of the effect of external conditions on horticultural crops is complicated by the interrelationship of various factors. The solution of the stock-scion problem may possibly lie in some balance of processes, for example, enzymic action, or of ratio of assimilation to respiration.

The discussion of methods of fruit storage occupied the whole of the final session. Dr. Franklin Kidd, Low Temperature Research Station, Cambridge, divides the problems into two groups: (1) those concerned with reduction of wastage and improvement of quality, using present methods; (2) those connected with the evolution of new methods. Local testing of storage qualities is desirable, as is also investigations into trade practice in handling between producer and consumer. The effects of numerous volatile substances in the atmospheres of stores need further investigation. Dr. A. Horne, Imperial College of Science and Technology, London, dealt with the infection and invasion of the apple fruit by fungi and their effect on storage quality. The presence of high fungal numbers and many pathogenic forms in an orchard are in certain cases associated with considerable wastage under ordinary storage conditions, and low numbers and few pathogenic forms with little wastage. Resistance to invasion differs greatly. Miss H. K. Archbold, also of the Imperial College of Science and Technology, showed that prolonged storage life of the apple is generally associated with a slow rate of loss of oxidisable material in respiration. Time of picking greatly influences the chemical composition and hence the storage qualities of the apple. Mr. R. G. Tomkins, Low Temperature Research Station, Cambridge, discussed the biological effect of atmospheric humidity on fruit in storage, noting its possible success in checking certain rots, its value in prolonging storage life, and the practical difficulties met. Mr. Meirion Thomas, Armstrong College, Newcastle, described the condition known as 'aldehyde poisoning'; this condition can be distinguished from brown heart by chemical analysis. The problem is proving to be of considerable economic importance.

The papers presented to the Conference will be published in full by the Imperial Bureau of Fruit Production.

The Egyptian Lily.

IN *Ancient Egypt* for September 1929 (2nd ed.), recently issued, Sir Flinders Petrie publishes the result of a comparison of some two thousand dated and placed examples of the use of the lily in decorative art. The study was undertaken with the view of demonstrating that decoration being arbitrary, unlike objects of utility which may be invented and reinvented any number of times, in its resemblances it is of great value as an indicator of the movements of trade, of culture, of conquest, and of race. The comparative study of decoration thus gives an organised method of research into ages which are without a record.

The lily motive seems to have originated in Crete. It is used in Middle Minoan III. about 2300 B.C. on the great jars of Knossos and on fresco. It was here a natural group; but by about 1600 B.C. it was modified. It appears in late Helladic of about the same time, and with a less natural form about 1400 B.C. There is a form in Rhodes which suggests that the plant was not well known there. The Cretan form passed into being merely a flower; but in Egypt it became fixed in its botanical aspect of the parts, and this permanent type went through immense changes. The detail is much more precise than on the Egyptian paintings.

In various examples different types of simplification are shown. In Hauran the different parts are maintained, but they are wildly changed in an example from Cyprus. In Persia the tips of the spathe become a bunch of dates. An Italian form at Vulci brought in sprays, and such a form passed to India, where calyx and spathe survived. A curious bowl form, proved by examination of transition forms to be the Assyrian form borrowed from the Hittite, was borrowed by Cyprus, where again the old parts were put together differently on the top of an Ionic column of Assyrian origin. A bowl pattern was brought from Cyprus or North Syria into Italy, and two patterns which can scarcely be separated from this stage turn up at Athens and Mathura, India. An inverted form appears to be a Phœnician importation into southern Etruria.

When the form was used either way up, there was more licence in the employment of leafage. Of this type a derivation appears in northern pre-Roman France, which thus must be the result of trade. The Italian form passed back to Crete. In classical times various forms are found about Rome, and by trade passed to India, appearing in the caves of Ajunta. Later still it survived at Ravenna and was worn out finally in the eighth century at Rome and at Cividale. Thus the lily as a decorative motive originated in Crete before 2000 B.C.; coming thence to Egypt it passed by 1400 B.C. to the Hittites and on to Assyria as a tree pattern. Thence transformed by ignorance it reached Cyprus and so came by Phœnician trade to the Tiber, and spread northwards from Rome, naturalised in Italy as a foliage form and finally a group of relief.

