Lectures upon

Botany by

Joseph Correa De Serra.

May. 1816.

(Du Petit-thouas in the revolution was about being tried and no doubt would have be decapitated but being in the Garden and amusing himself with flowers, and not acting like a person about to die was supposed an harmless man and pardoned and saved. Brutus pacqued himself a fool

Lucer Rochelka - a Dye -

Lady Novel made discovery among mucospatic plants. (Lady Ann Bonsal).

30,000 plants supposed. 60-000 on the globe. The more we know the easier we learn.

Lady Ann Monseau ( ) discovered the reason why the Hydesarus Gypsum.

when the wind blows the operations of the plant stop.

Whoever commenced the arrangement of plants had great courage to encounter the apparently endless variety of the vegetable kingdom. I do not think so because all the plants which come under the observation of one indifferent person are few in number and only by close examination do we realize the number and variety. I will allow that it did honor to humanity, for as it was a great proof of enterprise and curiosity, which have led to many things great among men.

In France a premium was offered for the best graft for certain situations and many were produced in essay with the best authorities and the savant of France took their sides and actually quarreled about it some contended for superiority one others for the other and it turned out the very same indentical species.

Mr Correa considers the flower the product of the whole plant (of all the part) – Dr Barton says that it is not.

Blunders are of as much service to the increase of knowledge are truth for when once know became truth.

Characters are the letter of which the name of a plant is spelt. A flower is a riddle and the characters are the premises given to find them out.

Mesembryanthemum means a flower which blooms in the middle of the day, at noon

Geranium – Crane bill – also Pelargonium and Erodium

Plants live in two elements – air & earth animals in only one.

The leaf of the cactus becomes in time the round stalk and resembles it – becomes black round & altered altogether.

Sat J. 18. 1816. The greatest Poet challenged any one to find a plant which has a name written upon it, all ours has an lettered and

and we have only to learn them and spell out the name, which is really no easy thing

Aphyteia, neither stem flower nor any ~~thing~~ flower. root. Cape of Good Hope

Epidendrum Flos Aris – ~~Flos~~ now called Aris – Root necessary. Scilla will produce flowers & seed – Allia will – vegetate, but not flower.

Cut the Poa trivialis and the nepent roots push forward so as to destroy everything else –

Pramosa Nallix Scabiosa Succisa.

made by a Spaculation or mistification – In the Lunularia the root is persistent (perennial) and the ~~not~~ knots show the annual growths. –

Ignorance says see that ~~it~~ cannot account for it the Devil's door. Whatever Ignorance can't account for it says to the Devil. example Daniels bit. Vertumn Dr Smiths

Bullimus snail and one end grow the other mortifies sloughs away = The shell of a snail, is produced by slime issuing from the back of the neck

The flavour of the fruit of the Podophyllum Pel: improves as we go south —

Alligators has an imaginine a placenta or yolk — similar to the Raia Genus while they carry about them attached to the venter.

Sorbus aucuparia — because used in hedges for the decoy of birds by the red berries. They shoot and ~~to~~ catch in nets. Its berries remain on later than any other.

Many animals live upon air & water and perhaps air alone — therefore it is not distinction between animals & vegetables that it should be said that veg^s lived upon inorganic substances

Scilla a small plant has little scales upon the roots which dilate near the surface and become cordale leaves in the air. Structure similar, but differing according to situation —

The Leaves always come from the new parts of plants — new twigs. Elm &c.

May 28th 1816

The Corolla (Latin) is the most remarkable part of the flower. As the crown is the head, top and glory of kings and their people, Botanists called this part C. or the crown or glory of the flower. So this glory of the flower to keep up the likeness will put down and destroy every thing else & convert into it own use as in double flowers. The monarchical part of Botany.

May 31st 1816.

The European plants were beautifully arranged by ~~Linn~~ Jussieu according to their flowers - shape &c. but the North American plants came in and made a revolt and turned his system topsiturvey. The are free & independent and would not come under foreign domination refused to be marshaled in French systems.

