## 解 ottr ．

or the Willametue Farme
GOOD AND ILL． Amid the feeting reart，
or this inconatant Hfe． It certaininy appeara
some part is marred by etrif Let each one who in gettiog
Hie fall round hareo of trout His fill found thare of trouble，
Diepenve with pighi and frettiog． Whith serve to make it donble． Would yon eajoy trae peace， You must experlence
will your joys increate when it retarna again Bo bravely bear to－day
Your heavy load of Your heasy load of sorrow，
And trast，and hope，and pray And trast，and hope，and pray
That joy will cone to－morrow． Midalebury，Vermont，Aprili，157．

## grientifit．

The Earti＇s Rotation．－There are fow，if any，schools or institutions of learning in the land，where the course of instruction comprises as－
tronomy，in which the students of tronomy，in which the students of is no evidence whatever that the is no evidence whatever that the earth＇s motion around its axis was ever slower or faster than at the
present time．In a very interesting present time．instructive article，entled＂Our Chief Timepiece losing Time，＂Mr． Proctor combats this proposition．＂I is no idle dream，＂he says，＂but a matter of absolute certainty，that， terrestrial globe is losing its rotation movement．＂This fact has been as－ certained by a comparison of the times when ancient eclipses actually occurred with the times when they ought to have oceurred，if in former ages the moon moved at the same rate it does now．＂The length of a day，＂says Mr．Proctor，＂is now more by about one eighty－fourth part of a second than it was two thousand years ago．At this rate of change our day would merge into a lunar month in the course of thirty－six thousand million years．But，after a while，the change will take place more slowly，and some trillion or no
of years will elapse before the full of years will elapse before the fult
change is effected．＂ An Astronomical Problem．－ One of the greatest unsolved prob－ lems in astronomy in our era is the the stars of eur of sidereal system． It is worthy of the application of the highest talents and of the largest learning，and it seems to invite es－ pecially the devotion of young men who may make it their life－long la－ bor．There are at least four aids and encouragements to undertake the Work ；first，the form of our sidereal system，which is a ring with an in－ terior disk－like stratum，and both the ring and the stratum lie in the same plane ；secondly，our position in the system，which as aiready shown， near the center；thirdly，the origin of the syste the nebular theory cording to the nebular theory fourthly，the pron on and or sueh ence or the sarticularly whose another，such particula

The aid we may receive in the so－ Iution of this great problem，from our position near the center of our side－ real system，may be estimated by our
relation to our solar system．How much more simple would the mo－ tions of the planets appear from centrul point，like the sun，than from a half－way position，as on our earth ！ Knowing，therefore，our stand point in our sidereal system，we may put together the motions of the fixed stars with the more confidence and hope of final suceess in unraveling the great myatery of their intricate dance．－Ennis．

Action of Water．－Of all the acting，or which have acted in past periods of time，upon the surface of the earth，none has produced mighti－ er changes than lee．Water in all its forms，is the great graving tool by
which have been carved all those in－ which have been carved all those in
equalities of the earth＇s surface
which constitute what we call ers grow，but they do not always

＂scenery．＂The running stream，flower well with vigorous growth the cataract，the waves of ocean，If new soil cannot be had，a wheel－ even the falling drop of rain，all leave barrow of manure to every fify their mark upon the land．Thre is square feet will be enough．If the no cliff or preciplee，no line of crags，garden earth looks gray or yellow， | no ravine or gorge，which does not | rotten leaves－quite rotten leaves－ |
| :--- | :--- |
| owe some，or all，of its beauties to the |  |
| will improve it．If heavy，add sand |  | owe some，or all，of its beauties to the $w i l l$ improve it．If heavy，add sand．

action of water in motion．Every
If very sandy，add salt－about half action of water in motion．Every If very sandy，add salt－about half a
grain of sand betrays the cease－pint to fifty square feet．If very grain of sand betrays the cease－
less working of this potent force；we fifty，square feet．If very
black or rich from previous years mark its action in every rounded manurings，use a little lime，about pebble；and the hugest mountain pint，slacked，to fifty square feet． mass bears on its rugged face the in－If the garden be full of hardy per－ effaceable traces of its long and inef－ennial flowers，to not dig it，but use fectuat conflict with this destroying power．

## forticultural．

## PLANTING YOUNG TREES．

We advise people must decidedly o plant young trees in orchards and ardens for the following reasons ：
1．Young treescost leus throughout， 1．Young trees cost less throughout， at the nursery，in freight chat
also in handiling and planting． 2．They are surer to grow，having proportion to the size of the tops， 3．Having fewer tops，and almost perfeet roots，the small trees become stablished and grow off vigorously
once．The tops of large trees newly planted are of large trees blown by the wind until they bind baning and unhealthy，even if they leaning an
survive．
4．Making most of their growth on the ground where they are to stand， tocky and sturily；mery more eetly adapted to the soil and loea－ ion，as well as the preference of their owner．Setting young trees，the planter can faxhion both bodies and tops exactly to suit his fancy．
5．By setting such young will he lose no time？you ask．To answer truly，I reply，if you give these young trees the first year or wo a little extra watching and care， in their cost，you will not lose a day， but get thereby a mach handsome and more valuable orchard．
6．Or，if not ready to plant out in the orchard permanently this year or，if about to open in a year or two a new farm，as for a son or daughter －why not plant yearlings or root grafts，growing them yourself in the garden with but triffing cost？In the meantime，your children can well as about colts or pigs．Root grafts are set deep，in mellow soll with dirt firm about moots，dipped ust before setting in＂grout，＂i，e．， mud and water，with the top of graf or scion two inches or so above the Plant one or two－year－old trees， and，unless you plant on a hill－side where soil washes badly，plant only on inch or two deeper than they grow in nursery，as deep planting ruin orchard two or three stakes by each ree may be well enough，and then tirred，the cattle，vermin properly stirred，the catle，vermin and weed kept away．Flaito for immediate hearing larg fect，ss about clilies and towns is very，us aboat clferent matter．In such cases， expense and risk are no object．For complete homes，surrounding trees as near perfect maturity as possible are imperatively demanded；hence large－sized trees are of prime impor－ ance．
Be sure to plant nome trees at al hazards．As people in this country ell thousands of trees in the aggre－ gate we claim that they are in duty
bound to plant some of the different und as useful varieties in their stead． It has always been a great satisfac ion to the old farmer to take stranger into his orchard and relate the exact time when this or that tree was＂set out＂by him ten and five years ago．Go and do likewise；you ully．－Northeestern Furmer．

The Flower Garden．－If the flowers have been growing in the ground many years，new soil does
wonders．Rich manure makes flow

## a fork and that not deeply． Dig garden soil only <br> Dig garden soil only when the

 ground is warm and dry．Do not bein a hurry，or you may in a hurry，or you may get behind． When a clot of earth will crush to powder when you tread onet is
todig－not before．－Gardener＇s Month－ $l y$ ．

California．－The Sacramento
Chion figures up the crop of when Cnion figures up the crop of when bushels．Friallander atimutes 000 000 tons of surplus for export requi， ring 300 ships of 9,000 tons burden each to carry it away．

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