific source for naking these 18 -months-in-advance forecasts (we go to press in June) has been used. We suggest they will be more useful as weather trends than for the pinpointing of any particular day's weather.

## Sun Dials

The column headed "Sun Fast" (pages 24-46) is of primary use to sun dial enthusiasts. The figures therein tell how fast on each day the time indicated by a properly adjusted and graduated sun dial will be of the time indicated by a clock. On April 11 sun dial time in Boston will be $15 \mathrm{~min} .(+15)$ FAST of Eastern Standard Time (sce page 30). The time difference between clock and sun dial time in other cities (see pages $91,92,96,102,108$ ) will be found by subtracting the value of Key Letter I for that city from the Sun Fast time for Boston (given on pages 24-46). The value of Key Letter I for Pittsburgh (see page 92 ) is -35 min., so sun dial time in Pittsburgh on April 11 will be 20 min . ( +15 minus 35 ) SLOW of clock time.

## Length of Day

The "Length of Day" for Boston (pages 24-46) tells how long the sun will be above the horizon. It is found by subtracting the time of sunrise from that of sunset for each locality. For other cities, see pages $91,92,96,102,108$. For these, after you have determined sunrise and sunset times, subtract the one from the other and you have the length of day.

## Moonrise and Moonset

For greater accuracy, include the Constant Additional Correction below.


## Moon's Place and Age

The moon's place and age is contained on the left-hand Calendar Pages (24-46). This infornation applies without correction throughout the United States.

## Risings and Settings of the Planets

The times of rising and setting of naked-eye planets, with the exception of Mercury, are given for Boston on pages 48-19. To convert these times to those of other localities (pages 91, 92, 96, 102, 108), follow the same procedure as that given on those pages for finding the times of sunrise and sunset.

## Dawn and Dark

The approximate times dawn will break and dark descend are found by applying the length of twilight taken from the table below to the times of sunrise and sunset at any speeific place. The latitude of the place (see pages 91, 92, 96, 102, 108) determines the column of the table below from which the length of twilight is to be selected.


## DETERMINATION OF EARTHQUAKES

Note, in this Almanac, on risht hand pates, $\quad \underline{-}-47$, the dates when the moon $\left[\mathbb{C}_{\text {hugh }}^{\text {rug }}\right]$ or $\left[\mathbb{C}_{\text {low }}^{\text {rides }}\right]$. Segimuing with the date of the high is the most likely five day earthquake period in the northern hempshere, with the low in the southern hembplere. You will also find on these pages a moon on the Equator uotatlon [ $\mathbb{C}_{\mathrm{Eq} .0}^{\mathrm{on}}$ ]. twice each month. At this time, in both hemispleres, is a two-day quake
period.

## NODES OF THE MOON

These "moon runs hlgh" and "moon rldes low" srmbols are also useful as weather medictors. When lt rums high, look out for a cool spell or frost - when riding low, there ls often a mild spell; in summer, a heat wave.

Two vears ago. a prominent bonkeller offered for sale an almanack Whleh was said to have heen used hy George Washington at Monnt Yernon. Its calendar pages were cowered with "hieroglyphles" In our of the moon ageh month ing. These "hieroglyphies" marked the nodes were widely used as planting guldeston's time, the nodes of the mon

Table for Adjusting Sun, Moon, Planet Times on Pages 24-46, 48

## 1. NEW ENGLAND (EXCEPT BOSTON)

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in New England except Boston. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min . for that city. Example: Jan. 12, sunrise (p. 24) is $7: 12$ A.M. Key Letter N. Key Letter $N$ for Presque Isle (last col. below) shows +4 . So sunrise at Presque lsle will be 7:16 A. M. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 89 and 90.)

| it | State | Latitude, | $\begin{aligned} & \text { Time } \\ & \text { Used } \end{aligned}$ | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{m}{\mathrm{~A}-\mathrm{D}}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathrm{H}}$ | $\underset{\mathrm{m}}{\mathrm{I}}$ | $\underset{\mathrm{m}}{\mathrm{~J}-\mathbf{M}}$ | $\begin{gathered} \overline{\mathrm{N}-\mathrm{Q}} \\ \mathrm{~m} \end{gathered}$ |
| Bridgeport | Conn. | $41 \quad 10$ | EST | +13 | $+10$ | 19 +9 | + 7 | $+4$ |
| Hartford-New Britain. | Conn. | 4146 | EST | +9 | + 7 | + 7 | $+6$ | $+5$ |
| New Haven . . . . . . . . | Conn. | 4118 | EST | +11 | +9 | + 7 | $+6$ | + 4 |
| Norwalk-stamford | Conn. | 4103 | EST | +14 | +11 | $+10$ | + 8 | + 5 |
| Waterbury-Mcriden | Conn. | 4133 | EST | +10 | $\begin{array}{r} \\ +8 \\ \hline\end{array}$ | $+7$ | +6 | +4 $+\quad 2$ |
| Augusta.... . . . . . . | Maine | 4419 | EST | -12 | - 7 | $-5$ | - 3 | +2 |
| Bangor . | Maine | 4448 | EST | $-18$ | $-12$ | - 6 | -6 | 0 |
| Eastport | Maine | 4456 | EST | $-26$ | -19 | $-16$ | $-13$ | 7 |
| Elisworth | Maine | 4430 | EST | -19 | $-13$ | -16 | - 13 | - 2 |
| Portland | Maine | $43 \quad 39$ | EST | - 8 | - 5 | - 3 | - 2 | + 2 |
| Presque İsi | Maine | $46 \quad 40$ | EST | $-29$ | $-17$ | $-13$ | - 7 | + 4 |
| Brockton.. | Mass. | 4205 | EST | + 1 | 0 | 0 | - 1 | $-1$ |
| Fail River-N. Bediord. | Mass. | 4142 | EST | +3 | + 1 | 0 | 0 | - 2 |
| Lawrence-Lowell. . . | Mass. | $42 \quad 42$ | EST | - 1 | 0 | +1 | +1 | + 2 |
| Pittsfield. | Mass. | $42 \quad 27$ | EST | + 8 | +9 | +9 | +9 | +9 |
| Springfield-Holyokc. | Mass. | 4206 | EST | + 7 | + 6 + | +6 | + 6 | $+5$ |
| Worcester . . . . . . . . | Mass. | $42 \quad 16$ | EST | + 3 | +3 | +3 | +3 | +3 |
| Berin. | N. H. | 4358 | EST | -8 | - 3 | 0 | +2 | +8 |
| Keene | N. H. | 4250 | EST | $+5$ | +6 | + 7 | +8 | +9 |
| Manchester-Concord. | N. H. | 4259 | EST | - 1 | + 1 | +2 | +3 | + 4 |
| Portsmouth. | N. H. | 4310 | EsT | $-4$ | - 2 | - 1 | - | +1 |
| Providence. | R. I. | 4150 | EST | $+3$ | +3 | +1 | $+1$ | 0 |
| Brattleboro | Vt. | 4250 | EsT | $+3$ | + 5 | 0 | +1 | + 5 |
| Burlington | Vt . | 4428 | EST | +1 | +6 | +9 | $+11$ | $+17$ |
| Rutland. | Vt. | $43 \quad 35$ | EST | + 3 | +6 | +8 | +9 | +12 |
| St. Johnsbury | Vt. | 4425 | EST | - 4 | +11 | + 4 | +6 | +12 |

# WEATHER FORECAST -MAINE, NEW HAMPSHIRE, VERMONT 

## (For Nov.-Dec. 1966 and Jan.-Dec. 196\%)

## Verification Base: U.S.W.B. Station, Burlington, Vermont

New England experiences a different climate in its northern states than in its southern states. The approximate dates of the storms for Boston (sec page 19) will he the same dates these storms reach northern New England and southern New England. The plus $(+)$ listings below indicate. on the dates shown, storms which will carry more snow in the north than in Boston.

Nov. $(1966): 10-13$, snow $\left(+1^{\prime \prime}\right) ; 20,23$, rain on coast, snow in mountains $\left(+4^{\prime \prime}\right)$. Dec.: $2-\overline{5}$, snow $\left(+4^{\prime \prime}\right) ; 8^{\prime}-10$, sleet. snow $\left(+2^{\prime \prime}\right) ; 13-15$,


Feb. (1967): 11-14, snow ( $+3^{\prime \prime}$ ). Mar.: $1-2$, snow $\left(+2^{\prime \prime}\right): 16-19$, snow $\left(+2^{\prime \prime}\right): 23-25$, snow $\left(+1^{\prime \prime}\right)$. Apr.: 1-6, snow $\left(+2^{\prime \prime}\right) ; 9-13$, snow $\left(+2^{\prime \prime}\right)$; 18-21, snow ( $+2^{\prime \prime}$ ).

At most northern resorts snowfall should be close to $123^{\prime \prime}$ - or $34^{\prime \prime}$ more than that of Boston.

## CONNECTICUT, RHODE ISLAND, CAPE COD

Verification Base: U.S.W.B. Station, Providence, K . I .
As above. only the chief differences are given for the Winter months, between the Boston forecast (page 19) and this area.

Nov. (1966): 11-13, all rain; 19-23, all rain. Dec.: 3-5, all rain; $0-11$, rain and fog; 14-15, rain; 17-19, sleet; $25-27$, snow ( $6^{\prime \prime}$ ).

Jan. (1967) : 3-4, rain; 8-10. sleet, snow (3") ; 15-18, rain, then snow ( $6^{\prime \prime}$ ) : $23-24$, snow ( $\left.2^{\prime \prime}\right) ; 27-29$, snow ( $5^{\prime \prime}$ ). Feb. : $2-5$, snow ( $2^{\prime \prime}$ ) $: 11-14$, an rain; 17-19, rain ; $24-26$, snow ( $4^{\prime \prime}$ ), changes to rain. Nar.: 1-2, snow $\left(2^{\prime \prime}\right)$; $9-11$, rain; $17-18$, snow $\left(2^{\prime \prime}\right): 23-26$, rain. Apr.: No snow. ton's $89^{\prime \prime}$ and the north country's $123^{\prime \prime}$.

## 2. EASTERN STATES (EXCEPT NEW ENGLAND)

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Eastern States, except New England. Note the Kiey Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min . for that city. Example: Jan. 12, sunrise (p. 24) is 7:12 A.M., Key Letter N. Key Letter N for New York City (last col. below) shows +6 . So sunrise New York City would be $7: 18 \mathrm{~A}$. M. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 89 and 90. .)

| City | State | Lat1tude, |  | Time | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{\mathrm{m}}{\mathrm{~A}-\mathrm{D}}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathrm{H}}$ | $\underset{\mathrm{m}}{\mathrm{I}}$ | $\begin{gathered} \mathrm{J}-\mathrm{M} \\ \mathrm{~m} \end{gathered}$ | $\begin{gathered} \mathrm{N}-\mathrm{Q} \\ \mathrm{~m} \end{gathered}$ |
| Wilmington | Del. | 39 | 45 |  | EST | +27 | +21 | +18 | +15 | +9 |
| Washington | D. C. | 38 | 54 | EST | $+35$ | +28 | +24 | +20 | $+12$ |
| Baltimore. | Md. | 39 | 17 | EST | +32 | +26 | $+22$ | +19 | $+12$ |
| Hagerstown | Md. |  | 40 | EST | +36 | $+30$ | +27 | +24 | +17 |
| Salisbury | Md. | 38 | 25 | EST | +31 | $+22$ | +18 | +14 | + 5 |
| Albany | $\mathrm{N} . \mathrm{Y}$ | 42 | 39 | EST | +10 | $+10$ | +11 | +11 | +12 |
| Blngham | $\mathrm{N} . \mathrm{Y}$. | 42 | 06 | EST | +20 | +20 | +19 | +19 | +18 |
| Buffalo. | N. Y. | 43 | 00 | EST | +26 | +29 | +31 | +33 | +37 |
| New York | $\mathrm{N} . \mathrm{Y}$. | 40 | 45 | EST | +17 | +13 | +12 | $+10$ | + 6 |
| Ogdensburg | $\mathrm{N} . \mathrm{Y}$. | 44 | 45 | EST | +88 | $+15$ | $+18$ | +21 | $+27$ |
| Syracuse. | N. Y. | 43 | 03 | EST | +18 | +20 | +20 | +21 | +23 |
| Atlantic City | N. J. | 39 | 22 | EST | +24 | +17 | +13 | +10 | +3 |
| Camden.. | N. J. | 39 | 57 | EST | +24 | +19 | $+16$ | +13 | + 8 |
| Cape May | N. J. | 39 | 05 | EST | +27 | +19 | $+15$ | +12 | + 4 |
| Ncwark-Irvington- |  |  |  |  |  |  |  |  |  |
| E. Orange | N. J. | 40 | 44 | EST | +15 | +14 | +12 | +11 | $+7$ |
| Paterson. | N. J. | 40 | 55 | EST | +17 | +14 | +12 | +11 | $+7$ |
| Trenton. | N. J. | 40 | 13 | EST | +21 | $+17$ | +15 | +12 | + 7 |
| Allentown-Bethlehem. | Pa. | 40 | 36 | EST | $+23$ | +19 | $+17$ | +15 | +11 |
| Erie. | Pa. | 42 | 07 | EST | $+37$ | $+36$ | $+36$ | +36 | +35 |
| Harrisburg | Pa. | 40 | 16 | EST | $+30$ | +26 | +23 | +21 | +16 |
| Lancaster. | Pa. | 40 | 02 | EST | +29 | +24 | +21 | +18 | +13 |
| Philadel phia-Chester.. | Pa. | 39 | 57 | EST | +25 | +20 | +17 | +14 |  |
| Pittsburgh- McKeesport |  |  |  |  |  |  |  |  |  |
| McKeesport | Pa. | 40 | 26 | EST | +42 | $+38$ | +35 | +33 | +29 |
| Reading. | Pa . | 40 | 20 | EST | +26 | $+22$ | +19 | $+17$ | $+12$ |
| Scranton-Wilkes Barre | Pa . | 41 | 25 | EST | +23 | +20 | +19 | +18 | +15 |
| York. | Pa . | 39 | 58 | EST | +31 | +25 | +23 | $+20$ | +14 |
| Charlottesville | Va. | 38 | 02 | EST | $+43$ | +34 | $+30$ | +25 | $+16$ |
| Danville | Va. | 36 | 31 | EsT | + +9 | +38 | +32 | +26 | +15 |
| Norfolk. | Va. | 36 | 51 | EST | $+37$ | $+27$ | +21 | +15 | + 5 |
| Richmond | Va. | 37 | 32 | EST | +40 | +31 | $+25$ | +20 | +11 |
| Roanoke. | Va. | 37 | 16 | EST | +51 | +41 | +35 | +30 | +20 |
| Wlnchester | Va. | 39 | 13 | EsT | +38 | $+32$ | +28 | +25 | +19 |
| Charleston | W. Va. | 38 | 21 | EsT | +54 | +46 | +42 | +35 | +30 |
| Parkersburg | W. Va. | 39 | 21 | EST | +52 | +45 | +42 | +38 | +32 |

## THE DROUGHT

As this amanac goes to press (June 1, 1966), New Tork's Mayor Lindsay has lifted most of the restrictions on the use of water. This wonld be, at long last, official confirmathon that the dronght in that area (Eastern Pennsywania, New York State, ete.) is over. For some months now we have been amused by the hue and ery. including those of the New York Times' editors, abont how there wasn't going to be any "rnnoff" this Spring, abont probable deticiency of $1: 66$ rainfall. about a few mblions for a Hudson River pumping station (built but never used -as in 1996) and now about a great Federai Raimmaking Project this smmmer in the area cabout all that will go down that drain will he taxpasers mones).

Now all these people laughei at us when, as long ago as November 196\%, we anmounced this dronght was over. (This conchasion came from the OFA forecast made $n \mathrm{H}$ h June of " 6 in . We don't feel Old the descrves too much credit in thls as any schoolboy with the records hack to 1870 in hand would see that droughts around here just don't last that long. What we do feel is that intelligent (which they are) weather buran otheials, state and cely department heads, politiclans, and editors are too prone to get on any handwagon that jnst might bring in higher appropriations. We sitand aghast. astounded, and shocked that these individuals will now allow rahmaking mhlions for an area in wheh the ralns obvionsly are normally making an appearance. by forcing these ralns (if indeed the rainmakers can). many farmers, vacationists, fruitgrowers may be hurt by their own tax money. It Arizona can mump water all the way from seattle or Alaska, New York and Pemssivania can pipe it from the Great Lakes ther io underground where, the U. S. Geological surver tells ins, there is more water than this or any future generation will ever use.

# WEATHER FORECAST - EASTERN STATES, EXCEPT NEW ENGLAND 

(For Nov.-Dec. 1966 and Jan.-Dec. 1967)

This forecast is based, for verification purposes, at the U.S.W.B. Station at Pittsburgh, Pennsylvania. It is designed to serve the fol lowing states: Delaware, District of Columbia, Maryland, New York, New Jersey, Pennsylvania, Virginia, and West Virginia. The precipitation quantities given are all normal for Pittsburgh, as 1967 would seem to be normal year. Those living in other localitics should adjust the quantities of rain or snow to what is normal for where they live - but these forecasts should be useful in all the states listed for the days on which to expect storms, or to expect it to clear.

The Winter montlis (Nov., Dec. 1966, Jan., Feb., Mar., Apr. 1967) will resemble, as closely as they ever will, a real "Old-fashioned Winter."

## MONTH BY MONTH

Nov. (1966): 1-3, clear; 4-5, rain $1^{\prime \prime}$; $6-9$, clear; $10-12$, rain $1^{\prime \prime}$; 13-18, clear; 19-22, unsettled; $23-24$, clear; 25-29, rain $1^{\prime \prime} ; 30$, clear.

Dec. (1066): 1, clear; 2-4, rain $.5^{\prime \prime} ; 5-7$, clear; 8-10, rain . $5^{\prime \prime}$; 11-12, clear; 13-14, rain . $5^{\prime \prime}$; 15, clear; 16-18, snow 6"; 19-24, clear; 25-27, snow $10^{\prime \prime} ; 28-31$, clear.

Jan. (1967): 1, clear; 2-3, rain .5"; 4-6, clear; 7-9, rain . $5^{\prime \prime} ; 10-$ 13, clear; 14-16, snow $5^{\prime \prime} ; 17-21$, real cold ; 22-23, snow $6^{\prime \prime}$; 24-25, clear; 26-28, snow $8^{\prime \prime}$; 29-31, clear.

Feb.: 1-3, snow 10"; 4-9, clear; 10-14, snow $10^{\prime \prime}$; $15-16$, clear; 17-18, snow $6^{\prime \prime}$; 19-22, clear; 23-25, snow $10^{\prime \prime}$; 26-28, clear.

Mar.: 1-4, rain .5"; 5-7, clear ; 811, rain $1^{\prime \prime}$ or snow; 12-15, clear; $16-20$, rain $.5^{\prime \prime} ; ~ 21-22$, clear; 23-26, heavy rain 1.5"; 27-29, clear ; 30-31, rain . $25^{\prime \prime}$.
Apr.: 1-4, rain .75"; 5-6, clear; $7-11$, rain $1^{\prime \prime}$; 12-15, clear; 1618, rain $1^{\prime \prime} ; 19-20$, clear; 21-25, rain . $5^{\prime \prime}$; 26-28, clear; 29-30, rain . $1^{\prime \prime}$.
May: 1, rain $15^{\prime \prime} ; 2-3$, clear; 4-6, rain . $5^{\prime \prime}$; 7, clear; 8-10, rain $1^{\prime \prime}$; 11-13, clear; 14-17, rain . $25^{\prime \prime}$; 18-20, clear; 21-24, heavy rain $1^{\prime \prime}$; 25 , clear; $26-30$, rain $1^{\prime \prime}$; 31, clear.

June: 1, clear; 2-4, rain .75"; 5-6, clear; 7-9, rain . $75^{\prime \prime}$; 1011, clear; 12-14, rain . $75^{\prime \prime}$; 1517, clear; 18-22, rain .75"; 2328, clear; 29-30, rain .25".