Aralia Spinosa being easily trained to any shape may be made very ornamental

Hypoxis Erecta use as an garden border

The fibres of the Alcine Media when it is carefully broken & pulled a part are very elastic and the line of perpendicular changes side at each intermodium.

Rosseau says ~~when~~ when reflecting upon the manner that things are fitted to themselves & to accommodate others things as in the diadelphous plants a man must voluntarily put his hands to his eye not to see them. The filaments in Diadelphia are united into a cylinder nearly around the legume which as it swells forces off the odd filament. So the curious structure of the Papilionaceous flowers –

May 6th.

The Levees of the Mississippi have worn away and the waters inundated the country. Mr C. says they should cut canals and drain so that the mud which no flow out to form the delta's the detritus should be conducted into the country the swamps & c and might fill them & make the the most flourishing country in the world. The land over flowed is great in comparison to the River – just as a foot to a pole. The French settled it & these rivers come from Alpine countries and the detritus is such as would decline the whole country as they bring down rock & gravel, not so in Egypt. The netherlands and Louisiana. The detritus is mouldd and

the more we get the better. It may be so arranged as to prevent a rise in the river more than lines or inches. Or the ocean is profiting by our loss. and the Gulfs stream is taking a away our muddy waters and sweeping them we know not where perhaps the banks of Newfoundland.

Coffea Arabica.

The Coffee will only grow in such places where the water never freezes: Florida — never higher — Turkey coffee is from Arabia and the seed coffee never lives more than a few days, loses its vitality immediately

Curious.

Eugenia Jambos the same, all the west India's were supplied from these plants from Grifoine. It can not be acclimatized

The sugar Cane (Saccharum Officinarum is sold to children in Portugal to chew is very good — Cane propagated by cutting, and laying, bending down, never by seed —

A Cryptogamous plant upon the Cre tegus on the Ridge Road — cylinder — membranous near. Also Spirea Compacta —

In plants there is a succession of actions called life – circulation &c.

The Tremella Nostoc blows away and when decay looks like a spot of ink. He kept it months in a draw and then put it into water and it looked as before

The Flores Tristes bloom in the night are are pregnant only in the dark —

Pelargonium Triste – Jasminum Triste – called amber triste – has a celestial fragrance

Roots will push under ground to a good soil. walls & ditches will not prevent.

The Nymphae – sink under water after closing their flowers at night? I do not know the fact.

?

The Perisci plant very slowly alters the habit of blooming in our summer but after many generations they alter & will no doubt acclimatize.

The product of ammonia in animals was supposed distinguishing they from animals and this was valid a long time with Philosophers, but this great fort was stormed by cabbages & turnips and for the Cruciferæ all yield ammonia in abundance – are acid and so are others.

What is an animal?

Vegetables live of gases but they must have water — Animals live on water & air which are gases — will not do.

The best distinguishing character of the vegetables are that they are cellular not fibrous. That they loose their limbs annually. No part of any animal organized perfectly and like the rest is shed annually — 3d — They have no internal center of vital actions. All animals has a stomach. The absorbent of plant are not uncovered. Plants are a set of Pulmonary vessels and absorbent, which have not covering. If we could dissect out the simple lacteals of animals and expand the lungs of an animal we should have a plant. — The absorbents of animals are ramified upon the stomach into which food is thrown voluntarily & where is it spread upon by the living stomach. The air is received into the body of an animal. But air an nourishment are taking in into the plant by the surfaces & the ends of roots.

May 8th.

The six sided shape of cellular substance arises from compression — circles pressed together become Hexanglar. Honey comb

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No time of year is a plant more busy than in the winter when it appears dry sticks.

The animal dies and his body never sprout - ends - but the plant seems eternal because cut the bud off & it produces a tree like the last which will produce buds to live after it. Here we all end. The leaves of plant fade & fall annually and are renewed. A Prodigal Prince to show his riches, served his company with gold and each dish was when once used thrown away into Pond & kept there was enough.

