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## 


Pactity.


 furms.

Thermal Belt, or Yernal Zone
Now, then, IConctuted]
correlation of 1 have spoken of the is a new idea. Franklin, De landeve Loomis, Peltier, and many other savants, experimented and learned
much of much of electricity-its origin, force,
and use. Peltier may be said to be the founder, or rather said to be the founder, or rather the great
mocer, in that eminent science, the mocer, in that eminent science, the
most eminent among the sciences, meteorology. Peltier, by experi
ments, found out and established it laws; he co-ordinated and collected facts. On these are based meteorology. Now for my authority-to say nothing of my own experience-in regard to the three strata of air, the lower, middle, and upper, hear Peltier. He says: "The diurnal vapors,
such as rise in all countries every such as rise in all countries every
day, during warm weather, and diffuse themselves between that earth and the tropicat current, are divided into three well-deflined and distinct
strata, as, in summer county, may readily be discerned after the setting sun. A light, whitish the earth obove this contact with grayish strata; still higher, white grayish strata; still higher, white
masses of cumulus, or sometimes the effulgent cirrus which scems to stretch away toward the tropical cur-
rent." Again, the same author says: "The diurnal vapors situated beween the earth and the tropical currel.t, that is to say, between two forces acting in a contrary direction, are divided into three very dixtinct strata. The lowest, that which receives most immediately the resinous influence of the globe, becomes vitreous. The portion next to the
surface cannot, it is true, long retain surface cannot, it is true, long retain
its electricity, for the proximity of its electricity, for the proximity of
the earth too greatly facilitates its efllux; it is only the zone placed at some distance which is sufliciently
insulated to preserve a part of it own. The inferior vapors, in assuming the globular form, become white and hunid; they form the ordinary hogs, which so easily rewive themthrough the attraction of the globe." Thus we see the influence of vitre-
ous and resinous electricity. Vitre. ous and resinous electricity. Vitre-
ous and resinous electricity are sy. nonymous with positive and nega-
tive clectricity, and ased mostly by ive electricity, and ased mostly by
late electricians. Now, the ins.
Nos, the inter-change botween never take place without a medium. That medium is resinous or vitreouelectricity. Around the center, cast and west, of the globe, is a belt of direct rays. This heated air ascends, on each side of the equator, to a way, north and south, forming two vast currents constantly pouring to the poles as vitreous streams. On arriving at the poles, an inter-change
takes place; the vitreous becomes resinous, and in the conflict proluces austratis, in an arch light of a rainbow form. The resinous is now terrestrial electricity, and flows along
the earth to the equator. By the the earth to the equator. By the
law of correlation or equivaleney, the law of correlation or equivalency, the
force, vitreous electricity, through force, vitreous electricity, through
change of conditions, becomes, a the poles, resinous or terrestrial. Hence we see the same force con-
stantly acting according to constant $y$ changing conditions. Force, lik
watter from whence it spring it matter from whence it springs, is
never lost. It produces an effect atways equivatent to ho cause. Heat, ight, magnetiom, electricity, do., areonly force; and, as the conditions,
so the force. In a word, a single

The vast thermo-electrical belt the of protection, is produced by he surplun heat derived from the sun's beams, and, eacaping, rises to the higher regions, counteracting down from the vast ethereal fielda which surround our atmosphere, and
thus protect the torid and temper-
there is none, or but little, vegeta- one nest, divided into several comtion and dry sand plains, there is partments, where the naturatist, if very little evaporation. Hence, on he could live on eggs, might study
all deserts there are extremes of the appearance, thatis, and chame all deserts there are extremes of the appearance, hatits, and chanc-
heat and cold-during the day, ex- ter of half the winged dwellers on heat and cold-during the day, excessively hot; the reverse in the Now for the use, the practical utilNow for the use, the practical util-
ity, of a knowledge of electrimal phenomena, of the thermal belt or vernal zone; let us see. And, first : if we wish to grow grapes free from mildew, frost, and furgoid growth, we must avoid the low, black lands of our valleys, for the meteorological reasons given. And, secondly, for early gardens, and all tender plants, we must seek a high, slightly sandy, light-colored soil, on a high, dry, southern slope, of some of our hills It does not depend on the abselute hight, but more on the pecular chorographical features of the land in round the hill for the heave air to ecttle in, and not on the hill. On such situations, the crape, the n! mond, peach, apricot-all semi-tropcal fruit-will grow to perfection, being rich, and free from diseases of all kinds. Hence, then, and neces. sarily, the importance of a knowrial of he atmospheric and terresend of science, of experience, of even theories, is good-agood to ourelves, our race, mankind. A knowedge of the thermal belt, or vernal zone, is of great use to us, as, by it,
we can sucecssfully grow choicc fruits.