July: 1, clear; 2-3, rain .5"; 4-6, hot; 7 -12, rain .75"; 13-17, lot; 18-20, rain .5"; 21-25, clear; 2628, rain . $25^{\prime \prime}$; 29-31, clear.
Aug.: 1, clear ; 2-5, rain .5" ; 6-8, clear; 9-11, rain . $5^{\prime \prime}$; 12-13, clear; 14-18, rain $1^{\prime \prime}$; 19-21, clear; 22-27, rain . $5^{\prime \prime}$; 28-31, clear.
Sept.: 1-4, rain $1^{\prime \prime} ; 5-7$, clear; 810, rain . 5 "; 11-12, clear; 13, rain $.25^{\prime \prime}$; 14, clear; 15-19, rain $.5^{\prime \prime} ; 20-21$, clear ; 22-23, rain . $4^{\prime \prime}$; 24-26, clear; $27-29$, rain $.35^{\prime \prime}$; 30, clear.
Oct.: 1-2, rain . $5^{\prime \prime}$; 3-9, clear; 10-13, rain $.75^{\prime \prime} ; 14-16$, clear; 17-19, rain $1^{\prime \prime}$; 20-21, clear; 2224, rain $.5^{\prime \prime}$ changing to snow; 25-26, clear; 27-31, rain $.25^{\prime \prime}$.

Nov.: 1-3, rain .75"; 4-6, clear; 7-10, rain .5"; 11-14, clear; 1517, rain . $5^{\prime \prime}$; 18-19, clear; 20-21, rain . $25^{\prime \prime}$; 22-24, clear; 25-27, snow or rain $1^{\prime \prime}$; 28-29, clear; 30 , rain $.25^{\prime \prime}$.
Dec.: 1-2, rain .25"; 3, clear; 4-5, rain . $5^{\prime \prime}$; 6-7, clear; 8-10, rain . $5^{\prime \prime}$ turns to snow; 11-13, clear; 14-17, rain $.5^{\prime \prime}$ or snow $6^{\prime \prime}$; 1822, clear; 23-27, snow 6", some rain; 28-29, clear; 30-31, sleet $.25^{\prime \prime}$.


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## 3. MIDWESTERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for cities in the Midwest. Note the Key Letter for any given day (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for accuracy of within 5 min . for that city. Example: Jan. 12, sunrise (p.24) is 7:12 A.M., Key Letter N. Key Letter N for Chicago (last col. below) shows +4 . So sunrise at Chicago will be 7:16 A.M., CST. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 89 and 90.)

| Clty | State | Latitude, |  | $\begin{aligned} & \text { Time } \\ & \text { Used } \end{aligned}$ | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{m}{A-D}$ | $\underset{\mathrm{E}}{\mathrm{E}-\mathrm{H}}$ | $\mathrm{l}$ | $\underset{\mathrm{m}}{\mathrm{~J}-\mathrm{M}}$ | $\underset{\mathrm{N}-\mathrm{Q}}{ }$ |
| Calro | III. | 37 | 05 |  | CsT | +30 | +18 | +12 | $+7$ | - 5 |
| Chicago-Oak Park | lil. | 41 | 52 | CsT | $+7$ | + 6 | $+5$ | $+5$ | + 4 |
| Danvilie. | lil. | 40 | 07 | CST | +13 | +8 | + 5 | + <br> + | $-2$ |
| Decatur. | 111. | 39 | 51 38 | CST | +20 | +14 | $+12$ | +9 | + |
| E. St. Lo Peoria. | lii. | 38 40 | 38 <br> 42 | CST | +29 +20 | +21 +16 | +17 +14 | +12 +12 | $\pm$ |
| Rockford | III. | 42 | 17 | CST | +12 | +12 | +12 | +12 | +12 |
| Springfieid | Ili. | 39 | 48 | CST | +23 | +17 | +14 | +12 |  |
| Fort Way | lnd. | 41 | 04 | EST | +61 | +58 | +56 | +55 | +52 |
| Gary | Ind. | 41 | 36 | CST | + 7 | +6 | $+5$ | + 4 |  |
| Indianapoli | lnd. | 39 | 46 | EST | +69 | -63 | $+60$ | $+57$ | +52 |
| Muncle. | Ind. | 40 | 11 | EST | +65 | +60 | $+57$ | +55 | +50 |
| South Bend | lnd. | 41 | 41 | CST | + + +1 | +2 | +1 | 0 | - 2 |
| Terre Haute | Ind. | 39 | 28 | CST | +15 | +88 | + 5 | + 2 | - 5 |
| Council Biuff | Iowa | 41 | 16 | CST | + 43 | +40 | $+39$ | $+35$ | +35 |
| Davenport | Iowa | 41 | 31 | CST | +21 | +19 | +18 | +17 | +15 |
| Des Moines | Iowa | 41 | 35 | CST | $+33$ | +31 | $+30$ | +29 | +27 |
| Dubuque | Iowa | 42 | 30 | CST | +18 | +18 | +18 | +19 | +19 |
| Sloux City | lowa | 42 | 30 | CST | +41 | +41 | +41 | +41 | +42 |
| Waterioo | Iowa | 42 | 29 | CST | +25 | +25 | $+25$ | +25 | +26 |
| Fort Scot | Kans. | 37 | 55 | CST | +49 | $+39$ | +34 | +30 | $+20$ |
| Liberal | Kans. | 37 | 03 | CST | $+77$ | $+65$ | +60 | +54 | +42 |
| Oakley | Kans. | 39 | 07 | M1ST | +10 | +3 | - 1 | -4 | -12 |
| Salina | Kans. | 38 | 53 | CST | +58 | +50 | +46 | $+42$ | +34 |
| Topeka | Kans. | 39 | 03 | CST | +49 | +42 | +35 | $+35$ | +27 |
| Wichita. | Kans. | 37 | 42 | CST | $+60$ | +50 | +45 | + 40 | +30 |
| Cheboygan | Mich. | 45 | 40 | EST | +41 | +50 | +54 | +57 | +66 |
| Detroit-De | Mich. | 42 | 20 | EST | +48 | +48 | +48 | +48 | +48 |
| Flint... | Mich. | 43 | 01 | EST | +48 | $+50$ | +51 | +51 | $+53$ |
| Crand Rapi | Mich. | 42 | 58 | EST | +56 | +5s | +55 | +59 | +61 |
| Ironwood | Mich. | 46 | 40 | CST |  | +11 | +16 | +21 | +32 |
| Jackson.. | Mich. | 42 | 15 | EST | +54 | +53 | +53 | $+53$ | +53 |
| Kalamazoo | Mich. | 42 | 17 | EST | +58 | +58 | +58 | -58 | $+58$ |
| Lansing | Mich. | 42 | 44 | EST | +53 | $+54$ | +54 | +54 | +55 |
| Pontiac. | Mich. | 42 | 40 | EST | +48 | $+49$ | +49 | +49 | +50 |
| Traverse C | Mich. | 44 | 50 | EST | +49 | $+55$ | +58 | $+61$ | +67 |
| Aibert Lea | Minn. | 43 | 40 | CST | +25 | +28 | +29 | +31 | +34 |
| Bemidji | Mlinn. | 47 | 30 | CsT | +15 | +29 | +35 | +42 |  |
| Duiuth.. | Mlinn. | 46 | 47 | CST | + 7 | +19 | +24 | $+30$ | +42 |
| Mllnneapoils-St. Paul. | Minn. | 44 | 57 | CST | +19 | +26 | +29 | +32 | $+39$ |
| Ortonvilile. | Minn. | 45 | 20 | CST | $+30$ | +38 | +41 | +45 |  |
| Jefferson City | M10. | 38 | 32 | CST | $+37$ | +29 | +25 | $+20$ | +12 |
| Jopinn.. ${ }_{\text {Jansas }}$ | Mo. | 37 | 04 | CST | +51 | $+39$ | +34 | +28 | $+17$ |
| Poplar Biu | Mo. Mo. | 39 | 05 | CST | +45 | +3s | +34 | $+30$ | +23 |
| St. Joseph | Mo. | 39 | $+6$ | CST | +35 +4 | +23 +35 | +17 +35 | +11 +32 | - ${ }_{-} 1$ |
| st. Louls. | Mo. | 38 | 38 | CST | + +4 | +83 | +17 | +32 |  |
| Springflel | Mo. | 37 | 13 | Cst | +46 | +34 | +29 | +23 | +12 |
| Chadron | Nel. | 42 | 50 | CST | +66 | $+67$ | +6S | +68 | +70 |
| Grand Isia | Nel. | 40 | 52 | CsT | $+54$ | $+51$ | +49 | +48 |  |
| Lincoln. | Neb. | 40 | 49 | CsT | +48 | +44 | +43 | +41 | +34 +37 |
| Norfolk | N ${ }^{\text {cheb }}$ | 42 | 01 | CsT | +47 | +46 | +45 | $+45$ | +44 |
| North Pl | Neb. | 41 | 10 | CsT | +63 | +60 | +59 | +57 | +55 |
| Omaina Sldney | Nel. | 41 | 16 | CST | +43 | +41 | +40 | +38 | +36 |
| Sldiney. | Neb. | 41 46 | +88 | CST | +72 +42 | +69 | +67 | +66 | +63 |
| Fargo. | N. | 4 | ${ }_{5}^{48}$ | CsT | +42 | +5.3 | +59 | +64 | $+77$ |
| Grand $\mathbf{F}$ | N. 1. | 47 | 56 | CST | +22 | +37 | +43 | +49 +51 |  |
| Alinot. | N. 13. | 48 | 15 | CST | +37 | +54 | +61 | +68 +68 | +85 |
| Willist on | N. 1. | 48 | 10 | CsT | $+47$ | +6:3 | +70 | +78 | +94 |
| Akron. | Onio | 41 | 05 | EST | +46 | +43 | +42 | +40 | +37 |
|  | Onio | 40 | 48 | EST | +47 | +43 +57 | +41 | +39 | +36 |
| Cleveland-Lakewood. . | Ohio | 41 | 10 30 | EST | +64 +46 | +57 +43 +4 | +54 | +50 | +43 +40 |
| Columbus | Ohio | 39 | 58 | ESTT | +56 | +50 | + +48 |  | +40 |
| Dayton-Springined | Ohio | 39 | 46 | EST | +58 | +55 | + +58 | +45 +49 | +43 +43 |
| Lima. | Ohio | 40 | 45 | EST | +58 | +54 | +52 | +50 | +47 |
| Toledo | Onio | 41 | 39 | EST | +52 | +51 | +50 | +49 | +47 +47 |
| Youngstown | Olito | 41 | 06 | EST | +43 | +40 | +3s | +37 | +34 |
| A berdeen. | S. D. | 45 | 30 | CsT | $+35$ | $+46$ | +50 | +54 | +62 |

## MIDWESTERN STATES (Continued)

| City | State | $\begin{aligned} & \text { Lati- } \\ & \text { tude } \end{aligned}$ | Time | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | A-D | ${ }_{\text {m }}^{\text {E-H }}$ | m | ${ }_{\text {j-M }}^{\text {m }}$ | $\mathrm{m}_{\mathrm{N}-\mathrm{O}}$ |
| $\overline{\substack{\text { Murdo } \\ \text { Pierre }}}$ | S. D. | ${ }_{44}^{43}{ }^{53}$ | ${ }_{\text {CST }}$ | +53 | ${ }_{+55}^{57}$ | ${ }^{+59}$ | ${ }_{\text {+ }}^{+60}$ | ${ }^{+65}$ |
| Pierre. ${ }_{\text {Reid }}$ | s. D. | -44 <br> 44 <br> 05 <br> 15 <br> 15 | ${ }_{\text {cst }}^{\text {CST }}$ | +62 | ${ }_{+67}^{+63}$ | ${ }_{-69}{ }^{-69}$ |  | +75 |
| Sioux Falls. Eau Claire: | S. ${ }_{\text {Stis. }}$ | [43 $\begin{aligned} & 43 \\ & 44 \\ & 4 \\ & 51\end{aligned}$ | ${ }_{\text {CST }}^{\text {CST }}$ | ${ }_{+13}^{+38}$ | ${ }_{-19}^{+41}$ | ${ }_{-22}^{43}$ | - -14 | ${ }_{+31}^{47}$ |
| Green Bay. | Wis. | 44 40 43 40 | ${ }_{\text {CST }}$ | -15 | + ${ }^{5}$ | ${ }^{+8}$ | -10 | +16 |
| Lacrosse. Madison. | Wis. | 43 <br> 43 <br> 43 <br> 04 | ${ }_{\text {CST }}^{\text {CST }}$ | -15 +11 | -19 +12 | ${ }_{+13}^{+1}$ | -14 | +16 |
| Milwauk | Wis. |  | $\mathrm{CST}_{\text {CST }}$ |  |  | $\pm 7$ | -88 | +10 |
| Oshkosh | Wis. | -44 46 | ${ }_{\text {CST }}$ | + 5 | ${ }^{-12}$ | ${ }^{+15}$ | ${ }^{18}$ |  |
| Montrea | Que. Que. |  |  |  |  |  | + 8 | +20 |
| Toronto | Ont. | 4345 | EST | +29 | +31 | +33 | 6 | +38 |

## WEATHER FORECAST - MIDWESTERN STATES

## (For Nov.-Dec. 1966 and Jan.-Dec. 196\%)

This forecast is based on the U.S.W.B. Station in Chicago, Illinois. It is designed to serve the following states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; also Montreal, Quebec, and Toronto. It is obvious that weather in the Dakotas will be more extreme than that along the Great Lakes. However, all of these states should fall into the storm tracks which originate near Saskatchewan and come down across the plains - sometimes on more southerly courses than at other times. For this reason, the days of storm beginnings and endings should serve well for all - even though the actual quantities of rain and snow may differ from state to state.

For reasons of space, only the storm dates are giren. and dates in between should be assumed as "clear." The Winter of 1966 (Nov.Dec.) and (Jan.-Apr.) 1967 will be one of heavy snow, blizzards, and slightly warmer than the same period a year ago. On the whole, the precipitation given is the normal, as this is expected to be a normal year.

## MONTH BY MONTH

Nov. (1966): $2-4$, rain $1^{\prime \prime} 8-10$, rain $1^{\prime \prime} ; 18-20$, snow flurries; $25-28$, rain $.5^{\prime \prime}$.
Dec. (1966): $1-3$, rain $1^{\prime \prime}$; 8-9, rain . $5^{\prime \prime}$; $10-13$, unsettled; 1517, snow $6^{\prime \prime} ; 24-26$, snow $6^{\prime \prime} ; 30-$ 31 , sleet $.5^{\prime \prime}$.
Jan. (1967) : 5-8, rain . $5^{\prime \prime}$, warm; 9, cold; 12-14, snow $5^{\prime \prime}$; 18-20, rain $1^{\prime \prime}$ or snow; 25-27, snow $6^{\prime \prime} ; 31$, rain $1^{\prime \prime}$.
Feb.: 1-3, rain $.75^{\prime \prime}$ or snow; 913, rain .75" or snow; 16-18, rain .75"; 22-25, snow $10^{\prime \prime}$, prec. .75" $; 28$, raiu $.75^{\prime \prime}$.
Mar.: $1-4$, rain $.25^{\prime \prime} ; 7-9$, rain $.5^{\prime \prime}$ or snow; 13-16, blizzard, prec. $5^{\prime \prime} ; 20-24$, rain $.75^{\prime \prime} ; 25-31$, thunderstorms and tornadoes, prec. . $5^{\prime \prime}$.
Apr.: 1-4, rain 1" : 5-8. tornadoes, thunderstorms, $1^{\prime \prime}$ rain; 15-18, rain $.75^{\prime \prime} ; 21-23$, rain $.25^{\prime \prime}$; 24 30 , unsettled, with occ. tornadoes or thunderstorms, prec. $.5^{\prime \prime}$.

May: 3-6, thunderstorms, rain $1^{\prime \prime} ; 8-10$, rain $1^{\prime \prime} ; 15-16$, rain $1^{\prime \prime}$; 21-23, rain $1^{\prime \prime}$; $26-29$, rain $1^{\prime \prime}$.
June: $1-3$, rain $.75^{\prime \prime} ; 7-9$, rain, $.75^{\prime \prime} ; 13-15$, rain .75 ${ }^{\prime \prime}$; 19-21, deluge $.75^{\prime \prime} ; 26-27$, rain $.25^{\prime \prime} ; 29-30$, hot.
July: 1-2, rain, hail, floods $1^{\prime \prime}$; $6-10$, rain $1^{\prime \prime}$; 17-21, rain $.75^{\prime \prime}$; 24-25, rain .25".
Aug.: 1-4, rain .25" 9-11, rain .25 "; 14-18, rain $1^{\prime \prime}$; 22-27, rain . ${ }^{\prime \prime}$.
Sept.: 1-3, rain $.5^{\prime \prime} ; 7-9$, rain $.5^{\prime \prime}$; 12 , rain . $25^{\prime \prime}$; $14-18$, rain $.75^{\prime \prime}$; 20, rain $4^{\prime \prime} ; 26-29$, rain . $6^{\prime \prime}$.
Oct.: 1, rain . $5^{\prime \prime}$; 9-12, rain $1^{\prime \prime}$; $16-18$, rain $1^{\prime \prime}$; 21-23, rain $1^{\prime \prime}$; $26-28$, rain.$^{\prime \prime}$.
Nov.: $1-2$, rain $.5^{\prime \prime} ; 6-8$, rain $.5^{\prime \prime}$; $11-14$, rain $1^{\prime \prime}$; 19-20, rain . $5^{\prime \prime}$; 24-26, rain $.0^{\prime \prime}$, some snow too; 29-30, rain . $25^{\prime \prime}$.
Dec.: 1, rain $.25^{\prime \prime} ; 4-5$, rain . $5^{\prime \prime}$; 8-10, rain $.5^{\prime \prime}$ turns to snow; 13-16, rain . $5^{\prime \prime}$; (or snow $6^{\prime \prime}$ ); 22-25, snow 4"; 29-31, sleet .25".


Burning of Chicago, October 8 and 9, 1871

## THE GREAT CHICAGO FIRE

## "Blackened and bleeding. panting, prone

On the eharred fragments of her shattered throne,
Lies she who stood, bnt yesterdas. alone." - Bret Harte
On Sunday and Monday, October $S$ and $9,18 \overline{1}$, there ocenrred in Chicago a fire nnparalleled in the history of the world. The fire originated in a small frame structure in the rear of No. 137 DeKoren Street, nsed as a cow-stable. It was discovered at about lialf-past nine o'eloek in the evening. by a policeman, when it was very small, and who, hoping to extinguish it withont sommding an alarm. set himself to work to do so - a fatal misealculation. A stronc southwesterly wind was blowing at the time: no rain had fallen for several weeks previons. It began in an area oceupied by several planing mills. shingle mills, and factories.

The Hames shot with frightfin rapidity from house to honse and from board-yard to board-yard. all human means appearing utterly powerless to stay their progress. Cntortnmately, one ot the first public buildings reached by the fire was the water-works: this eut off the water supply, rendering the tire department useless.

The awfol gale which prevailed filled the air with live coals, and hurled to an immense distance, in every direction, blazing brands and boards - a widespread hesom of finrions destruetion. All of the learling banks of the eity, several of the stome church edifices, costly and elegant in the extreme: the heautitul railroad depot of the Mieligan Sonthern and the Rock Island railway commanies, also that of the Hllinois Central and the Michligan Central railroads: the conrt-homse and the chamber of commerce: the sherman, Tremont, Brigss, Palmer, Bigelow, Metropolitan, and several other lotels, as well as the wigantic Paclite, whleh was in mocess of construction: all the great newspaper establishments; the Croshy opera-house, MeVicker"s theater, and evers othor prombment blace of ammsement: the post-othere, telenraph aftices. Farwell hall, the magnificent lorake-Farwell block, the stately dry goods palaces of 3 . V. Farwell \& Co.. Vield. Leiter \& Co. scores of elegant revilencos in Wahash and michigan Arenmes, numbers of ele rators in whicle were stored millions of hmslels of graim: in fact, all that the hand of man had tashioned or reared was completely swept away, as the fire madly rushed to the north.

With tremendous force, the mighty and uncontrollable element. rushing to the main chamel of the river, near its entrance into lake Mliehigan, consmmed the bridpes, and attaeked the north division with relentless fury. All day, on Monday, and through the succeq-ding night, it waged its work of devastation, adrancing from blow to lolock, and from street to street, over a vast surface, spariug scarcely anything.

The destruction of palatial residences and maguificent churches continued, while stores and dwellings by the hundreds, together with the costly water-works, the north side gas-works, Rush Medical College, the Chicago and North-western railway depot, several immense breweries, coal yards, lumber yards, and nanufacturing establishments of various kinds, and in great numbers, yielded to the resistless enemy.

One of the most feartully thrilling scenes of the great conflagration occurred in the eastern section of the north division. When it became apparent that all hope of saving the city was lost, after the flames had pushed down to the main branch of the river, the citizens of the north side, who had come over to see the main theater of the fire, thought it time to beat a rapid retreat toward the tunnel and bridges. The former of these thoroughfares was impassable at three o'clock. Clark Street had not been opened for some time, and State Street was in a blaze from one end to the other. Rush Street Bridge proved to be the only means of getting away from the sonth side, and over that bridge the affrighted tugitives poured in thousands. Having reached Chicago Avenue, the conflagration took an eastward turn, and cut off from flight northward all who remained in the unburned scction lying between Dearborn Street and the lake.