Four part of plants.

Cuticle - Cuticle is fibrous reticular & has holes or mouths of different shapes in different animals. The Cork bent off if you do not cut it from top to bottom

Cellular Substance. Rete mucosum - containing matter there. Two oaks produce it. - Passifora tuberosa - alata - Hifsa It the cortex & fiber remaining and being very thick in the oak and capable of much distension in the oak so as not to crack in many places.

Vascular system - 1st Perforating vessels - 2. tortuous or radiated 3d & the spiral - Spiral vessels near the pith & when placed in coloured water become coloured - hence the sap vessels

The Sun is the heart of vegetables - one motion upward - secretion & evaporation follows

Two kind periods of motion, Diurnal & Annual

The cells have communication so that the sap flows into all parts freely upwards from the centre to the circumference

May 11th.

Nature never intended to make monopetalous flowers - by pressure will break into 3 & 5. as in andromeda - Vaccinium - &c - the vessels are distinct as may be seen by the glass, and the unite with one another - so are other coloaescences.

The cells are united with each other open into each other, the fluids have two motions annual & Diurnal - The annual is in spring when perspiration is small and when the plant is making in winter, making secretions - which forces the vegetation into the

limbs & pushes out the buds — The other which follows from the perspiration of leaves &c &c — During Summer — The Daily motion from heat & cold.

May. 12th Lecture.

The fibres of trees cross themselves forming spirals at the joints & begins again. The size of the limb may diminish but Nature always carries a detachment of all the parts with her — Cuticle Cellular substance & vessels are only necessary: The others are produced in all their varieties by contractions & by the form which nature has given to the plant or to the animal. She seems to have said this plant shall have such a form and it can scarcely take any other but by deformity, which arises from Chemical alteration of parts — Animals are much more difficultly altered than plants

The leaf presents its upper surface to the light & its lower or absorbing to the ground whence moisture comes

The cold stops the circulation between the stock and the leaf — the twisting of the vessels and the purely mechanical arrangement which produces Perdefoils. Some few want of necessity fall as Platanus. Robinia &c.

There is a curious disposition in plants to become spiral - ~~the~~ Logs - direction of Bark - disposition of leaves - in short every where we have proof of the spiral disposition - every line is vegetable which is longitudinal is spiral or transverse - no plant is straight which give the ease & grace - Nature never moves in straight lines -

Trees begin to wain when the top bud loses his superiority. When you see that the tree is crooked the wood never will be better cut it for timber. We do not do that

! The Pinus Cedrus has a large top bud which is flexible (Ceder of Lebanon) & pointing like a needle undeviating to the pole

The plant is never so much at work as during winter - making buds &c. &c -

May 13th.

The 10. Commandments - are the vessels of the stamina. The corner of the calyx has each a bundle of stamina & each intermediate space has a bundle, making the ten which are enlarged in the apple -

The Caudle pistillaris - goes thro' the fruit or germ & terminates in the pistillum & is its passage gives off buds which are seed.

The fluid are changed or concocted in each alternate of structure & each part is successively evolved as the purity of the fluid allows, untill finally it ends in the consummation of the plant, the flower. - Who prescribes forms? - What keeps plants from running into each other in endless variety?

June 15th. 1816.

Strike the Verbascum (Mullein) - and the plant will not immediately throw off its petals, but shortly will contract & gradually push them off. It wants nourishment like the sensitive plant. -

Throw pollen upon the water & the fermentation or perhaps chemical effect upon the coats of the particles sets it in motion and quickly carries it the part where it stands still - ~~Salts stops~~ it immediately

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The Cuscuta lives upon the plant. The root sets the plant agoing and then it propagates as we may suppose. many clock set to going the same main spring. Take that primum mobile away and they will continue to move as before so Cuscuta —

Mirabilis Jalapa. Four o. clock flower.
Anagallis arvensis. The poor mans hour glass.
Mesembryanthemum — Noon flower —
Tragopogon Pinnfolius — John Go to bed at Noon —

A plant called cocks comb has a web about the filaments which are hygrometric and causes the filaments to contract.