## The late of Birds.

Far nouth, in the Indian Ocean, writes a newspaper traveller, in the mast of atmost eternal surf and pray, rises what is appopriately
 stence has been ascertained, this is prabably the most lonely. Once on$y$ since the creation limes it been known to have been visited hy man. The sea, for many hundred miles, rolls and flashes over a shatlow bottom, till, arriving at a certain degree of latitude, the floor of roek abruptly terminates, and the ocean
becomes, in a moment, of unfath. comes, in a moment, of unfath
omable depth. On the very cilpe this alyyse stands Danger 1-land which the heast touch of an carthquake, or an unusuat stroke of hurricane, may some day topple over
into the bottomless gulf. From this persuasion, posvilly man has never tempted to creet his dwelling apon . The surge, overcanopied by the the of of the thue skies, surrounded by boundless expanse of waves, gene rally shining and beautiful, but as fitle specked by satis as if they girdhed an uninhabited planet. Yet, ncessantly fret and foxtn agalinst the liffs of Danger 1-land, which on all ides decend sheer fato the deep, so as to appear from a distance perfectly inaccessible. A surveying ship, raversing the ocean in all directions or selentifle purposes, once approached this wild rock. After rowing to a considerable distance along the foot of the precipices, one gentleman discovered a small flssure, through which he felt confldent they
could climb to the summit; and the could climb to the summit; and the boat being pushed quite clowe to the
rocks, two or three of the ing landed, and afier no slight toil ing landed, and afier no slight toil
and peril, reached the top. The prospect which then presented itself was truly extraordinary. Rendered green as an emerald by the agency fhe inlet was thickly strown with ggs of innumerable ocganic hirds, which, rixing from the task of incubation, formed a canopy of fluttering wings overhead. The eggy were of II colors-white, light chocolate, and cerulean blue, dotted with brown Here and there little bills protruded from the shells; and the mothers, by the unusual apparition of men
bed moon alighted near the young, beligg,
matite in splte of the name of their bome,
ing horoughly unacquainted with danger.
whole surface of the iste formed but

## the teep.

## Visting the rope.

The following is the etiquette oberved when the rope recelves visiors: After passing through the anhe Pope's presence. IHis Ited to he ropers pressence. His Holiness canopy, on a spullitrune, aber a tep from the floor, in an armedre of velvet and gold, with a writher table before $h i m$, you keel at door, again in the middle of the room, and a third time juat before you reach the thronc. The Pope whitests his foot, and you kiss the white slipper where a gold cross is is 1. You remain kneeling untii To men of motions you to rive. made instantly, and the conversation lakes place standing. To religious persons, monks, and even secondary prelates, the sign to rise is fríquently not made at all, and they speat While still knceling. Some high while kneeling; M. do Merole at ways, though ro intimato with Dius Ways, Though no intimato with Pius in this, for nuns kneel before their confessors for a whole half-hour It is an Oriental usage, which is common in the religious world at Rome, and seems to slock noboly. sometimes, indeed, persoas squat down fimillarly on their heels. Cardimalasand bishops kiss the Pope's hand, and st on a gilt stool. Somofoot. No lady is almitted to an auwith except queensand princeses, with their ladies of hotor. As to he other ladies, the Pope meets in the apartuent or garmens, not udien of wheme. the tollet for with on well weon rank, is black, gloves The Pope remains meated with cardinats and bishops, Ite rese to receive princes and princessAs. Forkings, he advances to the mem there. For emperors he wes as far as the ante-chamber. Whew the rope returns the visite of kings or emperors, etiquette requires them
io come down to his carriage wid pen the door. It is a tradition that copesare charming in their audenev Everything is arranged to. astonish and diwneert the visitor:One would say that the seeretaries
and chamberhans gurd the majesty of God. The resulb is a contrasting enfect, at the first smile of this venerChristina of sweden auld mut ro. frain from tears in the presence of Alexander VII The presence of xander VI. (Borgia) was literally captivating. He had a frankness. which was most charming. He gave pubse andence overy Thursday old man. Garvgory hambome for an
morose memory, thath of wat enchanting. anorose mempry, way enchanting.
\& for Pius IX., everyhudy on rit r . ng from the audicne exstima +110 as angel!' Never wasthere a Pope
of more amiable disponition.

A Deathective Storm in Union
 ininity w.us vixited by the heaviert
 hoe whole face of the coutry was a
wke of water. A witer spruit bur on the hater. Alswety north of the
arms of Mrs. Cutes and Mrs, D. R. henon, and about two mikes east of
Vnion, and the whote catur ummit to the whe, the water in some of the gulches leing six feet deep; down into the roads ond fields helow,
many of which would weight from many of which would weigh from
300 to 600 pound and two or threo have been estimated at 1,000 to 1,500
pounds. It ruined Mr. Benson's arden and uprooted some of his aple trees; wushed down und carried
way nearly a half mile of fence on the Iawrence ranch, and ruined
where they were wushed in drfts
hey may be found to the depth of