Historic Natural Events.

Sept. 8, 1900. Galveston Hurricane.—The hurricane of Sept. 1–12, 1900, is described as the most severe storm which ever occurred in the United States. After travelling westward south of Haiti, it curved to the north across Cuba and nearly to Florida. There it turned again to the west-north-west, and growing in intensity, struck the coast of the United States near Galveston on Sept. 8, after which it passed inland and rapidly broke up. Galveston is built on a low sandy island about thirty miles in length and two to three miles in width, and the city was completely wrecked. The anemometer recorded a velocity of 100 miles an hour when it was blown away at 2 P.M., but the velocity increased steadily until 8 P.M., at which time the corrected barometer reading was 963 mb. (28·44 in.). The storm raised the level of the sea by 15-20 feet, and the whole island was flooded. Nearly half the houses were completely destroyed by wind and sea, more than 6000 people were killed, and property to the extent of 30 million dollars was lost. Enormous losses of life and property were also reported from the coast of the mainland, but owing to the Weather Bureau warnings, only two ships were lost.

Sept. 9, 1897. Typhoon in Sea of Japan.—A violent typhoon travelled along the east coast of Japan, causing enormous damage. At Tokyo the wind reached a velocity of 128 miles per hour in squalls from the south. Many ships were lost; on land many houses were blown down, but the greatest damage was done by the typhoon wave, which flooded large areas and more than 5000 houses.

Sept. 10–13, 1898. West Indian Hurricane.—A violent hurricane passed just south of Barbados on the evening of Sept. 10, crossed St. Vincent on the morning of Sept. 11, and continuing northwards,

passed east of Sombrero on Sept. 13. On Barbados 11,400 houses were swept away, about 115 lives lost, and 50,000 people rendered homeless. On St. Vincent, which experienced the full force of the storm, every exposed building or tree was blown down and 200 lives were lost. The rain was very heavy, amounting to 4·95 in. between 9 A.M. and noon on Sept. 11; probably as much fell between noon and 3 P.M., but the raingauge was destroyed. The rain filled the mountain torrents and whole villages were swept away. All shipping was destroyed. At St. Lucia an avalanche filled a valley for 3 miles, burying houses and estates. A curiosity of the storm was that at Kingstown, St. Vincent, the rain which fell was hot and stinking, and rotted clothes exposed to it; it may have come from the crater lake of Soufrière.

Sept. 10, 1899. Alaskan Earthquake.—This was one of the world's great earthquakes, for it disturbed an area of perhaps 1½ million square miles. At the time little was known about the earthquake, for the central district was almost uninhabited. Six years later, however, the evidence of remarkable changes of elevation was still visible in raised beaches and in the bands of dead barnacles adhering to the cliffs. These showed that the coast was uplifted from a few feet to 47 ft. 4 in. Variations in the amount of elevation revealed the existence of a number of faults that divided the crust up into blocks, the tilting of which gave rise to the earthquake.

Sept. 10, 1902. Hailstorm near Maidstone.—Great damage was caused to the hop-crop in the districts around Maidstone by a violent hailstorm, accompanied by thunder. The hail in many places stripped the plants of all foliage, and the heavy rain even washed away the poles.

Sept. 10, 1903. Gale over British Isles.—During the evening and night of Sept. 10 a deep barometric depression passed rapidly across Ireland and northern England. In its front the barometer fell at the rate of nearly 5 mb. (1·4 in.) an hour, and pressure in the centre was so low as 975 mb. (28·8 in.). On the south coast of England the gale had a remarkable effect on the autumn vegetation, which was scorched brown, curled, and shrivelled up, even at places in the lee of the downs, several miles inland. This effect can scarcely have been caused by salt spray, as the storm was accompanied by very heavy rainfall.

Sept. 11, 1806. Hurricane in Porto Rico.—One of the severest hurricanes on record in the southern part of the island of Porto Rico occurred on this date. Many churches and a large portion of the houses were damaged, fruit trees were destroyed, and rivers overflowed their banks, destroying much property. At San Juan shipping suffered much loss.