And now a scene transpired, which, as described, was scarcely ever equaled. Houses were abandoned in all haste. Into wagons were thrown furniture, clothing, and bedding. Mothers caught up their infants in their arms. Men dragged along the aged and helpless, and the entire horror-stricken multitude beat their course to the sands. It was a legira never to be forgotten.

The number of acres burned over in the West Division of the city, where the fire originated, was nearly two hundred, including 16 acres which were laid bare by a fire of the previous evening. This district contained about 500 buildings, averaging tour or five occupants each. These buildings were generally of the poorer class, and comprised a great many boarding-houses, saloons, and minor hotels, with a few factories, also several lumber and coal yards and planing mills, a grain elevator, and a depot.

In the South Division, the burned area comprised some 460 acres. With the exception of the Lind Block, on the river bank, between Randolph and Lake Streets, it included all north of an irregular line running diagonally from the intersection of Polk Street with the river, to the corner of Congress Street and Michigan Avenue. This district, though comparatively small in extent, was by far the most valuable in the city - the very heart and head of Chicago as a commercial center. It contained the great majority of all those structures which were at once costly in themselves, and filled with the wealth of merchandise that made the city the great emporium of the Northwest. All the wholesale stores of any considerable magnitude, all the daily and weekly newspaper offices, all the principal banks, the leading hotels, many extensive factories, all the offices of insurance men, lawyers, produce brokers, etc., the custom-house, court-house, chamber of commerce, all the prominent public halls and places of amusement, many coal yards, the monster Central Railroad depot, with its various buildings tor the transaction of business of the Illinois Central, Michigan Central, and Chicago, Burlington and Quincy Railroads, \&c. There were nearly 3700 buildings destroyed in this division, including 1600 stores, 28 hotels, 60 manufacturing establishments, and the homes of about 22,000 people.

In the North Division, the flames swept nearly 1500 acres, destroying 13,300 buildings, the homes of nearly 75,000 people. These structures included more than 600 stores and 100 manufacturing establishments, including McCormick's reaper factory, a sugar refinery, box mills, etc. The lake shore, from Chicago Avenue north, was lined with breweries. The river banks were piled high with lumber and coal, three grain elevators stood near the fork of the river, and near them the Galena depot. Many hotels, and private storehouses for produce and other property, also existed in this neighborhood, and the wholcsale meat markets on Kinzie Street were a busy center of trade. North Clark, Wells, and North and Chicago Avenues, were principally occupied by retail stores.

The total area burned over was 2,124 acres, or almost $31 / 3$ square miles. This area contained about 73 miles of streets, and 17,450 buildings, the homes of nearly 100,000 people. All this transpired in the brief space of 30 hours, and the aggregate loss was not far from $\$ 200$ million. But saddest of all was the great loss of life, the precise extent of 'which will probably never be known.

# NURSERY STOCK SALE <br> WE HAVE OVER 175 VARIETISS 10 chOOSE FROM <br> All plants are inspected ey tennessee dept. of agriculture <br> Planting insuructions included in each ordor "Every plomt tobeled <br> <br> \section*{ORDER <br> <br> \section*{ORDER BY MAIL} 

 BY MAIL}}

Rose bushes 35 e each; 2 yrs., field-grown blooming size bushes. All monthiy bloomers in these varieties.

REDS Eloile De Hollande Red Radiance Better Times Crimson Glory

PINKS Pink Radiance The Doctor Columbia Picture

CLIMBERS
Cl. Blaze Red
CL. Poinsetta
CI. Red Talisman
CI. Goiden Charm

Whites
K. A. Vietoria Caledona K. Lourse

YELSOWS
Eclipse Golden Charm Peace Peace
Luxemburg

TWO TONES Presudent hoover Betty Uprichard Edith M. Perhins Contrast

## FLOWERING SHRUBS -1 to 2 Feet Toll

 ALTMEA; Oouble Red, Purple, or White ABELIA: Shell Pinkish RED WEIGELIA: Deep Red WEICELIA: PINREY OUCKLE; Red Clusters RUSN HOHEYSUCKLE: Pink or white REO LEAF bARBERRY SPIREA: Anthony Waterer Dwarl Red SPIREA; AnthoPIHK SP TREA
GRIOAL WREATM SPTREA:- OOUble White RED CORALEERRY
FDRSTHIA: Yellow Flawers
REO FLOWERTHG QUINCE OEUTZ位: or Mockorange JAPAHESE SHOWBALL
PERSIAN LILAC: Orchid Color OLO TIME LILAC; Large Purple FLOWER ALMOHO; DOUble Pink TAMARIX: Lovely Pink F
REO OZIER DOGWODO REO OZIER DOGWODO.
HIBISCUS: Giant Gloomis hyorange ai Arborescens Collected HYORAHGEA; Hills of Snow PUSSY WILLOW RUSSIAH OLIVE
SWEET SNRUB: Redicish Brown fowers
CYOOHIA JAPONICA; ORange Red
althea rose sharoh; Mixed Colors
CRAPE MYTRLE; Red or Pink
GREHCH LLLAC: Red, White, Purple
haroy azalea: Red, Pink, White
SCOTCH BROOM; Golden Flowers

## FLOWERING TREES

Magholla grahotrlora; 1 to 2 ft.
PIHK FLOWERTHG OOCWOOO; 2 to 3 t.
PINK FLOWERING OOGWOOO; $31 / 2$ to 5 t.
PINK FLOWERING OOGWOOD; $31 / 2$ to 5 tt .
WNITE FLOWERIHG DOGWOOO; 2 to 3 tt .
WHITE FLOWERIHG OOGWOOD: 4 to 6 t.
-TULIP TREE; 3 1/2 to 5 ft .
flowering peach; Red. Pink. 2 to 3 ft
flowerihg crab; Red, Pink, 2 to 3 ft .
PIHK FLOWERIHG MIMOSA: 3 to 4 ft .
EELVET ASH; 1 to 2 ft .
JAPAHESE FLOWERIHG CHERRY; 2 to 3 ft .
PURPLE LEAF PLUM; $21 / 2$ to 4 ft .
CHIHESE REO QUO: 1 to 2 tt.
GOLOEH RAIH TREE:
GOLOEN CHAIK TREE; 1 to 2 it .
SMOKE TREE; $t$ to 2 ft
AMERICAH REO BUO 3 ft., 25 ea., 4 to 6

- TREE OF HEAVEN; $34 / 2$ to 5 ft .

MACNOLIA SOULANCEANA: 1 to 2 it.
EUROPEAH MOUHTAIN ASH; 3 to 4 It.
PAUL'S SCARLET HAWTHORH; $31 / 2$ to 5 1
DOUBLE PIHK FLOWERIHG CHERRY; 3 to 4 ft .

## FAST GROWING SHADE TREES

SILVER MAPLE; 34, to 5 t.
CHINESE ELM; $31 / 2$ to 5 tt .
COMBAROY POPLAR; 3 ty 105 tt
LOMEAR OY POPLAR: $5 \%$ 10 7 f
WEEPIHC WHLLOW; 4 10 6 ft
Sugar maple; collected, $31 / 2$ to 5 t
PIN OAK: SCARLET OAK: $31 / 2$ to 5 tt .
FAASEH RED LEAF MAPLE; $34 / 2$ to 5 t 1 .
WHITE $8 I R C H_{;} 2$ to 3 ff .
5 YCAMORE $31 / 2105 \mathrm{It}$.
SWEET GUM TREE; 2103
GIHKED TREE; 1 to 2 ft .
.35 ea.
.15 ez
.15 ez.
$.39 \mathrm{ea}$.39 ea.
.19 ea..15 ea,
.25 ea.25 ez.
.15 ea.
. 35 ea.39 ed.
.29 e..49 ea.
.49 ex.49 ea
.35 ea.
.35 ea.12 ea..25 ed.
.19 EJ.
.18 ea.16 ez.
.25 es.25 ea.
.09 ea
.45 ez.45 ea
.95 ea.
.59 ez. 49 ea.45 ea.
.49 ea,
8.59 ea. .....  2.18.79 ea,

$\qquad$
.59 ea,
.29 ea. ..... 29 ea.
1.49 ez.
$.45 \mathrm{ea}$.

| .59 ea |
| :--- |
| .55 ea |.69 ea.

1.25 ea.
1.25 ea.
$.5 e^{3}$ ea.. 35 ea.3.85 ea.3.95 ea.
2.98 e2.
19 ea
.49 ea.
.19 ea.
.39 ea.
.78 ह1.
s.4 ea. J.4E ea.
.45 हa.
.45 ta
.39 ta.
$.3{ }^{3}$ ea

CATALPA: FISN BAIT TAEE; 2 to 3 ft . CRIMSON KINC MAPLE (Pat. NO. 735); 352 to S It. ................... 3.4s es, SUNBURST LOCUST (Pat. No. 1313), 452 to $\$ \mathrm{ft}$, ....................... 4.35 ea.
 CULEA WEE LEAVEO MOH: 10 2


EVERGREENS - For Lasting Beawiy
PFITZER JUNIPER-IRISH JUHIPER: $1 / 2$ to 1 ft . NETZI NOLLY-OWARF HOLLY: $h$, to 1 ft .
 MANOIMA NANOINA: REO BERRES: $2 / 2$ to 1 fi . BOXWOOO: TINY LEAVES: $1 / 2$
CNERRY LUAEL: $1 / 2$ to 1 ft . - MOUNTAIH LAUREL; I ft . CAMAOIAN NEMLOCK; it.
 RNOOODEHORON: is to 1 ft - LARGE LEAF FERN REO GERTRY PYRACANTNA; $1 / 2$ ft COLORADO BLUE SPRUCE; $2 / 2$ to 1 wax leaf ligustrum: 12101 ft . EURFDRO1 HOLHY; $1 / 2$ to 1 fl . WNTEE PIHE: $3 / 2$ to 1 ft . JAPANESE YEW ; \& to 1 ft COLDEN-DR.GREEN ARBORVITE; EUONTMUS CDLDRATUS-WINTER CREEPER; 1 r..................................................


VINES AND FRUITS
RED SCARLET NONEVSUCKLE ............................................................ is Ez.
 BITTER SWEET
CLEMATIS VINE
ENELISN IVY
VINCA MINOR
TRUMPET YINE
OEWEERRY-1 yr. plants
RASPBERRY-1 yr. Red or Black
10 ASPARAGUS-for
10 ASPARARUS-lof
10 RNUBARE-lor ...
.11 ea.

## FRUIT AND NUT TREES


APPLE TREES; Red and Veltow Delicious, Stayman Winesap, Early Harvest, Red Rome Beauty, Prices: 2 to 3 it. . 49 ea., $31 / 2$ to 5 ft , PEAEH TREES; Eiberta, Betle Ga.. Hale Naven, Golden Jubike.
Dinte Red, Proces 2 to 3 tt . 45 ea., $31 / 2$ to $5 \mathrm{tt} . . . m o m o . .$. 5.N.1 Apple; 5 arreties on ea, free, 49 , $32 / 2$ to 5 tt PLUN, Burbank. Metheley, 2 to 3 tt, $49 \mathrm{ea.,3} 32 / 2$ to $5 \mathrm{th} . . .$. PEAR: Kieffer, Bartiett. 2 to 3 tt. . 85 ea., 4105 ft . .............. L .69 ed.
APRICOT TREE: 2 to 3 ft , 59 ea.. 315 to 5 ft . ..omonoenone. ENGLISH WALNUT. 2 to 3 it. ENGLISH WRLNUT; 2 to 3 it.
HAZEA HUT: 1 to 2 ?
HAROY PECIN SEEOLH

CNINESE CMESTNUT: 1 to 2 ft .
OWARF PEACN; E:berta, 2 to 3 ft
OWARF PEACN; EIDeria, 2103 ft . .......... 10 .
OWARF APPLE; REd and Yellow De
OWARF PEAR; Bartley, 2
OWARF PLUMS: 2 to 3 tt


## HEDGE PLANTS-1 to 2 Feet Toll

50 SOUTH PRIVET EVERGREEH HEOGE for
25 MULTIFLORA ROSE for
25 GOLOEH BORDER FORSVTHIA for
25 LOMBABOY POPLAR; FOr Hedge for
25 EVERGREEH HEMLOCK HEOCE

- 25 REO CEDAR for
- 25 5hort leaf pire tor

25 CALIFORHIA PRWET HEOCE for
$\qquad$
$\qquad$

OUR GUARANTEE: If you are not entirely satisfied on arrival relum in 10 days. We will reptace plants ol refund your money. Add 608 lor postage and packing. It shipped C.O.D., you pay postage and C.0.0. fee.
BONUS PLANIS: On all orders ovel $\$ 4.00$ you get 2 extra flowerng shrubs (our choice). Orders in the amount of $\$ 6.00$ or more you get 4 extra fiow ering shrubs FREE (our choice). Ordel now.

Order as many or as few plants as you wish. All plants are nursery grown, from seeds, cuttings or budded slock except those marked with (*) which means those are collected from the witd state. All plants in spected by the Tenn. Dept. of Agriculture. This is yout opportunity to buy good plants at


## 4. WESTERN AND MOUNTAIN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for both the Northern and Southern States of the Far West. Sote the Key Letter for any given da,y (pages 24-46, 48). Then find the column below in which that Key Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. Exarnple: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Kcy Letter N for San Francisco (last col. below) shows +9 . So sunrise at San Francisco will be 7:21 A. M., PST. If a city is not listed, interpolate between nearest two citics. (Further explanations appear on pages 89 and 90.)

## NORTHERN TIER

The adjusted times found for these cities will be accurate generally to within 5 min .

| City | State | Latitude, |  | $\begin{aligned} & \text { Time } \\ & \text { Used } \end{aligned}$ | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{\mathrm{m}}{\mathrm{~A}-\mathrm{D}}$ | $\underset{\mathrm{m}}{\mathrm{E}-\mathrm{H}}$ | $\mathrm{I}$ | $\underset{\mathrm{m}}{\mathrm{~J}-\mathrm{M}}$ | $\begin{gathered} \mathrm{N}-\mathrm{Q} \\ \mathrm{~m} \end{gathered}$ |
| Fresno. | Cal. | 38 | 44 |  | PST | +33 | +21 | +15 | $+9$ | -3 |
| Redding | Cal. | 40 | 30 | PST | +31 | $+27$ | $+25$ | +23 | $+19$ |
| Sacramento. | Cal. | 38 | 35 | PST | +34 | +26 | +22 | +13 | +9 |
| San Francisco incl. Oakland \& San Jose. | Cal. | 37 | 47 | MST | +40 | $+29$ | +25 | $+20$ |  |
| Stockton............. | Cal. | 37 | 57 | MST | $+35$ | +26 | +21 | +16 | +9 +6 |
| Crajg. | Colo. | 40 | 30 | MST | +32 | +25 | +26 | +24 | +19 |
| Denver-Boulder | Colo. | 39 | 45 | M.ST | $+25$ | +19 | +16 | +13 | + 3 |
| Grand Junction. | Colo. | 39 | 03 | MST | +41 | $+33$ | +30 | +26 | +19 |
| Pueblo. | Colo. | 38 | 16 | MST | +23 | +18 | +14 | $+10$ | +1 |
| Trinidad | Colo. | 37 | 08 | MST | +31 | +19 | +14 | +8 | - 3 |
| Boise | Idaho | 43 | 37 | MST | +56 | +59 | -61 | +62 | +65 |
| Lewiston | Idaho | 46 | 25 | PST | -12 | - 1 | + 4 | +9 | +20 |
| Pocatello | Idaho | 42 | 55 | MST | +44 | +45 | + 4 | +46 | +47 |
| Billings | Mont. | 45 | 47 | MST | $+16$ | $+25$ | +29 | + 33 | +4.3 |
| Butte. | Mont. | 46 | 01 | MST | +32 | +41 | $+46$ | $+50$ | +60 |
| Glasgow | Mont. | 45 | 10 | MST |  | +10 | +22 | +30 | $+46$ |
| Great Fal | Mont. | 47 | 30 | MST | $+21$ | +34 | +41 | $+47$ | +61 |
| Helena. | Mont. | 46 | 36 | MrT | +27 | $+39$ | +44 | +49 | +61 |
| Miles City | Mont. | 46 | 30 | MST | +3 | +14 | +19 | +24 | +35 |
| Carson City-Reno | Nev. | 39 | 31 | PST | +25 | +15 | +15 | +11 | + 5 |
| Elko. | Ner. | 40 | 50 | PST | + 4 | +1 | - 1 | - 3 | - 7 |
| Las Vegas | Nev. | 36 | 10 | PST | $+16$ |  | - 4 | $-10$ | -24 |
| Eugenc. | Ore. | 44 | 03 | PAT | +22 | $+26$ | +28 | +30 | +34 |
| Pendleton | Ore. | 45 | 35 | PST | - 2 | $+7$ | +11 | +15 | +24 |
| Poriland | ore. | 45 | 31 | PST | +14 | +23 | +26 | +30 | +39 |
| Kanab | Utah | 37 | 03 | MST | $+63$ | +52 | +46 | + 40 | +29 |
| Moab | Utah | 35 | 35 | MST | +47 | +35 | +34 | +30 | +21 |
| Ogden. | Utah | 41 | 14 | MsT | +45 | +45 | + 44 | + +2 | +40 |
| Salt Lake City | Utah | 40 | 45 | MsT | +49 | $+45$ | +43 | + +1 | +38 |
| Vernal. | Utah | 40 | 30 | Mst | +40 | $+36$ | +34 | +32 | +27 |
| Bellingham..... | Wash. | 48 | 54 | Pist | + 4 | +19 | +26 | $+32$ | +43 |
| Seatue-TacomaOlympia. | Wasti. | 47 | 37 | PST | + 6 | +20 | +26 | $+32$ | +46 |
| Spokane. | Wash. | 47 | 40 | PST | +16 | + 1 | +6 +5 | +12 | +27 |
| Walla Walta | Wash. | 46 | 04 | PBT | - 5 | + 5 | + +9 +9 | +14 | +24 |
| Casper. | Wyo. | 42 | 50 | MsT | +20 | +21 | +22 | + | +24 |
| Cheymm | Wyo. | 41 | 08 | MST | $+17$ | +14 | +13 | +11 | +9 |
| Rawlins. ${ }_{\text {Rock Spring }}$ | Wyo. | 41 | 45 | MST | +27 | +25 | +25 | +24 | +23 |
| Rock Sprlugs | Wyo. | 41 | 35 | MST | +35 | +33 | +33 | +32 | +30 |
| Sheridan | Wyo. | 44 | 51 | Ms, T | +14 | +20 | +23 | +26 | +33 |

## SOUTHERN TIER

The adjusted times found for these eities will be accurate generally to within 10 mins.

| Flagataly | Arlz. | 35 | (1) | MS7\% | +62 | +50 | +42 | +35 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pboenix | Ariz. | 33 | 27 | M心T | +69 | +53 | +42 | +35 | +19 |
| Tuchon | Ariz. | 32 | 13 | MsT | +6s | +50 | +40 | +29 +29 | +11 |
| Yuma | Ariz. | 3.2 | 401 | M*T | + 81 | +64 | +54 | +44 | +27 |
| Fort cmith | Ark. | 35 | $\because 5$ | (ST | +54 | +41 | + +38 | +26 +26 | +13 +13 |
| Bakerstheld | Cal. | 35 | 30 | Ps7 | +32 | +19 | +12 | + | -18 |
| Barsiow <br> Los Angelestine Pasa- | Cal. | 34 | 55 | PST | +25 | +12 | +4 | -4 | -18 |
| dena \& sinta Monlea | Cal. | 34 | 03 | Pst | +32 |  |  |  |  |
| San 1)icgo | Cal | 32 | 4.3 | P\&T | +31 | +17 | $\pm 4$ | - 5 | -14 -23 |
| Abluquerque | N. M. | 35 35 3 | 05 | MsT | +4.3 | +30 | $+22$ | +15 | +1 |
| Calup... Las Cruces | N. M. | 35 32 | 30 20 | MsT | +50 +51 +50 | +38 +38 | +31 +3 +23 | +15 +24 +12 | +11 |
| Roswell. | N. M. | 33 | 20 | MST | +59 +39 | +3 +23 | +2.3 +14 | +12 | - 5 |
| Santa Fe | N: M. | 35 | 41 | MsT | +i9 | +23 | +14 +19 | +5 +12 | $+11$ |
| Ardmore. | Okla. | 34 | 0.5 | CST | +67 | + +5. | +19 | +12 +36 |  |
| Oklahoma City | Okla. | 35 | 28 | Cs T | +66 | +5.3 | + +4 | +:18 | $+21$ |
| тusa........ | ORIA. | S0 | 09 | CsI | +58 | +46 | $+10$ | $+33$ | +21 |

## WEATHER FORECAST - NORTHERN CALIFORNIA, OREGON, WASHINGTON

(For Nov.-Dec. 1966 and Jan,-Dec. 196\%)
This forecast is based on the U.S.W.B. Station in Portland, Orecron. Only the storm dates are siven: the dates between mean clear weather. Rains will be snow on mountains - and heavier north than south of I'ortland.