Sept. 12, 1717. Triolet Glacier Outbreak.—A great moraine at the end of the glacier of Triolet, at the bottom of Val Ferret, broke up in the night, and an immense amount of débris, mixed with water and enormous blocks of ice, covered all the ground surrounding two châlets. Since then the fertile plain on which these châlets were situated has been covered by ice.

Sept. 13, 1922. Highest Recorded Temperature.—At Azizia in the semi-desert plain of Jefara, in northern Africa, between the coast of Tripolitania and the interior plateau, a maximum temperature of 136·4° F. was recorded on Sept. 13, 1922. This is the highest shade temperature ever recorded by a tested thermometer exposed under standard conditions, and is 2·3° F. higher than the previous record at Death Valley, California on July 13, 1910. The site of the station is in a shallow basin which becomes highly heated by the sun's rays.

Societies and Academies.

PARIS.

Academy of Sciences, July 16.—The president announced the death of A. T. Schlœsing, member of the Section of Rural Economy.—**Ch. Maurain, Mlle. G. Homery, and G. Gibault**: The vertical atmospheric current. At the Val-Joyeux Observatory the electric field is measured continuously and the conductivities corresponding to the positive and negative ions measured three times daily. Tables are given showing the values of the vertical currents deduced from these data.—**J. Courrèglongue and H. Maugein**: Some experiments on auto-oscillation and autorotation of immersed plates.—**Edgar Pierre Tawil**: Stationary ultra-sonorous waves made visible in gases by the method of striæ. A description of an apparatus capable of rendering visible the stationary waves produced in air by a piezo-electric crystal. Photographs are given.—**Herculano de Carvalho**: The presence of uranium in mineral waters. The uranium-radium ratio. Uranium determinations have been made in waters from five springs, the amount found being of the order of 10^{-6} gm. per litre. There was no constant ratio between radium and uranium.—**F. Bourion and Mlle O. Hun**: The determination by the boiling method of the affinity relative to the formation of the complex ammonium iodide-cadmium iodide.—**Auméras and Tamisier**: The spectrophotometric study of the cupripyridine ion in aqueous solution.—**Mme. Ramart-Lucas and J. Hoch**: The configuration of molecules in space. The absorption in the ultra-violet of the acids $C_6H_5(CH_2)_n.CO.OH$, $C_6H_5(CH_2)_n.(CO.OH)_2$ and the hydrocarbons $C_6H_5(CH_2)_n C_6H_5$.—**Sébastien Sabetay and Jean Bleger**: The chromic oxidation of the cyclane-polyols. By the oxidation of quinite in acetic anhydride solution by chromic anhydride, cyclohexandione is obtained in good yield (56 per cent theoretical yield): its physical properties and chemical reactions are given.—**Charles Dufraisse and Marius Badoche**: Researches on the dissociable organic oxides: the transformation of oxyrubrene into a non-dissociable isomer, iso-oxyrubrene. A probable formula is assigned to this oxide, but it is still difficult to suggest a formula for oxyrubrene which explains its property of dissociation with liberation of oxygen.—**Marcel Solignac**: The mineralogical characters of the oolitic iron mineral of Djebel el Ank, southern Tunis.—**Jean Lugeon**: Measurements of the ionisation, of the electric field, and of atmospherics on Mt. Blanc.

CRACOW.

Polish Academy of Science and Letters, June 2.—**C. Zakrzewski and D. Doborzynski**: Some remarks on the dielectric polarisation of the elements. The dielectric polarisation of elements not belonging to the seventh group of the periodic system is independent of the temperature, and the molecules of these elements do not possess electric dipoles. The polarisation of elements belonging to the seventh periodic group depends on the temperature, and this polarisation can be expressed by the well-known Debye formula.—**Wlad. Gorczyński**: The maximum values of the intensity of the solar radiation observed on oceans and in other regions of the earth. Whilst the ocean values do not exceed 1·4 cal. at normal incidence, 1·4–1·5 cal. is obtained on the plains and 1·7 cal. in an oasis of the Sahara. Still higher maxima are observed at high altitudes.—**H. Lachs and J. Biczyk**: The determination of the electrokinetic potential with the aid of the method of the e.m.f. of filtration.—**E. Chrobaczek**: The phenomena of correlation in