Nov. (1966): 1-7, rain $2^{\prime \prime}$; S-9, unsettled; showers $5^{\prime \prime} ; 18-20$, rain $2^{\prime \prime} ; 27-30$, pours 2.5 ".
Dec. (1966): 5-7, rain $2^{\prime \prime \prime} ; 10-12$, rain $2^{\prime \prime} ; 10-17$, rain $1^{\prime \prime} ; 20-20$, rain $1.5^{\prime \prime}$; 29-31, rain $1^{\prime \prime}$.
Jan. (1967) : 4-6. snow $6^{\prime \prime}$; 10-12, snow 6"; 19-24, snow flurries; 2.-29, snow $6^{\prime \prime}$.

Feb.: 1-3, rain 1.5" or snow; 810. rain $1 . \bar{\sigma}^{\prime \prime}$ or snow; 15-18, rain $1^{\prime \prime} ; 23-25$, rain $1.5^{\prime \prime}$.
Mar.: $1-3$, rain $1^{\prime \prime} ; 7-9$, rain $1^{\prime \prime}$; 13-16, rain $1^{\prime \prime}$; 23-27, rain $5^{\prime \prime}$. Apr.: 1-4, rain $2^{\prime \prime}$; 8-10, rain $1^{\prime \prime}$;; 15-16, rain $75^{\prime \prime}$; 22-23, rain . $25^{\prime \prime}$.
May: 1-2, rain $75^{\prime \prime} ; 8-10$, rain 5 "' ; 15-17, rain . $5^{\prime \prime} ; 21-22$, rain $.5^{\prime \prime}$.

June: 1-4, rain . $2^{\prime \prime} ; 13-15$, rain $.2^{\prime \prime \prime} ; 20-21$, rain $.2^{\prime \prime} ; 20-30$, rain
July: 2-8, rain $\cdot 4^{\prime \prime} ; 16-23$, rain $5^{\prime \prime} ; 27-31$, rain $.7^{\prime \prime}$.
Aug, : ${ }_{5}^{\prime \prime}$ 27-8, rain $.25^{\prime \prime}$, 13-19, rain Sept.: 4-7, rain .75"; 12-15, rain $.70^{\prime \prime} ; 18-20$, rain $.25{ }^{\prime \prime} ; \quad 24-30$, rain . $65^{\prime \prime}$.
Oet.: 2-4, rain . $\mathbf{J}^{\prime \prime} ; ~ 17-19$, rain $1^{\prime \prime}$ : $2 \overline{-29}$, rain $1.5^{\prime \prime}$.
Nov.: ${ }^{2}-4$, rain $1^{\prime \prime} ; 8-11$, rain $2.5^{\prime \prime \prime}$; $15-17$, rain $2^{\prime \prime}:$ : $2-26$, rain $1.5^{\prime \prime}$; 30, rain $.25^{\prime \prime}$.
Dec.: 1-2, rain $75^{\prime \prime}: 7-10$, rain $2^{\prime \prime}$; 14-15, rain ?" and first snow; $24-26$, rain $2^{\prime \prime}$, or snow $10^{\prime \prime}$.

## SOUTHERN CALIFORNIA, ARIZONA, NEW MENYCO, AND OKLAHOMA

These states will follow the general rain pattern of the above for the months given, but the quantity will be anywhere from $75 \%$ to $90 \%$ less. and marked in the Suring, Summer and Fall months more by showers from the mountains than by anything resembling steady rainfall.

## THE MOUNTAIN STATES

Strangely enough, these mountain states of COLORADO. IDAHO, MONTANA, NEVADA, ETAH, and WYOMING follow the same rain and snowfall pattern that one finds in OREGON and WASHINGTON. For this forecast we are using Denver, Colorado as the U.S.W.B. base station. It is difficult to understand, with all the heavy snows one knows about at Aspen and Sun Valley, why the actual precipitation at Boise and other mountain stations is as low as it is.

Nov. (1966): 1-6, snow flurries; 19-20, rain . $5^{\prime \prime}$ or snow ; 27-30, rain $5^{\prime \prime}$ or snow.
Dec. (1966): 6-8. snow $10^{\prime \prime}$; 1417 , snow $6^{\prime \prime} ; 21-23$, heavy snow 15"; 29-31, snow $6^{\prime \prime}$.
Jan. (1967) : $\overline{-2} 7$, snow $6^{\prime \prime} ; 10-19$, blizzard $24^{\prime \prime} ; 17-20$, unsettled, rain .25"; 25-27, snow $6^{\prime \prime}$.
Fel,: 1-4, snow $6^{\prime \prime} ; 14-17$, snow $3^{\prime \prime} ; 23-25$, rain or snow $6^{\prime \prime}$.
Mar,: 1-2, snow $6^{\prime \prime} ; 6-8$, snow $10^{\prime \prime} ; 13-16$, blizzard $20^{\prime \prime}$; 23-27, rain $.25^{\prime \prime}$.
Apr.: 1-2, rain $5^{\prime \prime} ; 8-10$, rain $5^{\prime \prime}$; $15-18$, rain $.25^{\prime \prime} ; 22-26$, rain $.25^{\prime \prime}$.
May: $1-3$, rain $.15^{\prime \prime} ; 8-9$, rain $.15^{\prime \prime} ; 1 \overline{2}-17$, rain $.2^{\prime \prime} ; 21-25$, rain

June: ${ }^{2}-1$, rain $.5^{\prime \prime} ; 7-10$, rain $.5^{\prime \prime} ; 13-15$, rain.$^{\prime \prime \prime} ; 20-23$, rain .1"; 29-30, rain . $1^{\prime \prime}$.
July: 3-5, rain $25^{\prime \prime \prime} ; 19-22$, rain .5" ; 27-31, rain .25".
Aug,: 3-8, rain .25"; 13-14, rain $.5^{\prime \prime} ; 27-31$, rain .75".
Sept.: 4-6, rain .75" ; 12-13, rain $.75^{\prime \prime} ; 18-19$, rain $.75^{\prime \prime} ; 24-30$, rain $.75^{\prime \prime}$.
Oct.: 1-4, snow, $10^{\prime \prime} ; 8-14$, rain $.25^{\prime \prime} ; 17-19$, snow $10^{\prime \prime}$; '25-26. snow $6^{\prime \prime}$.
Nov.: 2-4, snow 10"; 8-11, snow $10^{\prime \prime} ; 1 \sigma^{\prime-17, ~ s n o w ~} 10^{\prime \prime \prime} ; 22-23$, snow 10"; 30, snow $6^{\prime \prime}$.
Dec.: 1-2, snow $7^{\prime \prime} ; 7^{7-10, ~ s n o w ~}$ $7^{\prime \prime}: 14-18$, snow $8^{\prime \prime} ; 24-28$, snow $10^{\prime \prime}$.

## 1967 - THE YEAR OF THE LOCUSTS

If it be true that the Seventeen-Year Locust reappears every 17 years, Utah will be revisited by this Plague in the Summer of 1967. The grounds for such a prediction are seen not only in the traditions of the North American Indian which reported such periodical 17 -year occurrences long before the arrival of the White Man. but, also, in the annals of the ancient Greek and Romans. In all such cyclical movements in Nature, however, it may be said that although such a cycle as this one may average out over the years at intervals of $1 \bar{i}$, there will be, for one reason or another, a difference of as much as one or two years on either side of the cecle. In brief. the reappearance of these locusts might well happen 16 years - or even 18 years - after the last one; but the average, over a centurs, would still be 17. This being the case, it is interesting to note the account of these locusts by a North Carolina man, Robert T. Thomas. (Courtesy of Marian Bradshaw, Orem, Utah.)

As a Mormon convert, Thomas made his way from North Carolina throush hardships, Indian warfare, and personal discomfitures which are hard to believe today. Finally, in 1S18. which is 119 years before 1967 and exactly divisihle by 17 , he had settled down on a farm near Salt Lake ('ity. In the Spring he ploughed and planted $\overbrace{-} \bar{T}$ acres in corn, wheat, peas, beans, melons and squash.
"When the corn ahout 4 feet high. the Crickets came down from the mountains by the million and commenced eating the crops. Pereygrine Sessions, my partner, give np and was going back to S. L. C. I said: 'Why not dig a ditch around on the north and east side of the farm? He said he wonld try it and we plowed a ditch around and turned water into the ditch and the water would carry them into a swamp. Them that got over the ditch Pereysine and his father and his daughter and myself would kill with paddles.
"We keep them off for about ten dars when they came so thick we dug another ditch and keep them off three weeks longer. Then Pereygrine got sick and went to S. L. C. and left me alone to fight the Crickets. The Crickets was moving West, but about nine ooclock they would commence hoppiug, eating everything that was green. It eleven oclock they would crawl $u$ on the bushes and never move until about one oclock when they would move once more until about an hour before sumset. I would turn the water on the corn at night, shut it off in the morning and before thoy would begin to move again thrn it into the ditches. At last they came so thick I plowed another ditch which made three, each ditch was clean full of them. I sint for Pereygrine and we went up into the monntains to see if there ever was going to be an end to them. We went and went and as far as we could see they wats coming thlek as ever.
"We was thousinds of miles from any provision, and most of the cattle had heen eat, very little provision on hand, and now to lose our crops looked like starvation, lint I never give no. Then the gulls came by the mblions from the West. One Hock commenced at Cotton Wood and went North, and eating every cricket, merer left one. In a few days they passed our field. They formed in a line across our ralley, in three or four rows, thew over one and the other wonld swerp them clear. They would eat until their crops was tilled and then heave up. These Gulls would come about mine oclock and eat until eleven. They would go West, come back at one oclock, and go way one hour before sunset.
"Our crop made a large yield but the people throughout the valley lost three fourths of theh crops."


THE U.S. OVERLAND PACIFIC MALL shown above was all horse and stagecoach. Some of the latter were as shown here others were the famous "Old Concord" stages. A pioncer of the Pacific Railroad. it ran a distance of $2,7 ⿻ 9$ miles between San Francisco ancl St. Louis. In 185, the route was: San Francisco to Fort Tijou in the Sicria Nevada IIts. ( 570 mi.$)$; to Los Auseles ( $9+\mathrm{mi}$.) ; to Tucson ( 560 mi .) ; into the Gadsden Purchase through the Messilla Valley to El Paso, to Fort Chadbourne in Texas ( 400 mi . including 75 mi . of desert) : to Fort Smith on the Arkansas River ( 490 mi.$)$. At Fort Smith, the southern mail (for Memphis) and western mail (for St. Louis) were divided. A contemporary account states "the pleasures of the road are not overwhelming as the arrangements for slceping, eating, and drinking are of the most limited character."

## THE SILVER THAW

## by W. Ray Melton

Few of the Pacific Northwest's newly-arrived inhabitants or tourist visitol's have crer seen one-so rare is the "silver thaw" of Western Washington and Oregon-but I venture to say that even the most blasé will be bowled over by "the wild and tender beauty" of it when they do.

All of a sudilen-some morning or evelling when atmospheric conditions, moisture, and temperature are just so-the landscape will be literally covered with, a fantasy of cellophane wrapping, glistening like a silver anniversary party in fairyland.

Natives of the Pacitic Northwest call such a unique event a "Silyer Thaw." Why, it is hard to say. It actually isn't a thaw at all. It is a frecze-not of melted snow, or rain, or even fog. It is a "deluge of dew," made spectacularly beautitul by the way it puts a silvery gloss over anything and everything outdoors.

The still pictures it sketches have an almost stereopticon sense of depth and clarity. . Electric power and telephone wires become long threads of gleaming-and often sasging-strauds wire fence takes on evenly-spaced icicle pendants-a lovely informal rosary. . . Douglas fir trees in the park or government reserve stand like tall sentinels of the gods, their hoary-green silhouettes resembling pointed icc cream cones. . Smaller shrubs and bushes blossom into veritable sunbursts of frosty glassware Wven the grasses and weeds hold myriad "acres of diamonds."

Streets, highways, and sidewalks are all at once possessed of a mirror-smoothness. Iedestrians walk with ludicrous care (and occasionally upend with violence). Rubber-tired velicles spin like tops on a glass-corered table. Ice in frozen coruscations-like the latterned dents in hand-hammered silverware-spreads over headlights, fenders, and car hoods atike.

There are startling moving pictures, too: a motor car skidding to a shiny curb. . slowly, relentlessly, its front wheels cramped in frantic, crab-like helplessness; a wrecking car-the grim outline of its derrick overlaced with an icy coating-clanking up the highway in search of tragedy, comedy, or just plain trouble; powerful trucks and buses, their exhaust pipes spewing torrents of sooty black smoke, scrambling for traction on a sanded area; street lights painting shimmering pathways of red and green on satin-smooth stretches of the pavement.
Verily, poets and painters could work wonders with the Northwest's Silver Thaw-or vice versa.

## Continued from page 87

and actions, never to be depended upon; will take more pleasure in lewd love, than in that which is lawful; he will have many children, whom he will, if possible, avoid providing for during his own lifetime.

The man or woman who squints, or has his eyes turned awre. will be of a penurious disposition, but punctual in his dealings, more for the sake of gaining the character of an honest man than from any innate principle.

The color of the eye in man or woman will hold good of both. A black eye is hively, brisk and penetrating: and prores the person who possesses it to he of a sprightly wit, lively courersation, not easily imposed upon, of a sound huderstanding; but if taken on the weak side may be led astray for a while: his greatest foible. if it can be ralled one, will be the passion of love, in which he will scarcely keep bounds.

A hazle eye shews the person to be of a subtle, pierciug, and frolicsome disposition, rather inclined to be arch. and something mischievous: a great joker, and will often offend his friends for the sake of a jest, hut good-natured at the bottom: he will be strongly inclined to love, and not over delicate in the means of gratifying that propensity.

A blue eye shews the person to he of a meek and gentle temper, affable and good-natured, credulons and incapable of violent attach: ments; even modest, cool, and undisturbed by turbulent passions.

A grey eve denotes the person to be of weak intellect, devoid of wit, but a plain plodding downright drudge. that will act as he is spirited up by others; will rather submit to thau desire the pleasures of love.

A wall eye denotes the person to he of a hasty. passionate and ungovernable temper; subject to sudden and violent anger and, in his fits thonghtless of the mischief he may do.

A red, or as it is vulgarly called, a sancer eve. denotes the person to be selfish, deceitful, prond, furious in the passion of anger: fertile in the invention of plots, and indefatigable in resolntion to bring them to bear: he is ardent in love, but strongly attachea to the first object that catches his fancr: he will have many children and live to see old age.

A nose that comes even on the ridge, flat on the sides. with little or no hollow between the eyes. declares the man to be sulky, insolent. disdainful, treacherous. and self-sufficient: if it has a point descending over the nostrils, he is araricious, and unfeeling, vainglorious, superficial, and irnorant: yet endeavoring to impose himself upon others as a man of kuowledire.

A nose that rises with a suldenl lulge a little below the eyes, and then falls again into a kind of hollow, below, is petulant, boorish and noisy.
The nose that is small. slender, and neaked shews the person to be of a fearful disposition, jealous. fretful: he is lively in the pursut of whatever he takes a liking to know, and curious.
The nose that is small, tapering. round in the nostrik, and cocked up, shews the person to be ingenious, smart, of a quick apprehension, giddy, but gencrons rather to a fanlt.
The lips that are thick, soft, and long, announce the person to be of weak intellects, credulous, and shinftly peevish, hut by a little soothing easily brourht hack to srod-humor: he is strongly addicted to the pleasures of love, and searcely moderate in his enjoyment of them.

The lips that are moderately plump and even. dechare the person to be fond-hmmored, humane semsible judicious and just.
The lips that are thin, shew the person to be of a quick and lively imarlmation.

The lips that are thin, and sunk inwards, denote the person to be of a subte, resentful and perscrering disposition; everlasting in
The chin that is ronnd, with h hollow between it and the lip. shews the persou to be of a good-humored dispositiou. kind and honest.

The ehin that comes down flat, from the edge of the lip. and ends in a kind of chisel form. shews the person to he silly. credulous, jealous, ill-tempered, and greedy of unmerited honors and praise.

The chin that is pointed npwards, shews the person to be deeply given to contrivances, proportioned to his abilitios in fortune, and understanding; however fairly he speaks to you, uever depend upon
his friendship, as his purpose is only to make rous sulaservient to his friendship, as his purpose is only to make rous subservient to his
own designs.

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## 5. SOUTHERN STATES

The times of sunrise, sunset, moonrise, moonset (pages 24-46) and the planets (page 48) are for Boston only. The table below gives the corrections to be used for anywhere in the Southern States. Note the Key Letters for any given day (pages 24-46, 48). Then find the column below in which that Fey Letter falls. The figure in that column for the city you seek is the minutes to add or subtract for that city. Example: Jan. 12, sunrise (page 24) is 7:12 A.M. Key Letter N. Key Letter N for Atlanta is +29 . So sunrise at Atlanta will be 7:41 A.M., EST. Accuracy will be within 15 min . for Lat. $25-30^{\circ}, 10 \mathrm{~min}$. for Lat. $30-35^{\circ}$, and 5 min . for Lat. north of $35^{\circ}$. If a city is not listed, interpolate between nearest two cities. (Further explanations appear on pages 89 and 90 .)

| City | State | Latitude, | Time Used | Key Letters |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\underset{\mathrm{m}}{\mathrm{~A}-\mathrm{E}}$ | $\underset{\mathrm{m}}{\mathrm{~F}-\mathrm{H}}$ | $\begin{aligned} & \mathrm{I} \\ & \mathrm{~m} \end{aligned}$ | $\underset{\mathrm{m}}{\mathrm{~J}}$ | $\underset{\mathrm{m}}{\mathrm{M}-\mathrm{Q}}$ |
| Birminghain | Ala. | 33 31 | CST | +28 | +12 |  |  | -22 |
| Decatur.. | Ala. | 3430 | CST | $+26$ | +12 | + 4 | - 4 | -19 |
| Mobile. | Ala. | 3042 | CsT | +39 | +19 | +8 | - 4 | -24 |
| Montgomer | Ala. | 32 32 | CST | +29 | $+11$ |  |  | -26 |
| Little Rock | Ark. | 34 <br> 345 | CST | $+47$ | $+33$ | +25 | $+17$ | +3 |
| Texarkana. | Ark. | ${ }^{33}{ }^{\text {' }} 30$ | CST | +57 | +41 | +32 | +23 | + 7 |
| Jacksonvill | Fla. | $\begin{array}{ll}30 & 20 \\ 25 & 47\end{array}$ | FST | +75 | +54 | +42 | +30 | -10 |
| Miami... | Fla. | 2547 | EST | $+79$ | $+52$ | +37 | +21 | -6 |
| Pensacola. | Fla. | $\begin{array}{ll}30 & 25 \\ 27 & 46\end{array}$ | EST ${ }^{\text {ES }}$ | +97 +84 | $+77$ | $+65$ | +53 | +33 |
| Tallahassee | Fla. | $30 \quad 30$ | EST | +87 +85 | +60 +65 | +46 +53 | +32 |  |
| Tampa. | Fla. | 27.57 | EST | +83 | +69 +59 | +46 | +41 | 8 |
| W. Palm | Fla. | 26-46 | EST | +76 | +50 | +36 | + 21 |  |
| Atlanta. | Ga. | 3345 | EST | +78 | +62 | +36 +53 | - | +5 +29 |
| Augusta. | Ga. | 33. 28 | EST | $+69$ | +52 | +44 | ++45 +35 | +29 +17 |
| Columbu | Ga. | 32.28 | EST | +83 | +67 | +56 | +34 | +17 +28 |
| Macon. | Ga. | 3250 | EST. | $+77$ | $+62$ | +50 | +39 | +28 +24 |
| Savannah | Ga. | 32.05 | EST, | $+68$ | +50 | +40 | +30 | +12 |
| Covington | Ky. | 39 | EST ${ }^{\text {P }}$ | $+64$ | +57 | +54 | +50 | +44 |
| Lexington-Fr | Ky. | $38 \quad 03$ | EST | $+67$ | +59 | +54 | +50 | +41 |
| Louisville. | Ky. | $\begin{array}{ll}38 & 15 \\ 31\end{array}$ | EST | +17 | +63 | +59 | +54 | +46 |
| Alexandria | La. | $31 \quad 16$ | CST | +56 | +36 | $+26$ | +14 |  |
| Baton Rou | La. | $\begin{array}{ll}30 & 27\end{array}$ | CST | +53 | +32 | +20 | + 9 +9 | - 12 |
| Lake Ch | La. | $\begin{array}{ll}30 & 15 \\ 32 & 3\end{array}$ | CST | $+61$ | +40 | +28 | +17 | - 4 |
| M Monroe | La. | $\begin{array}{lrr}32 & 30 \\ 29 & 57\end{array}$ | CST | + +51 +49 | +34 | +24 | +17 | - 4 |
| Shreveport | La. | $32 \cdot 31$ | CST | +59 +58 | + +1 | +16 +31 | + 4 | $\pm 17$ |
| Biloxi.. | Miss. | 30 | CST | + | + | +31 +12 |  | + |
| Jackson | Miss. | $32 \quad 18$ | CST | +44 | +26 | +16 | +6 | - 20 |
| Meridia | Miss. | 32 | CST | $+38$ | +20 | +11 |  | -17 |
| Tupelo | Miss. | $\begin{array}{ll}34 & 18 \\ 35\end{array}$ | CST | $+34$ | +19 | +10 | - 2 | -18 |
| A shevill | N. C. | $\begin{array}{ll}35 & 36 \\ 35 & 13 \\ 35\end{array}$ | EST | +66 | + +33 | +16 | +39 | -13 +26 |
| Durnam | N. | 36 | EST | +60 +50 | +46 +38 | +39 | +32 | $+18$ |
| Greensbo | N. C . | 3604 | EST | +50 +53 | +38 | +31 +35 | +25 | $+13$ |
| Raleigh. | N. C. | $35 \quad 47$ | EsT. | +50 +50 | ++1 +37 | +35 +30 | +28 +23 |  |
| Wilmington | N. C. | $34 \quad 12$ | EST | +51 | +36 | +27 +27 | +28 |  |
| Charleston | S. C. | $\begin{array}{ll}32 & 47\end{array}$ | Est | +62 | +45 | +35 | +19 | +9 $+\quad 9$ |
| Columbia. Spartanbur | S. S . | $\begin{array}{ll}34 & 00 \\ 34 & 57 \\ 3\end{array}$ | EST | +64 | +48 | $+40$ | +31 | +16 |
| Chattanoog | Tenin. | $\begin{array}{ll}34 & 57 \\ 35 & 03\end{array}$ | FST | $+65$ | $+51$ | +43 | +36 | +22 |
| Knoxville | Tenn. | 35 | EsT | +78 +70 | +65 +58 | +57 +51 | $+49$ | +36 |
| Memphis | Tenn. | 3509 | CST | +37 | +23 |  | +45 +8 | +33 $-\quad 5$ |
| Nashvil | Tenn. | 3610 | CsT | +21 | +88 | +16 +3 |  | - 5 -15 |
| Amaril | Tex. | $\begin{array}{ll}35 & 12 \\ 30 & 16\end{array}$ | CST | +84 | +70 | $+63$ | +56 | + 12 |
| Beaumon | Tex. | 30 30 | CST | +79 +65 | +58 | + | $+35$ | +14 |
| Corpus Christi | Tex. | 2748 | CST | +65 +8.3 | + | $+32$ | +20 | -1 |
| Dallas-Fort I | Tex. | 3247 | Cst |  | +59 +55 | +45 | +31 | $+7$ |
| El Paso | Tex. | 3146 | CST | +72 +111 | +55 <br> $+\mathbf{+ 9 2}$ | +45 +82 | +35 +71 | +15 |
| Galveston | Tex. | $29 \quad 18$ | CST | +70 | +48 |  |  | 0 |
| Houstor | Tex. | $29 \quad 45$ | Cs7 | +71 | +49 | $+37$ | +25 |  |

## HURRICANE EXPECTANCY

Over a 41-year average, the statisties reveal that at sunspot maximum a Gulf of Mexico hurricane will come in just about cvery two years - whereas in years of sunspot minimum, once about every nine years. This year, 1967, is just after the minimum of last year. For Florida the expectancy is, for a severe storm, once every two years - for Georgia once cvery four.

In Texas, the expectancy is one hurricane every 1.4 years during sunspot maximuns and every 9 years during minimums. The year of 1967 is approaching a maximum of sunspots towards the end of the year. It is not likely that Dallas-Fort Worth will experience the delugc of April 1966 in 1967 . However, it eould well be that the same sort of storm will strike in at about the same time at Oklahoma City,
or possibly southern Kansas.

## WEATHER FORECAST - SOUTHERN STATES

(For January-December 196\%)
The forecasto which follows is based, for verification purposes, at the U.S.W.B. Station at Atlanta, Georgia. It is designed to serve the states of Alabama, Arkansas, Florida, Gcorgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas.

There will not be, in 1967, the freezing threats experienced in the past two Winters; but there would seem to be the likelihood of a hurricane along the Florida to North Carolina Coast between Sentember 5 and 12. Temperatures on the whole will be "normal," and precipitation figures as given are normal. Those living in other localities than Atlanta should adjust the quantities of rain to local conditions. However, this forecast should serve all states well as to the day of change from wet to dry, dry to wet, etc.

The "Winter" months of November and December 1966 will bring in storms on Nov. 2, 3, 10, 11, 19-21, 24-28, and on Dec. 2-5 (heavy rain) $7-9,10-13$ (freeze, and snow), 15-17, and 24-26.

## MONTH BY MONTH

Jan.: $1-2$, rain $1^{\prime \prime} ; 3-5$, clear ; $6-8$, rain $1^{\prime \prime}: 9-12$, clear; $13-15$, rain $1^{\prime \prime} ; 16-20$, unsettled ; 21-22, rain $1^{\prime \prime} ; 23-24$, clear; 25-27, rain 2"; 28-30, clear; 31, rain begins.

Feb.: 1-2, rain $1.5^{\prime \prime} ; 3-8$, clear; 9-13, rain $1.5^{\prime \prime}$; 14-15, clear ; 1618, rain $1.5^{\prime \prime}$; 19-22, clear; 2325 , rain $1.5^{\prime \prime} ; 26-28$, clear.

Mar.: 1-4, rain $1^{\prime \prime}$; $\mathbf{5 - 6}$, clear ; 78 , rain $1^{\prime \prime}$; $9-14$, clear; $15-18$, rain $1^{\prime \prime} ; 19-21$, clear; $22-24$, rain $1^{\prime \prime}$; 25-28, clear; 29-31, rain $1^{\prime \prime}$.

Apr.: 1-4, rain 1"; 5-6, clear; 7-9, rain (heavy) $1.5^{\prime \prime}$; 10-14, clear; 15-18, rain $1.5^{\prime \prime}$; 19-20, clear; 21-30, showers, thunderstorms, rain $1.5^{\prime \prime}$ and possibly tornadoes.

May: 1-2, clear; 3-5, rain 1"; 6-7, clear; $8-10$, rain $1^{\prime \prime}$; 11-14, clear; 15-17, rain .25"; 18-19, clear; 20-22, rain (heavy) 1.25"; 23-25, clear; 26-29, rain .75"; 30-31, clear.

June: 1-3, rain .25"; 4-6, clear; $7-9$, rain $.25^{\prime \prime}$; 10-12, clear; 1315, rain .25"; 16-18, clear; 1921, rain .25"; 22-26, clear ; 27-28, rain $.25^{\prime \prime} ; 29-30$, clear.

July: $1-2$, rain $.25^{\prime \prime} ; 3-5$, clear; 6-11, rain .25"; 12-16, clear; 17-21, rain .25"; 22-23, clear; 24-28, rain .25"; 29-31, clear.

Aug.: 1-4, rain .5"; 5-8, clear; 9-11, rain . $25^{\prime \prime}$; 12-13, clear; 1418, rain . $5^{\prime \prime}$ : 19-21, clear ; 22-26, rain .25"; 27-31, clear.

Sept.: 1-3, rain .5" ; 4-6, clear; (5-11, hurricane Florida ?) ; 7-9, rain . $5^{\prime \prime}$; 10-11, clear; 12, rain $.25^{\prime \prime}$; 13, clear ; 14-18, rain .25"; 19-20, clear ; 21-22, rain .4" ; 2325, clear; 26-28, rain . $6^{\prime \prime}$; 29-30, clear.

Oct.: 1, rain .75"; 2-8, clear ; 9-12, rain $.5^{\prime \prime}$; $13-15$, clear; 16-18, rain .75"; 19-20, clear; 21-23, rain . $5^{\prime \prime}$; 24-25, clear; 26-30, rain $.5^{\prime \prime} ; 31$, clear.

Nov.: 1-2, rain .5"; 3-5, clear; $6-9$, rain $.5^{\prime \prime}$; 10-12, clear; 1315, rain . $5^{\prime \prime}$; 16-18, clear; 1920, rain $1^{\prime \prime}$; 21-23, clear; 24-26, heavy rain $1.25^{\prime \prime} ; 27-30$, clear.

Dec.: 1, rain $1^{\prime \prime}$; 2-3, clear; 4-5, rain $1^{\prime \prime} ; 6-7$, clear; 8-10, rain $1^{\prime \prime}$; 11-12, clear ; 13-16, rain $1^{\prime \prime}$; 17-22, clear; 23-25, rain . $75^{\prime \prime}$; 26-29, clear; 30-31, rain $.25^{\prime \prime}$.

## THE ORIGIN OF THE SONG "DIXIE"

An interview with Daniel D. Emmett, its composer, in 1895 -by Robert Sheerin

It is a faet not widely known that the author of "Dixie" is now living in his home in Mount Vernon, Ohio. His name is Daniel $D$. Ammett. If he shall survive another anniversary of his birth he will round out eighty years, having been born in Mount Vernon, October 2.), 1815. (Editor's note: He lived until 190t.)

Daniel Emmett's grandfather was an Irishman. He eame to this conntry before the lievolutionary War, in which he served a regiment as surgeon and chaplain at the same time. His son, Aloraham Emmett. father of Daniel, was born in Virginia, and before the War of 181: moved to Ohio. He servet in that War of 1812 under General Hull, and later as a spy upon the Indians in the northern part of ohio. Daniel is the first of a family of four.

Mr. limmett recently invited me to bring my violin to his home, promising to go over his old songs and tell me something of his early lifc. He recitct numerous little anecdotes of the two shermans the general and the senator) who used to of to school at Gambler, near Mount Vernon. They had an uncle at the latter place whom thex of ten visited, and here Daniel met them. He remembers particularly that in playing "shinny" the sherman boys were never allowed to be on the same side, for they were leaders and mist lead opposing forces. Mr. Dmmett says it was a faslion in those dars among the yound poople to try their skill at making verses, and sing them to some popular tune. "Jim Crow" was a favorite, and the boys and girls found great delight in fitting words to that mne. In this way he formed a taste for rerse-making and singing, which later led him to Nesro minstrelsy.

In 1828 he learned to play on the fiddle by ear. A short time after, he went to Cincinnati, where he engared to play second riolin with Stickney's Circus. Stickney's orchestra consisted of two riolins. a lugle, and a bass drum, and in those dars was eounted first-class. The following spring he engaged with Miller's Cararan at Cincinnati. which had a good Eastern band. With this company he learned to play by note on the fiddle, piecolo, and fife. He was known at one time throughout the United States for his proficieney as fifer and drummer. His work with the caravan was to sing songs, ehiefly darky songs, aecompanied by "hoe-downs" and "walk-ronnds." Mr. Emmett made his own rerses and sang them to some popular tune. He traveled all over the parts of the United States then visited by minstrel troops with Dan Rice, Spandding, Seth Howes, Dr. Leonard, Welsh and Dlann, Joe Sweeney, and other noted minstrels. Everywhere he went Emmett was a favorite. His understanding and rendering of the Negro dialect were perfect.

As the venerable old man recounted to me his palmy days of minstrelsy, his eyes fairly twinkled with delight. His roiee is thoroughly trained to the sweet tone of the melodious Negros roiee, and a few old Negro expressions and songs from him showed that he had not lost his old-time understanding of them. Since his time minstrelsy has nodergone a change. The minstrels of that day did nothing but what the Negro could and did do. The old-time darkies were not the acrobats and clems-elowns that minstrels make themselves today, and the old-time luteruretation of dialeet and mannerlsms was more trie to life than now.
"Dlixie-land." whleh is really the proper name of the song, was written in 18\%, while the author was a member of the well-known Bryant's Mlnstrels, $72 \mathrm{Broadway}$. New lork. Nis engagement with them provided that he should hold himself in readiness to eompose a new "walk-reund" whenever called upon to do so, and sliould sing the same at the close of their performance.

One Saturday night, as Mr. Emmett was proeecding homeward, he was overtaken hy lerrie bryant, and asked to make a "hooray", and hring it to the rehearsal on Monday morning. The great objects of the "hooray" chorus were xound and noise. Mr. Emmett replicd that it was a short thme in which to make a good one, but he would do his best to plase Mr. Rryant. He eomposed the walk-around the next day, and brought it to the rehearsal Monday morning, musie and words eompleted. The tume and words of "Dixic," as now sung, are exactly as Mr. Emmett wrote them. Varlous asplrants for the anthorship of the song in their attempts to lay claim to it have been cut short by the thmely interference of friends of the eomposer.

The original words of "Dixie" are as follows:

## DIXIE

I wish I was in de land ob cotton,
"Cimmon seed and sandy bottom,
Look a way, look a way, look away, Dixie land:
In Dixie land whar I was horn in,
Larly on one frosty mornin'
Look away, look away, away, Dixie land!
CHORUS. -
Den I wish I was in Dixie, hooray, hooray !
In Dixie's land we'll take our stand,
To lib and die in Dixie.
Away, away, away down south in Dixie!
Away, away, away down south in Dixie!
Old missus marry Will de weaber,
William was a gay deceaber;
Look away, look away, look a way, Dixie land!
When he put his arm around 'er',
He look as fierce as a forty-pounder,
Look away, look away, away, Dixie land!
His face was as sharp as a butcher's cleaber,
But dat did not seem to greab er;
Look away, look away, look away, Dixie land!
Old missus acted de foolest part,
And died for a man dat broke her heart,
Look away, look away, away, Dixie land!
Now here's health to de next old missus,
An' all de gals dat want to kiss us.
Look away, look away, look away, Dixie land!
But if you want to drive 'way sorrow,
Come and hear dis song to-morrow,
Look away, look away, away, Dixie land!
Dar's buckwheat-cakes an' Injun batter,
Makes you fat or a little fatter.
Look away, look away, look away, Dixie land!
Den hoe it down an' scratch your grabble,
To Dixie's land I'm bound to trabble,
Look away, look away, away, Dixie land!
From the time it was first sung at Bryant's Hall in New York it was a success, and it became a favorite all over the United States as fast as minstrel troops could bring it before the people.

It is interesting to know how "Dixie", became the Southern national air or war-song. Early in the war a spectacular performance was being given in New Orleans. Every part had been filled, and all that was lacking was a march and war-song for the grand chorus. A great many marches and songs were tried, but none could be decided upon until "Dixie" was suggested and tried; and all were so enthusiastic over it that it was at once adopted and given in the performance. It was taken up immediately by the populace, and was sung in the streets, and in homes and concert-halls, daily. It was taken to the battlefields, and there became the great song of the South; and made many battles liarder for the Northerner, many easier for the Southerner. Though it has thus particularly endeared itself to the South, the reunion of American hearts has made it a national song. Mr. Lincoln even regarded it as national property by capture.

I asked Mr. Ennmett what sugrested the words and tune of "Dixie." He told me that when the cold wintry days of the North set in, all minstrels had a great desire to go south, that is to "Dixie's land." On a cold day a common saying was, "Oh, I wish I was in Dixie's land!" and this was the key to the song. The tune was composed in much the same way: one bar of music set the key for the whole.

It is interesting to note that Mr. Emmett was the originator of the first perfected uninstrel troop in the United States. It was in the spring of 1843 , and was called the "Virginia Minstrels." It consisted of Daniel Emmett, leader; Frank Brower, Richard Pelham, and "Pilly" Whitlock. They played for six or eight weeks in New York and Boston. They then sailed for England, and traveled all over Great Britain, disbanding in Scotland. Daniel Emmett is the only one of the four now living.
"Dixie" is as lively and popular an air today as when it was Writter, and ite reputeuthon is met confined to the American continent. It is much played in Europe, and ranks with the finest of the simpler airs in touching the emotions of the people. Whenever it is played by a big, strong band, the auditors involuntarily keep time.

## TIDE CORRECTIONS

To obtain the time and height of high water at any place, apply the differences below as they appear on pages 24-47 to the daily predictions for Boston (Commonwealth Pier). Where a value in the "height difference" column is preceded by an *, height at Boston should be multiplied by this ratio. The daily times of high tide at Boston are in the "Full Sea" column, pages 24-46. Daily heights are on pages 25-47.

| Time Difference h.m. | Height Difference Ft. | $\begin{gathered} \text { Time } \\ \text { Differ- } \end{gathered}$ | Height <br> Differ- <br> ence Fb . |
| :---: | :---: | :---: | :---: |
| MAINE |  | PENNSYLVANIA |  |
| Augusta . . . . . +3 50 | *0.4 | Philadelphia . . . +2 29 | *0.5 |
| Bangor . . . . -005 | +3.6 | DELAWARE |  |
| Bar Harbor Boothbay Harbor | +1.1 | Rehoboth . . . . -3 37 | *0.4 |
| Boothbay Harbor ${ }_{\text {Eastort }} 0020$ <br> 0 | ${ }_{*}{ }^{0} .81 .8$ | MARYLAND |  |
| Old Orchard . . . - 010 | ${ }^{*} 1.9$ | Baltimore . . . . -425 | *0.1 |
| Portland . . . . -010 | -0.6 | Ocean City . . . -3 57 | *0.4 |
| Stonington. ${ }^{\text {d }}$-0 30 | +0.2 | DISTRICT OF COLUMBIA |  |
| NEW HAMPSHIRE |  | Washington . . . -3 08 | *0.3 |
| Hampton ${ }^{\text {a }}$ (0 15 | -1.2 | VIRGINIA |  |
| MASSACHUSETTS |  | Vorfolk . . . . . -1 54 | *0.3 |
| Fall River . . . . 316 | *0.5 | Virginia Beach . . -3 14 | *0.3 |
| Faimouth . . . $=040$ | ${ }_{*}^{*} 0.1$ | NORTH CAROLINA |  |
| Hyannisport . . . Lynn to 45 05 | *0.3 | Beaufort . . . -2 59 | *0.3 |
| Lynn ${ }_{\text {Larblehead }} . . . .{ }_{-0}^{+0} 05$ | $\bigcirc 0.3$ | Carolina Beach . . -3 30 | *0.4 |
| Marion . . . -3 16 | * 0.4 | SOUTH CAROLINA |  |
| Monument Beach . -3 06 | *0.4 | Nyrtle Beach. . . -3 45 | *0.5 |
| Nantasket . . . . +010 | +0.1 | Charleston . . . . -3 15 | *0.5 |
| Nantucket . . . +050 | *0.3 | GEORGIA |  |
| New Bedford , . . -3 21 | *0.4 | St. Simon's Island -2 51 | *0.7 |
| Oak Bluffs . . . . +0 05 | *0.2 | Savannah . . . -2 40 | *0.8 |
| Onset Plymouth | *0.5 | Tybee Beach . . . -3 26 | *0.8 |
| Provincetown . . +0 15 | $\pm$ | FLORIDA |  |
| Scituate . . . . . -0 05 | $-0.5$ | Daytona . . -3 20 | *0.4 |
| Wellfleet . . . . +0 20 | +0.6 | Fort Lauderdale - -2 ${ }_{\text {Jacksonville }} 15$ | *0.3 |
| Woods Hole . . . -3 01 | *0.2 | Jacksonrille . . - - ${ }_{\text {a }} 40$ |  |
| RHODE ISLAND |  | $\xrightarrow[\text { Palm Beach }]{ }$ | *0.3 |
| Block Island Narragansett Pier | *0.3 | Port Everglades : -2 215 | *0.3 |
| Narragansett Pier -3 31 <br> Newport . . . . -3 31 | *0.4 | St. Augustine . ${ }^{\text {St }}$ - 200 | *0.5 |
| Providence : . . -3 11 | *0.5 | St. Petersburg . . +3 58 | *0.2 |
| Watch Hill $!. .0-206$ | *0.3 | WASHINGTON |  |
| CONNECTICUT |  | Ilwaco . . . . +144 | -3.5 |
| Long Island Sound -0 02 | *0.7 | Port Townsend . . ${ }_{\text {Seatle }}+504$ | *0.5 |
| New London . . . -1 47 | *0.3 | Seattle . . . . +5 37 | -2.0 |
| NEW YORK |  | OREGON |  |
| Coney Island . . -300 | *0.5 | Astoria . . . . . +1 37 | -3.3 |
| Long Beach . . -3 57 | *0.5 | Cape Arago : . +119 | $-4.8$ |
| Long Island Sound +0 08 | *0.7 | Yaquina Head . . +1 12 | -3.7 |
| New York City Ocean Beach | *0.5 | CALIFORNIA |  |
| Ocean Beach . . . -3 <br> Southampton <br>  | *0.4 | Catalina Island . . -1 33 | -5.9 |
| NEW JERSEY • -3 22 | * 0.3 | Crescent City . . +0 56 | -5.0 |
| Atlantic City . . -357 | *0,5 |  | -5.0 |
| Bayside . . . . . -024 | *0.6 | Monterey . . . - 003 | *0.4 |
| Cape May . . . - 337 | *0.5 | Point Mendocino : +0 24 | $* 0.4$ $* 0.4$ |
| Ocean City . . . -3 17 <br> Seabright | *0.4 | San Diego.... ${ }^{\text {P }} 35$ | $-5.9$ |
|  | *0.5 | San Francisco Santa Barbara : ${ }^{+0} 59$ | *0.4 |
| Scaside Park |  | Santa Cruz .: to 08 | ${ }_{*}^{+0.0}$ |

Example: The figures for Full Sea in Columns 10 and 11 of the left hand Almanac pages $24-46$ are the times of high tide at Commonwealth Pler in Boston Harbor. The helghts of these tides are given on the right hand pages 25-47. The helghts are reckoned from Mean Low Water: each day has a set of flgures-upper for the morning and lower given by way of lllustration.

Example: Apr. 18. See page 30, column 11. for time; page 31 tor height.
BOSTON

## M1AMI

Ilgh Tlde (from page 30) 5.45 P.M.E.S.T. Aprli 18

Helght (from page 31) 8.1 feet

Hlgh tide (Boston)
5.45 P.M.E.S.T. Correction above Hlgh tlde (Mtamb) Helght (Maun)
(8.1 x 0.3 )
$\frac{-3.00}{2.45 \text { P.M.E.S.T }}$
2.43 feet

## MOON WEATHER TABLE, <br> For foretelling the Weather through all the lunations of each year, forever.

This table, and the accompanying remarks, are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the sun and moon, in their several positions respecting the earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.
This weather table will answer very well for anywhere in the United States. It is taken from the 1849 issue of The Old Farmer's Almanac and was widely used before the advent of the Weather Bureau. Do not be surprised if the forecasts arrived at by this table do not agree with those on Pages 19, 91, 93, 97, 103. THE OFA goes by many factors besides the moon.

WEATHER TABLE FOR ANYWHERE

| Moon | Time of Change | In Summer | In Winter |
| :---: | :---: | :---: | :---: |
|  | From Midnight to 2 A.M. | Fair | Hard frost, unless wind be S. or W. |
|  | From 2 A.M. to 4 A.M. | Cold, with frequent showers | Snow and stormy |
|  | From 4 A.M. to 6 A.M. | Rain | Rain |
|  | From 6 A.M. to 8 A.M. | Wind and Rain | Stormy |
|  | From 8 A.M. to 10 A.M. | Changeable | Cold Rain if wind be W.; Snow if E. |
|  | From 10 A.M. to Noon | Frequent Showers | Cold \& high wind. |
|  | From Noon to 2 P.M. | Very rainy | Snow or rain. |
|  | From 2 P.M. to 4 P.M. | Changeable | Fair \& mild. |
|  | From 4 P.M. to 6 P.M. | Fair | Fair. |
|  | From 6 P.M. to 8 P.M. | $\begin{aligned} & \hline \text { Fair-if wind } \\ & \text { N.W. Rain -if } \end{aligned}$ S. orS.W. | Fair \& frosty if wind N. or <br> N.E.: Rain or snow if wind <br> S. or S.W. |
|  | From 8 P.M. to 10 P.M. | Same as from 6 | M. to 8 P.M. |
|  | From 10 P.M. to Midnight | Fair | Fair \& frosty. |

Observations. - 1. The nearer the moon's changes, first quarter, full, and last quarter are to midnight, the fairer will it be during the next seven days.
2. The space for this calculation occupies from ten at night till two next morning.
3. The nearer to midday, or noon, the phases of the moon happen, the more foul or wet weather may be expected during the next seven days.
4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the summer, though they affect spring and autumn nearly in the same ratio.
5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i.e., from four to ten, may be followed by fair weather; but this is mostly dependent on the wind, as is noted in the table.
6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet, in the main, the above observations will apply to those periods also.
7. To prognosticate correctly, especially in those cases where the wind is concerned, the observer should be within sight of a good vane, where the four cardinal points of the heavens are correctly placed.

The above table was originally formed by Dr. Herschell, and is now published with some alterations founded on the experience of Dr. Adam Clarke.

## TO THE WEATHER-WISE

M. Toalda of Padua (circa 1720) asserted that the weather changes most often ( $85.8 \%$ of the time) when the new moon comes in; $83.4 \%$ with the full, and $66.7 \%$ with the other two phase changcs. Recent studies by scientists with the U.S.W.B and N.Y.U. show heaviest rainfall comes 3 to 5 days after the new and the full moons.

Many blossons on plum trees in the Spring, heavy fruit crops in the Fall, oak (and other) leaves remaining on trees in December indicate a severe Winter is coming up. The thickness of Fall fur on most animals, goose bones, pigs' melts, distance between caterpillar stripes also are Winter predictors. Birds, particularly owls, pileated woodpeckers, and swallows are predictors - as is, of course, the woodchuck. When hornets build nests high off the ground, expect deep snows. Bees, spiders, and ants - as well as certain flowers - are useful as short-term predictors. Nature, on the whole, however, is not easily understood and birds and animals, who should know, are often as misled by her as is mankind.

## THE FIRST AMERICAN WIRELESS DISTRESS CALL

The first distress call ever received by wireless was at the British South Forcland wireless statlon. It was a signal from the Last Goodwin sands lifhtship, which had been rammed by the s.s. R. F. Nathews on March 3, 185\%.

The first wireless distress call from an American vessel was sent out by the Kelief Lightship 58, while on station at Nantncket Shoals on December 10, 1005. The call nsed was "HELP." This was a year or more before the "SOS" or "CQD" signal became official.

The first "SOS" from an American ship was sent by Ted Haubncr of the S.s. Arapahoe, a Clyde liner, on August 11, 1909. It was answered by the wheless station HA at Cape Hatteras. Two revenue cutters came to the rescue.

The first "CQD" was sent by Jack Binns from the S.S. Republic on Jamuary 23, 1909. She had been rammed in a thick fog by the Italian liner Florida. Jack Irwln, wireless operator at Siasconset (SC) heard the call. The publicity of this call and answer did much to establish wireless cquipment on ocean-going steamers.

The operator on Lightship 58 was $\Pi$. E. Snsder, Flectrician's Mate, 2nd class. U.S.N. The operator in the wireless roon, at the time of this first call, of the Newport Torpedo station at Newport, Rhode Island, was ben J. Reynolds, Flectrician's Mate, 1st Class, U.ぶ.N. He was going off watcli and before removing his headphones he had just reached down to tie a shoelace. Whlle doing this, he heard the faint signal "HELP" trom the hightship, followed by "Water gaining we are slnking." Ben received this through a sensitive electrolytic detector. This consisted of a fine platinnm wire which had been made adjustable to a small cup of sulphuric acid. Ben notified the Commandant of the First Naval District. Who ordered the small tender Hist to the rescue. However, the Hist, dne to the high waves and storm, was unable to make it and put back into port. Ben then called the Superintendent of Lighthonses at his home in licverly, Aassachusetts. This was early sunday morning. He in turn contacted Captain Giblos at New bedford. Giblns went out in the Lighthonse tender Azalea. Ile tricd to tow the sinking llghtship but the tow linc parted. Ife then lowered a boat on lts lee side. His men then rowed to the lightship and reseued all the crew. She sank ten minntes later. Captain Giblos received the Congresslonal Gold Medal. His first mate received a commendatlon. No attention was ever called to the receiving operator who had made thls reseue possible. His name, as has been mentioned earlier, was Ben J. Reynolds of Newport, lihode Island, the man who had hend operator in charge at the Torpedo Station, Newport, Rhode Island.

Ben did receive a posteard signed by all hands rescued expressing their sincere thanks.

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## LIFE SUBSCRIPTION

To The Old Farmer's Almanac Oniy Ten Dollars YANKEE, INC.

DUBLIN, N. H.

## GESTATION AND REPRODUCTION TABLE

|  | Proper age 10 r firstmating | Period of power of reproduction in years | No. of for one male | Period of gestation and incubation |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Shortest days | Mean days | Longest |
| Mare | 3 yrs . | 10 to 12 |  | 325 | 336 | 352 |
| Stallion......... | 18-24 mos. | 12 to 14 | 20 to 30 | 235 | 282 | 300 |
| Bull. . | 12-18 ${ }^{\text {a }}$ | 10 to 12 | 30 to 40 |  |  | 152 |
| Ewe. | 12-14 ${ }^{18}$ |  | 35 to 45 | 145 | 147 | 152 |
| Ram. | 12-14 ${ }^{\text {a }}$ | 6 | 35 to 45 | 110 | 114 | 120 |
| Boar | 9 "، | 6 | 8 to 12 | 147 | 151 | 155 |
| She Goat. | 18 " 18 | 5 | 20 to 30 |  |  |  |
| Ass............ | 3 yrs . | 10 to 12 |  | 356 | 367 | 378 |
| Jack ....... . |  | 12 to 15 | 20 to 30 | 309 | 315 | 325 |
| Sitch........ | 16-18 | 8 |  | 58 | 63 | 67 |
| Dog. | 12-16 " | 8 |  |  |  |  |
| She Cat. | 12 mos . | 6 |  | 58 | 60 | 64 |
| He Cat Rabit. | 12 '، | 10 to 6 | 6 to 8 | 25 | 30 | 35 |
| Buck Rabbit. | 6 " | 5 to 6 | 30 |  |  |  |
| Cock. |  | 5 to 6 | 12 to 18 |  |  |  |
| Hen. |  | 5 to 6 |  | 19 | 21 | 24 |
| Turkey |  |  |  | 24 | 26 | 30 |
| Duck. |  |  |  | 27 | 30 | 33 |
| Goose. |  |  |  | 16 | 18 | 20 |
| Pigeon. Pea Hen |  |  |  | 25 | 28 | 30 |
| Guinea Hen. . |  |  |  | 20 | 23 | 25 |
|  |  |  |  | 40 | 42 | 45 |
| Hen or Duck's Eggs. ...... |  |  |  | 22 | 30 | 34 |
| Robin's Eggs. . |  |  |  | 13 | 16 | 19 |

## REPRODUCTIVE CYCLE IN FARM ANIMALS

Courtesy F. N. Andreres - Purdue University

|  | $\begin{gathered} \text { Reoccurs if } \\ \text { not Bred } \\ \text { (Days) } \end{gathered}$ | Estrual Creleincl. Heat Period(Days) |  | In Heat for |  | Usual Time of Ovulation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ave. | Range | Ave. | Range |  |
| Mare | 16 | 21 | 10-37 | $\begin{gathered} 5-6 \\ \text { days } \end{gathered}$ | $\begin{array}{r} 1-37 \\ \text { days } \end{array}$ | 24-48 hours before end of estrus |
| Sow | 19 | 21 | 18-24 | $\stackrel{2-3}{\text { days }}$ | $\begin{aligned} & 1-5 \\ & \text { days } \end{aligned}$ | Usually second day of estrus |
| Ewe | 15 | 16 | 14-20 | $\begin{aligned} & 30 \\ & \text { hours } \end{aligned}$ | $\begin{aligned} & 20-42 \\ & \text { hours } \end{aligned}$ | 1 hour hefore end of estrus |
| Goat | 19 | 20 | 12-25 | $36-48$ hours | $\begin{aligned} & 20-80 \\ & \text { hours } \end{aligned}$ | Near end of estrus |
| Cow | 20 | 19-20 | 16-24 | $\begin{aligned} & 16-20 \\ & \text { hours } \end{aligned}$ | $\begin{gathered} \text { 8-30 } \\ \text { hours } \end{gathered}$ | 14 hours after end of estrus |
| Bitch | 180 | 24 |  | $\begin{gathered} 21-28 \\ \text { days } \end{gathered}$ |  |  |
| Cat | 120 |  |  | $\begin{aligned} & 3-12 \\ & \text { days } \end{aligned}$ |  |  |

## STATE EXTENSION DIRECTORS

Consult these men about your garden and farm problems. They know the answers. Courtesy Ralph M. Fulghum, Assistant Director, Division of Information, U.S. Dept. of Agriculture, Washington, D.C. 20250. *A11 general correspondence is conducted by the A.D. (Associate Director).

Alabama:
Alaska:
Arizona:
Arkansas:
California:

## Colorado:

Connecticut:
Delaware:
Florida: Georgia:
Hawaii:
Idaho:

## Illinois: <br> Indiana:

Iowa:
Kansas:
Kentucky:
Louisiana:
Maine:
Maryland:
Massachusetts:
Michigan:
Minnesota:
Mississippi:
Missouri:
Montana:
Nebraska:
Nevada:
New Hampshire: New Jersey:
New Mexico:
New York: North Carolina: North Dakota:
Ohio:

## Oklahoma:

 Oregon: Pennsylvania: Rhode Island:
## South Carolina: <br> South Dakota:

Tennessee:
Texas:
Utah:
Vermont:
Virginia :
Washington:
West Virginia:

Wisconsin:
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C. B. Ratchford, Univ. of Missouri, Columbia 65201.
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R. P. Davison, Univ. of Vermont, Burlington 05401.
W. E. Skelton, Va. Poly. Inst., Blacksburg 24061. J. P. Miller, Wasli. State Univ., Pullman 99163.
E. J. Nesius, Mineral Industries Bldg., W. Va. *R. J., Verkantown (A.D.), Agricultural Sciences Bldg., W. Va. Univ., Morgantown 26506.
H. L. Ahlgren, Univ. of Wis., Madison 53706.
N. W. Hilston, Univ. of Wyo., Box 3354, Univ. Sta., Laramie 82071.
*L. Schilt (A.D.)-Same address.


# Coursesy can Automobile $\ddagger 4 \pm 1966$ <br> Association 

| State | Max. <br> Speed Open Hwy. (R-Reasonable) | Date <br> Regis. <br> Ex- <br> pires <br> (Incl. <br> Grace) | Driving License Minimum Age | $\begin{aligned} & \text { Gaso- } \\ & \text { line } \\ & \text { Tax } \end{aligned}$ | Per Cent Sales Tax | $\begin{gathered} \text { Non-R. } \\ \text { Days } \\ \text { of } \\ \text { Stay }{ }^{1} \\ \text { (R-Re- } \\ \text { ciprocal) } \\ \hline \end{gathered}$ | Min. <br> Cost of Regis. (3M lbs.100 HP ) | Cost Term Driver's License | Chem. Test Law |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ala . | $60-50 \mathrm{~N}$ | 11/15 | 16 h | $\$ .07$ | 11/2 | 30 | \$ 3.75 | \$4.25-2Y | B |
| Alaska. | 50 | 5/31 | 16 a | . 08 |  | 90 | 30.00 | 5.00-3Y | B |
| Ariz . | $50-45 \mathrm{~N}$ | 12/31 | 18 b | . 07 | 3 | 1804 | 6.25 | 2.50-3Y | A |
| Ark. | 60 | 1/31 | 14 ac | . 075 | 3 | $10^{5}$ | 12.00 | $2.00-1 \mathrm{Y}$ | A |
| *Cal. | 65 | 2/4 | 16 d | . 07 | $3 \dagger$ | ${ }^{2}$ | $9.00 \dagger$ | 3.00-3Y | B |
| Colo. | 60 | 2/28 | 21 b | . 07 | 3 | 30 | 7.10 | $2.25-3 \mathrm{Y}^{7}$ | A |
| * Conn. | 60 | 2 | 16 eft | . 06 | $31 / 2$ | 60 | 10.00 | $6.00-2 \mathrm{Y}$ | C |
| Del. | 50 | 2 | 16 | . 07 | - | 90 | 20.00 | $4.00-2 \mathrm{Y}$ | A |
| *D.C. | R | $3 / 31$ | 16 a | . 06 | - | RI | 22.50 | $3.00-3 \mathrm{Y}$ | A |
| Fla. | 65-55N | 4/20 | 16 ag | . 07 | 2 | P | 21.72 | $3.00-2{ }^{+}$ | B |
| *Ga. | $60-50 \mathrm{~N}$ | 4/1 | 16 h | . 065 | 3 | 30 | $5.00 \dagger$ | $2.50-2 \mathrm{Y}$ | A |
| Haw | 45 | 3/31 | 15 i | .085-11 | - | 10 or ${ }^{3}$ | $15.00 \dagger$ | 3.00 | A |
| Ida. | $60-55 \mathrm{~N}$ | 12/31 | 16 g | . 06 | 3 |  | 17.50 | $6.00-3 \mathrm{Y}$ | C |
| *III. | 65 | 3/1 | 16 a | . 06 | 31/2 | R | 22.50 | $3.00-3 \mathrm{Y}$ | A |
| *Ind. | 65 | 2/28 | $16 \dagger$ | . 06 | 2 | 60 | 12.00 | $1.50-2 \mathrm{Y}$ | 4 |
| *Iowa. | $70-60 \mathrm{~N}$ | 1/31 | 16 g | . 07 | 2 | R | $12.00 \dagger$ | 5.00-2 - | C |
| *Kan. | $70-60 \mathrm{~N}$ | $2 / 15$ | 16 g | . 05 | 3 | R | 10.00 | $3.00 \dagger$ | C |
| Ky. | $60-50 \mathrm{~N}$ | $3 / 1$ | 16 a | . 07 | 3 | R | 5.00 | $2.00-2 \mathrm{Y}$ | A |
| La. | 60 | 1 | 15 | . 07 | 2 | R | $6.00-21$ | $2.50-2 \mathrm{Y}$ | B |
| Me. | 45 | $2 / 28$ | 17st | . 07 | 4 | R | 15.00 | $5.00-2 \mathrm{Y}$ | A |
| *Md. | 55 | 3/31 | 16k | . 07 | 3 | 30 | 15.00 | $7.00-2{ }^{\text {Y }}$ | A |
| Mass.. | R | 12/31 | 16a | . 065 | - | R | 6.00 | $5.00-2 \mathrm{I}$ | A |
| *Mich... | 65-55N | 2/28 | 16afg | . 06 | 4 | 90 | 10.50 | 4.50-3Y | A |
| *Minn. | $65-55 \mathrm{~N}$ | 3/1 | 16 ef | . 06 | - | R | $5.25 \dagger$ | 3.00-4Y | C |
| *Miss | 65 | 10/31 | 15. | . 07 | 2 | 30 | 12.00 | 2.50-1 | B |
| *Mo. | $65-60 \mathrm{~N}$ | 2 | 16 j | . 05 | 3 | - | 37.50 | $2.00-3 \mathrm{Y}$ | C |
| Mont. | $\mathrm{R}-55 \mathrm{~N}$ | $2 / 15$ | 15 ae | . 06 | $11 / 2 \dagger$ | 90 | 10.00 | $4.00-2 \mathrm{Y}$ | A |
| *Nebr. | 65-60N | 2/28 | 16 gm | . 075 | - | R | 9.00 | $3.00-2 Y$ | C |
| Nev. | R | 12/31 | 16 n | . 06 | 2 | 3 | 5.50 | 3.00-5Y | A |
| N.H | 50 | 3/31 | 16 jt | . 07 | - | R | 15.00 | 10.00-2Y | C |
| N.J. | 50 | - | 170 | . 06 | - | - | 15.00 | $3.00-1 \mathrm{Y}$ | A |
| *N.M. | $70-60 \mathrm{~N}$ | 3/2 | 18 jq | . 06 | - | - | $30.00 \dagger$ | $3.25-2 \mathrm{Y}$ | B |
| *N.Y | 50 | 1/31 | 18 bp | . 06 | 2 | R | 22.50 | 5.00 | C |
| *N.C. | 65 | 2/15 | 16af | . 07 | 11/2 | R | 10.00 | $2.50-4 \mathrm{Y}$ | D |
| N.D. | 60 | 12/31 | 16 | . 06 | $21 / 4$ | R | 32.00 | $3.00-1 \mathrm{Y}$ | C |
| Ohio. | $60-50 \mathrm{~N}$ | 4/15 | 16 e | . 07 | 3 | R | 10.00 | . $75-3 \mathrm{Y}$ | B |
| Okla. | $65-55 \mathrm{~N}$ | $3 / 2$ | 16 d | . 065 | - | 60 | $19.50 \dagger$ | 4.00-2Y | $B$ |
| Ore | 55 | 2 | 16 g | . 06 | - | 3 | 10.00 | $3.00-2 \mathrm{Y}$ | C |
| Pa . | 50 | 3/31 | $18 b$ | . 07 | 5 | R | 10.00 | 4.00-2Y | A |
| *R.I | $50-45 \mathrm{~N}$ | 3/31 | 16 | . 07 | 4 | R | 11.00 | $8.00-2 \mathrm{Y}$ | A |
| S.C. | 55 | 10/31 | 16 g | . 07 | 3 | - | 4.30 | $2.00-45$ | A |
| S.D. | $70-60 \mathrm{~N}$ | 3/31 | 16 g | . 06 |  | 60 | 22.00 | $3.00-4{ }^{5}$ | C |
| *Tenn.. | $65-55 \mathrm{~N}$ | 3/31 | 168 | . 07 | 3 | 30 | 13.25 | $4.00-1 \mathrm{Y}$ | A |
| Tex. | $60-55 \mathrm{~N}$ | 4/1 | 16g | . 05 | , | R | 11.88 | $3.00-2 Y$ | B |
| Utah. | $60-50 \mathrm{~N}$ | 2/28 | 17 | . 06 | 316 |  | 6.00 | $3.00-3 \mathrm{Y}$ | C |
| *Vt. | 50 | 2/28 | 18b | . 065 | - | R | 32.00 | $3.00-1 Y$ | C |
| * Va. | 55 | 4/15 | 18 ap | . 07 | - | 60 | 15.00 | $6.00-3 \mathrm{Y}$ | C |
| *Wash. | 60 | 1/31 | 16 | . 075 | 4.2 | R | $8.60 \dagger$ | $4.00-2 \mathrm{Y}$ | A |
| W.Va. | 55 | 6/30 | 168 | . 07 | 3 | 30 | 20.00 | $5.00-4 \mathrm{Y}$ | A |
| *Wis.. | 65-55N | 2 | 16 g | . 06 | 3 | R | 18.00 | $2.50-2 \mathrm{Y}$ | A |
| Wyo.. | 65 | 3/1 | 1 6st | . 05 | 3 | 15 | 7.50 | $2.50-3 \mathrm{Y}$ | A |

[^6]$\dagger$ Plus various adj. *Seat belts req.

## COME! COME! COME TO THE FAIR!

Montreal will welcome 30 million visitors to the "Universal and International Exhilition 1967" known as "Expo '67," which starts April 28, 19f7 and ends October 27. No second season.
Seventy nations will display their ingenuity, imagination, and progress within the theme "Man and His World," on a man-made island in the mighty St. Lawrence River. To get there, you take roadways leading north (free service station maps are prentiful), or a Greyhound hus, or the Delaware and Hudson or New York, New Haven and Hartford Railroads, or (with smart-looking luggage) fly Air Canada, Eastern Air Lines, or Northeast Airlines.

To stay in Montreal, ask your travel agent to book a hotel or motel now, or write early to "Logexpo, Expo 'b7, Place Ville Marie, Montreal, Canada" for full accommodations information, including tent and trailer camps, hostels, housing in dormitories, tourist and private homes. (Note: normal room and food rates have been pegred by law!)

Withìn the Expo theme you'll see: a profusion of pavilions depicting "Man" as the "Creator," "Explorer," ete.; Labyrinth, a new concept in multi-screeu projection; the most extensive and expensive collection of art and sculpture ever sathered under one roof; La Ronde. several "Disneylands" rolled into one; Habitat '67, an eleveu-level futuristic pyramid containing 158 individual dwellings; and dozens of other attractions.

An admission " T 'assport" is $\$ 2.50$ for adults. $\$ 1.25$ for children, with substantial savings for advance purchasers (write "Expo, Montreal" for order blanks). Transportation on the site by electric express is free. (As of May 1966, American dollars bring $8 \%$ more when exchanged for Canadian!)

## GLOSSARY OF ASTRONOMICAL TERMS, ETC.

Aph. - Aphelion . . . Planet revolving about Sun reaches point in its orbit farthest away from the Sun.
Apo. - Apogee . . . Moon reaches point in its orbit farthest from Earth.
Conj. - conjunction . . . moment of closest approach to each other of any two heavenly bodies.
Declination (see top left hand calendar pages) . . . measure of angular distance any celestial object lies perpendicularly north or south of celestial equator Exactly analogous to terrestrial latitude. OFA gives declination at time each day the Sun is due South.
E1. - elongation . . . apparent angular distance of a member of the solar system from the Sun as seen from the Earth.
Inf. - Inferior . . . Inferior conjunction is when the Planet is between the Sun and the Earth.
Moon Runs High or Low . . . day of month Moon Souths highest or lowest above the horizon.
Occulted. . . hidden from view.
Opposition ... time when Sun, and Moon or Planet appear on opposite sides of the sky (elongation 180 degrees).
Peri. - Perigee . . . Moon reaches point in its orbit closest to Earth.
Peri. - Perihelion . . . Planet revolving about the Sun reaches point in its orbit closest to Sun.
R.A. - Right Ascension . . . the measure Eastward along the celestial equator of any celestial body from the vernal equinox to the point where the circle which passes through the object pcrpendicular to the celestial equator intersects the latter.
Stat. - stationary . . . when the apparent movement of a Planet against the background of Stars stops - just before same comes to opposition.
Sunrise and Sunset . . . visible rising and setting of Sun's upper limb across the unobstructed horizon of an observer whose eyes are 15 feet above ground level.
Sun Fast . . . the times given in this column must be subtracted from your Sun Dial to arrive at the correct time.
Sup. - Superior . . . Superior Conjunction is when the Sun is between the Planet and the Earth.
Twilight... begins or ends when stars of the sixth magnitude disappear or appear at the Zenith - or the Sun is appr. 18 degrees below the horizon.
Underground Moon... one which changes its phases between 12 M . and 1 A.M.

## ANSWERS TO <br> CHAKADES, ETC. ON PAGE 85

(1) A man cannot gather grapes from thistles. (2) A penny saved is a peuny earned. (3) Owl ( $0+$ $\mathrm{UU}+\mathrm{L})$. ( 4 ) Tradewinds. (5) W HAIR over each eye (i) n gander or a bound will p over $t$ and $v$ ice beef hound. (Where over-reaching and error abound, will poverty be found.) (6) He is amending the public ways. (7) Mate, ate, mat, ma, am. (8) Colony. (9) Monosyllable. (10) Grate. (11) Horsemanship. (12) Short. (13) Hew hop lace $S \mathrm{C}$ on F I dents in awl purse ou swill short L y C on FI D E in no body. (He who places confidents in all persons will shortly confide in nobody.) (14) A ditch.

UNUSUAL FARM ENPERIENCE Winner of the 1966 Essay Contest Daddy was measuring the corn into the feed boxes. The farm horses heard, and, auxious for supper, milled arouud the back gate.

Our little two-year-old boy. playfuliy unhooked the gate: Our old pet mare put her nose in first, pushed the gate opeu, knocking the baby down. Immediately seven eager horses rushed through, but each one jumped over our baby !

Paralyzed with shock, when we could get to him, he was cryiug, not from paiu, but because the horses would not wait for him to open the gate! A uever-to-be-forgotten experience! - Mrs. Hazel H. Canary, Trafalgar, Ind.

Winners of the 1966 Essay Contest (sec Page 67, 196it OFA) were Mrs. Canary (1st, \$2.0.00) : C. E. leek, Aloha, Ore. ( $2 \mathrm{nd}, \$ 15.01$ ) : C. M. Eddy, Jr., Providenee, R. I. (3rd, $\$ 5.00)$. For $196 \%$, the money will go ( $1 \mathrm{st}, \$ 25.00-2 \mathrm{nd}, \$ 15.060-3 \mathrm{rd}$, $\$ 5.00$ ) for the best 100 -word essay on "The hargest veqetable We Ever Grew." Contest closes May 1, 196\%.

No entries returned: all become property of lankee, lne., which reserves all rights in the material submitted. Case of tie, place moncy himped and divided. Staff of VANELEE, final judge. Winners announced 1906 OFA.

Address: Essay Contest, Xankee, Inc., Dublin, N. H. 03444.

## ANSWERS TO OLD-FASHIONED <br> PUZZLES ON PAGE 84

(1) "O, King!" explained Conrad. "Is it not clear that the six coins not tested are genuine? The counterfeit lies among the six on the pans. If heavr, it must we among the three on the left; if light, on the right. Allow me, O King, to number those on the right 1,2 , and 3 , and to replace them with three of the won-tested but patently genuine coins. If the pans now balance, the counterfeit is number 1,2 , or 3 and is light. And so I clear the pans and put number 1 on the left and number 2 on the right. If either pan \&oes down, the counterfeit is opposite; or, if they balauce, it is number 3 If, on the other hand, when coins 1.2 , and 3 were replaced, the left pan had gone down, then the counterfeit would be aroong the three on the left, and heary; or, if the left pan had gove up, the counterfeit would still be among the left three, but light, and in either case a final balanciमg of two of these. as above, would reseal the counterfeit. (Puzzle and answer courtesy of Ciifford Cawley.)
(2) 22 inches (Courtesy of Edward De Respiris).
(3)

(4) Forty-four weeks.
(5) :


## LITTLE ROBERT AND THE OWL

by Mrs. Sherwood<br>Woodcuts and Text from John Metcalf Northampton, Massachusetts . . . 1836



Little Robert's father lived in a village; but his grandmother dwelt in a lone house on the top of a hill about a mile and a half from this village.

One afternoon in the month of January, Robert overheard his father saying to his mother, "Wife, I have been to see our old mother on the hill-top, and she has a bad toothache; I' wish she had some of the medicine in the bottle, which did me so much good when, my face was so bad."
"Indeed," said Robert's mother, "I heartily wish she had; but I know not who can be sent with it, as the boy is not come in from market, nor has Hannah yet milked the cows."
"But what should hinder me, mother, from running over with it?" said little Robert. "Late as it is, if I make haste, I may be there before it is dark; and then, mother, I can stay all night, you know, at grandmother's."
"Very well, Robert!" said his father, "you have a mind for some of your grandmother's mince ,", pies for supper, I perceive!"
"No, father," said Robert gravely, "I was not thinking of
the mince pies, but of poor grandmother's toothache; and it would give me great pleasure to take her any thing that might ease her pain."

Little Robert's mother then looking out of the window, said, "Robert, you must put on your great coat and thick shoes, for you will certainly find the snow lying deep on the hill-side; and the air is very keen." She then put on Robert's great coat, and tied his hat on with a handkerchief, because the wind blew strongly; and putting the bottle in his hand, she kissed him and said "Good night, Robert! We shall look for you in the morning by nine o'clock at furthest; so speed away my boy, and give our love to our good mother."
Little Robert hastened forward, and soon came to the place where he must leave the road and cross a stile into a meadow, which was as much as half a mile from one end to the other. This meadow was totally covered with snow; there was, however, a narrow path across it, where the snow was somewhat trodden by a few foot passengers. Robert got nimbly over the stile, and entered upon the footpath.

In the meantime Robert found himself much hindered by the snow beating in his face; and the air also grew so dark, that he began to fear being overtaken by the night. long before he could reach his grandmother's house. However he took heart, and said to himself, "Never mind, if I am in the niglit, grandmother will be so glad to see me! and then I hope this stuff will do her tooth good."
By this time Robert had reached the other end of the long meadow; but a greater difficulty was now before him. He had a very steep hill to ascend, and the hill was by this time covered with snow, which made it very hard indeed for any one to keep his footing upon it.
At the top of this hill was a wood, which was about half a mile long; at the other end of which stood the house of Robert's grandmother. In the summer there could not be a more delightful path than that which lay through this wood to the old lady's neat dwelling. Nearly at

the entrance of this path, which in the summer nontlis abounded with so many delights, was a larse hollow tree. By the time little Robert had reached the top of the hill, and entered the wood, the path throngh it was so deeply covered with snow, that every step he took plunged him almost up to his knces. In this distress he stood still, and began to consider whether it would not be best for him, instead of trying to get on to his grandmother's, which he now thought would be impossible, to look for some place of shelter near at hand, where he might remain either till the snow should cease, or till the morning light should appear.

At this moment Robert remembered the hollow tree, and tried to recollect the exact snot where it stood. After considering for an instant, he remembered that it was at the right hand of any one coming in from the hill, and a little off the pathway: so groping carefully about, he at length felt his way to this tree.

Little Robert was amost as glad when he found the hollow tree, as if he had put hls liand on the door of hls grandmother's house. "This tree." he said, "will afford me a comfortable dry bed till the morning": and so saying, he pushed himself into it. The hollow part of the tree was filled at the bottom with dry leaves. affording searcely room sufficient for Robert to sit down. with his knees up to his chin. He tucked hls fect uuder his great coat, pulted his enffs over his hands. and was surprised to tind how warm and comfortable he was after all his fatlgues. "And now," sald he, "blow away. wind. as much as you please; for thongh yon whistle and howl all the night long, rou whll not clisturb me much in this comfortable hole. And if my grandmother had but the bottle which is in the top of my hat, all would be just as it should be."

As little Robert said these words, he was surprised by a lond thotting mate, at the thotight, near to his lodging. He started,
and listened again. The noise was repeated still nearer.. "This is not a man's roice." saicl lobert, "neither can it be a wolf or a jackall: there are no such creatures hereabouts.
The little boy then looked out of his tree up to the branches of the nearest trees. amony which he espied two small twinkling eyes. He was at first so friglitened, that he could not prevent himself from crying out: whereupon the two eres disappeared, While he heard a fluttering sound like that of wings. Moreoser, the branches of the opposite tree were shaken. which caused the snow to fall from them in large flakes. A minute afterwards. Robert heard the same hooting which had startled him hefore: hut at a greater distance. Little Robert considered for a moment. and then said. "Surely it is an owl which has frightened me so: and perhaps 1 have got lis bed in this hollow tree. No wonder therefore that he stares at me with his little twinkling eyes, and fills the wood with his looting. But by your leare, Mr. Owl. I shall keep possession of your bed-chamber this one nirht: whether yon are pleased or not." so saying, little Robert began to langh.

Then wrapping his great coat closer round him. and resting his: head upon his knees. he began to repeat some little hymns and verses from the Bible. And while he was thinking of one passage in particular. which he remembered from the Prophet Ezekiel, he fell into a deen sleep. The rerse which little Robert remembered was the 25th of the 3tth chapter of Ezekiel.

I shall repeat this pretty verse for the benefit of such children as may read the stors of little Robert: And I will make with them a covenant of peace, and will cause the evil beasts to cease out of the land; and they shall dwell safely in the rilderness, and sleep in the woods.


Little Robert's parents were rendcred exceedingly uneasy by the tempestuous appearance of the night; and before sunrise in the morning, Robert's father set out for his mother's house to inquire after the boy.

As he went on horsebaek, he did not take his way acroses the meadow, and up the hill, and through the wood; but round about by the high road. And he knoeked at his mother's door just as Thomas the man servant was opening the kitehen window slutters.
"Thomas," said Robert's father, without getting off his horse, "what time did Robert arrive last night?"
"Master," said Thomas, "why, no time; he never eame at all."

Robert's father had now dismounted, and was stepping aeross the kitehen. What a fright they were all in, when they found that the little boy had left his father's house the night before. Then Robert's father, ealling Thomas, ran out into the wood; and the old dog Faithful followed after them.


At length. on coming near the stile, whieh opened towards the hill, they distinguished the tracks of the ehild's fect. slightly covered with snow. The father eried out, when he saw these, partly in terror, and partly in joy, saying, "Follow these! follow these!"' Faithful too pricked up his ears, and ran before, very aceurately pieking out the footmarks, whieh led them round several trees, while they eontinued ealling louder and louder without receiving any answer. At length they pereeived paithful to make a stand before the hollow tree, prieking up ris ears, and wagging his tail. At this they hastened on; when the poor father, who was foremost, rushing forward, fearing to see some dreadful sight, beheld his little boy, wrapped round in his great eoat, still sleeping soundly with his head resting lupon his knees.

At length, Thomas, partly from joy; and partly from wonder.
broke out into a loud laugh, while Robert's father, who was a very pious man, overcome with feelings of a very dificrent kind, burst into an invohuntary flood of tears; a thing, he said, that had not happencd to him since the day of Robert's birth.
"Well, now," said Thomas, "I would give forty shillings, if mistress could but see this: I am sure she would never forget it, if she were to live to be an hundred years old."

By this time Faithful had wakened Robert by jumping upon him: when the little boy, looking up, shewed a face as warm and fresh, as if he had been sleeping all night on the best bed in his grandmother's house.
"Why Robert, my boy!" said his father. "you have ehosen a eomieal kind of bed-chamber!"
"I never slept better in all my life, father," said Robert: "and I know not when I should have waked, if you had not come to call me. But now, Thomas, you must, if you please, help me to get up; for I hare sat here till I doubt whether I can move a foot."

Thomas very eheerfully lent his assistance to help little Robert out of his hed-chamber, where the only ineonvenience he had suffered, was that of having his knees and ankles greatly cramped. from being so long kept in so strange a posture. However, when he had stretched himself a little, he was able to walk to his grandmother's, where a good breakfast by the old lady's fireside soon put things to rights.

Little Robert always afterwards called the hollow tree his bed-chamber: and when he grew up and became a father. he used to tell his children this siory with much delight; explaining to them, at the same time, what it was that made him so eontented in his hollow tree.


## 3 Zostal Zams

Corrected as of A pril 30, 1966.
First Class Matter may be forwarded from one Postoffce to another without additlonal postage but other matter must have new postage.

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$\begin{array}{lcccccccc}\text { ZONES, Wgt. } 1 \mathrm{lb} & \text { Locai } & 1 \mathrm{st} \& 2 \mathrm{nd} & 3 \mathrm{rd} & 4 \mathrm{th} & 5 \mathrm{th} & 6 \mathrm{th} & 7 \mathrm{th} & 8 \mathrm{th} \\ \text { And not over } 1.51 \mathrm{bs} . & 21 \mathrm{c} & 25 \mathrm{c} & 26 \mathrm{c} & 2 \mathrm{sc} & 29 \mathrm{c} & 32 \mathrm{c} & 34 \mathrm{c} & 38 \mathrm{c} \\ \text { and }\end{array}$ $\begin{array}{lllllllll}\text { And not over } 10 \mathrm{lbs} . & 36 \mathrm{c} & 50 \mathrm{c} & 56 \mathrm{c} & \overline{6} 5 \mathrm{c} & \overline{7}-\mathrm{c} & 91 \mathrm{c} & 1.07 & 1.25\end{array}$
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| 5 | . 35 | . 57 | . 62 | .72 | .s7 | 1.022 | 1.18 | 1.34 |
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| 7 | . 38 | . 68 | . 75 | . 88 | 1.17 | 1.25 | 1.50 | 1.73 |
| 8 | . 41 | . 73 | . 81 | . 95 | 1.18 | 1.41 | 1.66 | 1.92 |
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| 10 | . 45 | . 83 | . 93 | 1.10 | 1.35 | 1.66 | 1.98 | 2.31 |
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| 14 | . 53 | 1.03 | 1.18 | 1.41 | 1.79 | 2.14 | 2.60 | 3.01 |
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| 18 | . 61 | 1.23 | 1.42 | 1.71 | 2.20 | 2.61 | 3.21 | 3.71 |
| 19 | . 63 | 1.28 | 1.48 | 1.79 | 2.30 | 9.73 | 3.36 | 3.88 |
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## FARBK BALIADS

## OVER THE HILL TO THE POOR-HOUSE.

## BETSEY AND I ARE OUT.

## HOW BETSEY AND I MADE UP.

## By WILL CARLETON.

"These poems have been written under various, and, in some cases, difficult, conditions: in the open air, 'with team afield;' in the student's den, with ghosts of unfinished lessons hovering gloomily about; amid the rush and roar of railroad travel, which trains of thought are not prone to follow; and in the editor's sanctum, where the dainty feet of the Muses do not often deign to tread." Harper \& Bros., 1873.


## Over the Hill to the Poor-House.

Orer the hill to the poor-house - I can't quite make it clear !
Over the hill to the poor-house - it seems so horrid queer!
Many a step I've taken a-toilin' to and fro.
But this is a sort of journey I never thought to go.

Over the hill to the poor-house I'm trudgin' my weary way -
I, a woman of serenty, and only a trifle gray -
I, who am smart an' chipper, for all the years I've told,
As many another woman that's only half as old.

What is the use of heapin' on me a pauper's shame?
Am I lazy or crazy? am I blind or lame?
True, I am not so supple, nor yet so awful stout; But charity ain't no favor, if one can live without.

I am willin' and anxious an' ready any day
To work for a decent livin', an' pay my honest way;
For I can earn my victuals, an' more too, I'll be bound, If any body only is willin' to have me round.

Once I was young an' han'some-I was, upon my soulOnce my cheeks was roses, my eyes as black as coal; And I can't remember, in them days, of hearin' people say, For any kind of a reason, that I was in their way.
'Tain't no use of boastin', or talkin' over free, But many a house an' home was open then to me; Many a han'some offer I had from likely men, And nobody ever hinted that I was a burden then.

And when to John I was married, sure he was good and smart, But he and all the neighbors would own I done my part; For life was all before me, an' I was young an' strong, And I worked the best that I could in tryin' to get along.

And so we worked together: and life was hard, but gay, With now and then a baby for to cheer us on our way ; Till we had half a dozen, an' all growed clean an' neat, An' went to school like others, an' had enough to eat.

So we worked for the child'rn, and raised 'em every one; Worked for 'em summer and winter, just as we ought to 've done;
Only perhaps we humored 'em, which some good folks condemn, But every couple's child'rn's a heap the best to them.

Strange how much we think of our blessed little ones !I'd have died for my daughters, I'd have died for my sons; And God he made that rule of love; but when we're old and gray,
I've noticed it sometimes somehow fails to work the other way.

Strange, another thing: when our boys an' girls was grown, And when, exceptin' Charley, they'd left us there alone; When John he nearer an' nearer come, an' dearer seemed to be, The Lord of Hosts he come one day an' took him away from me.

Still I was bound to struggle, an' never to cringe or fallStill I worked for Charley, for Charley was now my all; And Charley was pretty good to me, with scarce a word or frown, Till at last he went a-courtin', and brought a wife from town.

She was somewhat dressy, an' hadn't a pleasant smileShe was quite conceity, and carried a heap o' style; But if ever I tried to be friends, I did with her, I know; But she was hard and proud, an' I couldn't make it go.

She had an edication, an' that was good for her;
But when she twitted me on mine, 'twas carryin' things too fur; An' I told her once, 'fore company (an' it almost made her sick), That I never swallowed a grammar, or 'et a 'rithmetic.

So 'twas only a few days before the thing was doneThey was a family of themselves, and I another one; And a very little cottage one family will do, But I never have seen a house that was big enough for two.

An' I never coukd speak to suit her, never could please her eye, An' it made me independent, an' then I didn't try ; But I was terribly staggered, an' felt it like a blow, When Charley turned ag'in me, an' told me I could go.

I went to live with Susan, but Susan's house was small, And she was always a-hintin' how snug it was for us all; And what with her husband's sisters, and what with child'rn three, 'Twas easy to discover that there wasn't room for me.

An' then I went to Thomas, the oldest son I've got, For Thomas's buildings 'd cover the half of an acre lot; But all the child'rn was on me-I couldn't stand their sauceAnd Thomas said I needn't think I was comin' there to boss. An' then I wrote to Rebecca, my girl who lives out West, And to Isaac, not far from her-some twenty miles at best; And one of 'em said 'twas too warm there for any one so old, And t'other had an opinion the climate was too cold.

So they have shirked and slighted me, an' shifted me aboutSo they have well-nigh soured me, an' wore my old heart out; But still I've borne up pretty well, an' wasn't much put down, Till Charley went to the poor-master, an' put me on the town.

Over the hill to the poor-house-my child'rn dear, good-by ! Many a night I've watched you when only God was nigh; And God'll judge between us; but I will al'ays pray That you shall never suffer the half I do to-day.

## Betsey and I

 Are Out.

Draw up the papers, lawyer, and make 'em good and stout; For things at home are crossways, and Betsey and I are out. We, who have worked together so long as man and wife, Must pull in single harness for the rest of our nat'ral life. "What is the matter?" say you. I swan it's hard to tell! Most of the years behind us we've passed by very well; I have no other woman, she has no other manOnly we've lived together as long as we ever can.

So I have talked with Betsey, and Betsey has talked with me, And so we've agreed together that we can't never agree; Not that we've catched each other in any terrible crime; We've been a-gathering this for years, a little at a time.

There was a stock of temper we both had for a start, Although we never suspected twould take us two apart; I had my various failings, bred in the flesh and bone; And Betsey, like all good women, had a temper of her own.
The first thing I remember whereon we disagreed Was something concerning heaven-a difference in our creed; We arg'ed the thing at breakfast, we arg'ed the thing at tea, And the more we arg'ed the question the more we didn't agree.
And the next that I remember was when we lost a cow ; She had kicked the bucket for certain,
the question was only-How?
I held my own opinion, and Betsey another had; And when we were done a-talkin', we both of us was mad.
And the next that I remember, it started in a joke; But full for a week it lasted. and neither of us spoke. And the next was when I scolded because she broke a bowl, And she said I was mean and stingy, and hadn't any soul.
And so that bowl kept pourin' dissensions in our cup:
And so that blamed cow-critter was always a-comin' up; And so that heaven we arg'ed no nearer to us got, But it gave us a taste of somethin' a thousand times as hot.
And so the thing lept workin', and all the self-same way; Always somethin' to arg'e, and somethin' sharp to say ; And down on us came the neighbors, a couple dozen strong, And lent their kindest sarvice for to help the thing along.
And there has been days together-and many a weary weekWe was both of us cross and spunky, and both too proud to speak;
And I have been thinkin' and thinkin', the whole of the winter and fall,
If can't live kind with a woman, why, then, I won't at all.

And so I have talked with Betsey, and Betsey has talked with me, And we have agreed together that we can't never agree; And what is hers shall be hers, and what is mine shall be mine; And I'll put it in the agreement, and take it to her to sign.
Write on the paper, lawyer-the very first paragraphOf all the farm and live-stock that she shall have her half; For she has helped to earn it, through many a weary day, And it's nothing more than justice that Betsey has her pay.
Give her the house and homestead-a man can thrive and roam; But women are skeery critters, unless they have a home; And I have always determined, and never failed to say, That Betsey never should want a home if I was taken away.
There is a little hard money that's drawin' tol'rable pay: A couple of hundred dollars laid by for a rainy day; Safe in the hands of good men, and easy to get at ; Put in another clause there, and give her half of that.
Yes, I see you smile, Sir, at my givin' her so much; Yes, divorce is cheap, Sir, but I take no stock in such ! True and fair I married her, when she was blithe and young; And Betsey was al'ays good to me, exceptin' with her tongue. Once, when I was young as you, and not so smart, perhaps, For me she mittened a lawyer, and several other chaps; And all of them was flustered, and fairly taken down, And I for a time was counted the luckiest man in town.
Once when I had a fever-I won't forget it soonI was hot as a basted turkey and crazy as a loon;
Never an hour went by me when she was out of sightShe nursed me true and tender, and stuck to me day and night.
And if ever a house was tidy, and ever a kitchen clean, Her house and kitchen was tidy as any I ever seen; And I don't complain of Betsey, or any of her acts, Exceptin' when we've quarreled, and told each other facts. So draw up the paper, lawyer, and I'll go home to-night, And read the agreement to her, and see if it's all right; And then, in the mornin', I'll sell to a tradin' man I know, And kiss the child that was left to us, and out in the world I'll go.

And one thing put in the paper, that first to me didn't occur: That when I am dead at last she'll bring me back to her; And lay me under the maples I planted years ago, When she and I was happy before we quarreled so.

And when she dies I wish that she would be laid by me, And, lyin' together in silence, perhaps we will agree; And, if ever we meet in heaven, I wouldn't think it queer If we loved each other the better because we quarreled here.

## How Betsey and I Made Up.

Give us your hand, Mr. Lawyer: how do you do to-day?
You drew up that paper-I s'pose you want your pay.
Don't cut down your figures: make it an X or a V ;
For that 'ere written agreement was just the makin' of me.
Goin' home that evenin' I tell you I was blue, Thinkin' of all my troubles, and what I was goin' to do ; And if my hosses hadn't been the steadiest team alive, They'd 've tipped me over, certain,
for I couldn't see where to drive.
No-for I was laborin' under a heary load;
No-for I was travelin' an entirely different road;
For I was a-tracin' over the path of our lives ag "in, And seein' where we missed the way, and where we might lave been.

And many a corner we'd turned that just to a quarrel led, When I ought to 've held my temper, and driven straight ahead: And the more I thought it over the more these memories came, And the more I struck the opirion that I was the most to blame.

And things I had long forgotten kept risin' in my mind, Of little matters betwixt us, where Betsey was good and kind; And these things flashed all through me,
as you know things sometimes will
When a fellor's alone in the darkness, and every thing is still.
"But," says I, "we're too far along to take another track, And when I put my hand to the plough I do not oft turn back; And 'tain't an uncommon thing now for couples
to smash in two;"
And so I set my teeth together, and vowed I'd see it through.

When I come in sight o' the house 'twas some'at in the night, And just as I turned a hill-top I see the kitchen light; Which often a han'some pictur' to a hungry person makes, But it don't interest a feller much that's goin' to pull up stakes.

And I crammed the agreement down my pocket as well as I could,
And fell to eatin' my victuals, which somehow didn't taste good. And when I went in the house the table was set for meAs good a supper's I ever saw, or ever want to see;

And Betsey, she pretended to look about the house,
But she watched my side coat pocket like a cat would watch a mouse ;
And then she went to foolin' a little with her cup,
And intently readin' a newspaper, a-holdin' it wrong side up.


And when I'd done my supper I drawed the agreement out, And give it to her without a word, for she knowed what 'twas about;
And then I hummed a little tune, but now and then a note Was bu'sted by some animal that hopped up in my throat.

Then Betsey she got her specs from off the mantel-shelf, And read the article over quite softly to herself; Read it by little and little, for her eyes is gettin' old, And lawyers' writin' ain't no print, especially when it's cold.

And after she'd read a little she give my arm a touch, And kindly said she was afraid I was 'lowin' her too much; But when she was through she went for me, her face a-streamin' with tears, And kissed me for the first time in over twenty years!

I don't know what you'll think, Sir-I didn't come to inquireBut I picked up that agreement and stuffed it in the fire ; And I told her we'd bury the hatchet alongside of the cow; And we struck an agreement never to have another row.

And I told her in the future I wouldn't speak cross or rash If half the crockery in the house was broken all to smash; And she said, in regards to heaven, we'd try and learn its worth By startin' a branch establishment and runnin' it here on earth.

And so we sat a-talkin' three-quarters of the night, And opened our hearts to each other until they both grew light; And the days when I was winnin' her away from so many men Was nothin' to that evenin' I courted her over again.
Next mornin' an ancient virgin took pains to call on us, Her lamp all trimmed and a-burnin' to kindle another fuss; But when she went to pryin' and openin' of old sores, My Betsey rose politely, and showed her out-of-doors.
Since then I don't deny birt there's been a word or two:
But we've got our eves wide open, and know just what to do: When one speaks cross the other just meets it with a laugh, And the first one's ready to give up considerable more than half.
Maybe you'll think me soft, Sir, a-talkin' in this style, But somehow it does me lots of good to tell it once in a while; And I do it for a compliment-'tis so that you can see That that there written agreement of yours was just the makin' of me.

So make out your bill, Mr. Lawyer : don't stop short of an X : Make it more if you want to, for I have got the checks. I'm richer than a National Bank, with all its treasures told, For I've got a wife at home now that's worth her weight in gold.


I shall please the Lord, the giver. I have loved because the Lord has heard the voice of my plea.

## Jodal $\mathfrak{G i f t s}$

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rankee Magazine

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marguerite carter

This woman's predictions published in September 1965 were fulfilled in less than a year: . . Romania would pull away from the Kremlin . . . an end to one phase of Alabama Governor Wallace's career and a return to the spotlight . . . the removal of Russia's President Mikoyan . . . the plots against Nasser of Egypt . . . the finaneial crisis of England!
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REGULATIONS rosens Order and Diocidtine
 alnited Statest

In CONGRESS; 29 th March, 1779.

CONGRESS judging it of the greatel importance a to prefcrihe forne invariable rules for the Order and Difcipline of the l'roops, eipecially. for the purpofe of introducing an uniformity in their formation and manoeuvres, and in the fervice of the camp:
Orderaed, That the following Regulations be offerved by all the Troops of the United States, and that all general and other Officers caufe the fame to be exscuted with all polible cxadtne? 3 .

By Order,
JOHN JAK Preciont Ahof, Charles Thomesom, Notioy.


7h. Tukedine


## U.S. MANUAL OF ARMS, 1779

On the facing page are some 13 illustrations relating to U. S. troop regulations in the year 1779. John Jay, at this time, was President of the so-called Continental Congress - which, after the adoption of the Constitution in 1788, became the United States Congress. These regulions were drawn up by Baron Friedrich Wilhelm von Steuben (1730-94), a Prussian officer. In 1777, in Paris, this German Baron was persuaded to come to America to train our Continental Ariny. He served with this army at Valles Forge, rallicd it to save the day at Monmouth (1778). His personal services, as well as his fortume, were devoted to the Revolutionary cause. Some years afterwards the Congress awarded him for his patriotism a pension and large land grants.

Steuben's requlations with respect to The Manual Exercise are shown hercwith. Every army as well as our own at the present time, has such Regulations. Recruits, as well as officers., are guided by it. Infractions have led not only to "kitchen police", but court martials. Regulations include not only the Manual Exercise, but all manner of formation and marcling orders, firing, making camp, roll calls, guard dutics, treatment of the sick, reviews, etc.

Although the inclusion of this excerpt from Steuben's Regulations may not appear to excite all of the readers of this ALMANAC, it should have special interest for the many thousands of Americans who have from time to time heen subject to such Regulations. These Americans will recognize at once that the 1779 muzzle-loaded firelock perhaps served well only the soldier who managed to load his musket first.

There follow briefly excerpts from the instructions which pertain to the illustrations:

I Poisc - lock to front, light hand below lock, bring firelock from shoulder to face, left hand above lock of an equal heiglit with eyes.

II Turn barrel opposite face, thumb on cock, cock by drawing down elbow, thumb on breach pin, fingers under guard.

III Right foot back six inches, butt end against right shoulder, right eyc along barrel.

IV Fire. Pull trigger briskly, bring up right foot to priming position, heels even, lock opposite right breast, muzzle high as hat, seize cock with forefinger and thumb of right hand.

V Half bend cock briskly.
VI Bring right liand to pouch, seize cartridge, bring it to mouth, bite off top down to powder, cover with thumb, bring hand as low as chin, elbow down.

VII Shake powder into pan, cover cartridge, place last three fingers behind hammer, elbow up.

VIII Shut pan briskly, bring elbow to butt, hold cartridge fast, turn piece nimbly around, lock to front, muzzle at chin height.

IX Put cartridge in muzzle, shake powder in barrel, turn stock towards you.
$X$ Draw rammer, turn, enter into muzzle.
XI Ram cartridge down barrel, recover rammer, draw out, turn and enter as far as lower pipe.

XII Thrust rammer home, bring piece to shoulder with left hand.
XIII Bring left hand to butt, right hand to your side.
Not shown in the illustrations or excerpted here are instructions XIV-XXVII which cover order arms, grounding, taking up, shouldering, securing, shouldering. fixing bayonet, shouldering. presenting, shouldering, charge-bayonet, shouldering, advance and shouldering again. The Manual Exercise ends with an explanation of the fifteen motions used in priming and loading, of the positions of each rank when firing, and, finally how to "dress" right and left, wheel, march and halt.

It will be noted there are two qualities emphasized in Steuben's Regulations without which a Continental Soldier could hardly be: 1) "brisk" and 2) "nimble."

The first United States Militia Act was passed in Congress on May 8, 1792 at which date Robert B. Thomas was preparing the first edition (1793) of this ALMANAC.

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## Continued from page 10

earlier the old woodeuts which occur on the calendar pages. Originally cut ly Abel Bowen tor the almanac, these have heen in constant use since the edition of $1: 09$.

It was shortly after the addition of the rellow enver that Abraham Lincoln is vatu to have won the famous Armstrong Murder Case (August 18.7.) hy rrowing from the almanas that no the night of the murder the moon was riding so low at the horizon that the prosecution was in error in trying to uphold the alleged fact that a witness had sincn "ly the light of the moon', the murderons blow. This is disputed hy some but the fact still remains that The Old Farmer's Amanar was the only one of that yoar which stated on that day the "moon rides low."


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"The OFA has lueen a companion for many years as I am now older than Mr. Thomas was when lie died." John A. White, Brookfield, Mass., March 22. 1845. Mr. White was born in the olel Thomas Homestead on Angust 8 , 1859. Mr. Thomas was 80 wilen he passed on.)

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"I learned to love poetry on $m y$ father's knee from The old Farmer's Almanac (k)', Celia Thaxter (the famons Isles of Shoals poetess, born in 1832) stated, or rords to this effect, in her diary
"In one of my grandmother's letters written on board the clipper ship Whirlwind in 185\%, she thanked her friends in Andorer. Massachusetts, for their monderfill gift of a big carpet bag full of gifts, including the OFA. She told them 'The Old Farmer's A1manae(k) was just what we Want." Martha Rice Furlong, La Jolla, Calif., Oct. 28, 1965.
"My father was a farmer, cutting salt marsh at Hampton Falls, N. H. and as a lad I went mith him and he glwars gorerned his time to cut the hay there by The Old Farmer's Almanac. That must have been about 18:9." Roland Sawser, Kensington, N. H., Jan. 8, 1966.

As to the reather, the general strle of predictions (and secret formula) adopted br Mr. Thomas, \#ith some additions and subtractions, has been carried on continnously since 17!12. In 1870 . when the Cnited States Weather Bureau was established. the editors of other almanaes abandoned weather forecasting. Not so mith this almanac. The accuracy of this almanaés long-range forecast has always been noted with interest. There is no other comparable long-range forecast with anywhere near its success in predicting weather trends. The U.S. W.B.'s long-range forecast $\mathbf{1 3 0}$ days ahead) is of ten less successful than the OFA's forecast (made up 18 months ahead). But

Continued on page 144

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## Continucd from page 142

the two are really not compar able. The OFA forecast today is the only long-range forecast pinpointed to a verification spot so that there can be little argument as to how close its forecasts come to actuality. Its five Regional Forecasts, new this year, are also similarly pinpointed at a U.S.W.H. station in each locality.

The Office of Censorship in Washington, D. C., on April 2, 1942, asked this almanac, for reasons of security, to "abandon all weather forecasting" on the grounds that "yours is hon-est-to-goodness forecasting done with a considerable scientific skill and some accuracy.

In recent rears there hare been many "direct hits" - the Worcester (Mass.) tornado in 105\%: the blizzard (1952) that lost Robert Taft the New Hanpshire Primary race: the big October (19.4) wind in Oregon; the 196.5 tornadoes at Minneapolis: the January storms of 1946: the Houston rains of last April, etc. Followers of the OFA's forecasts will tell you it is right more often than it is wrong. This is the most that can be expected of any long-range forecast. One lundred per cent accuracy is a long way off - even with satellites and coniputers.

Over the years since Mr. Thomas' death. there have heen nine editors of this almanac: John H. Jenks, 1847-60; Charles L. Flint, 18ti1-69; Tohn B. Tileston, 1870-71; Loomis J. Campbell, 18:Robert Ware. 1sTT-1918: Frank B. Newton, 1919-32: Carroll J. Swan, 1923 35; Koger Seaife. 1936-40: and, since 1s41, Robb Sagendorph. There have been some ell copyright owners since 1792, the present one being yankee, Inc., of whieh Robb Sagendorph is President. Provision has been made for continuing into the foreserable future the lublieation of The Ola Harmer's Amanac (see page 17).
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[^1]:    Continued on page 10

[^2]:    These three days some other months stole. A welcome theft, say we, they were too - cold.

[^3]:    Now is the moment to decide - fly south or

[^4]:    Begay - spring is only about 112 wintry days

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