Gladiolus Mutabilis.
Morning Pale —
Noon Dark purple
Evening colourless —

The meal of the Cocos Nucifera is Perispermum as it is not at all attached to the tegumen. The cotyledons are and when the plant germinates becomes gelatinous and is absorbed

The monocotyledonous plants germinate laterally.

In respiration the plants receive something from the air and and also from the fluid sap, a great part of which is evaporated. but the plant receives a sort of commission profit

Cuticle. Black

June 17th before

The Perisperm of the corn and of the Cocos nucifera – in the gangseed of vicia Faba.

Arillus of the Leguminous plant (Pisum, Vicia Faba.) is a carunculo – in the Genera Euonymus and the Celastrus it is red and beginning with corda umbilicalis and connected with it is envelopes the whole – The Geranium Maculatum or the Geraneae are remarkable for the Arillus.

Lecture. June 17th.

Allia cast year bulbiferum and the Spatha remained entire. if any flowers would have opened by not good were to open.

Some person sent to the king of France a piece of wood, which no one could tell any thing about, when it was sent to old Bernardus Jussieus he said at once that it belonged to the bambos, have and elliptical trunk or have culmus. By several circumstances he judged that it consin to them and expied the existence of other plants from what he says –

the necessity of the coexistence of plants affect us very much. We infer that the Iris having straight vessels has but one cotyledons and that the stamina are either 3 or its multiples &c. &c –

The olive has always two embryons oak (Quercus). – The Cocos nucifera three. one only is perfected in all of them

Bromus – Cyperus – Phylaris arundinacea – Striped grass – Poa viridis Lolium perenne. – Gramina –

In all the papillonaceous which are pinnate have small smaller muscles which cause the leaf to close (the leaflets The Cassia is not quite Sequminous – but it simple & single leaf has this part orange (Folium Articulatum) –

Amorpha Fruticosa. Abundant in Tennessee

Our knowledge depends upon comparison, – analysis & synthesis.

Pulvelation

The mid rib of many plant will produce leaves flowers seed — Rufous —

The bulbs or glands of the Cotyledon — xerophyllum — the asplenum xerophyllum &c —.

The Fish Geranium smells bad in leaves but the stem is like a rose and when dry the leaf is black

Solidago Fragrans blooms in winter

Turmerich — Pratts.

The 17th of June. 1816 —

The Gymnocladus Canadense is a regular Leguminous plant — Coffee tree — The Cassia is an approach towards the irregular (Cassia Horibenda. Mimosa belongs to the tropics. Mimosa Acheu produces a gum containing so much Tannin that it is cheaper to dye with it in England than with Bark. Introduced by Charles Archer.

The Mimosa sensitiva closed & retracts

so much that the Indians call it Wonicaw because it seems to solute them as the word imports

The inflated Legume of the Colutea arborescens contains atmospheric air

The legume consists of two coats, the inner cuticaguinous and contracts little in drying — The outer is cellular spongy and contracts so as not only to burst the pod but to bend the valves outward.

The Genus Glycine is two American species — viz G. Frutescens — common and ornamental now Apios fruteseens —

Apios (formerly Glycine) Apios has the chain of tuberous roots, esculent & good for food — Should be introduced into the gardens

Podalyria after Podolyrius a Grecian Surgeon at the seige of Troy — Machaon also was lately bagen honored with a plant

The tendril is sometimes the main vessel or rib of the leaf Lathyrus. Vicia

Plantagenet – the origin of that family was a cultivator of the Genista. The kings name

astragalus –

Trifolium repens has white flowers, which afterwards fade, become dependent – Fritillaria – The ternate leaves of the Trifolium Melilotus becomes bilobate by coarctation.

Trifolium subterraneum. Arachis Hypogea. Vicia & Glycine Anthrocarpos – and many others bury spontaneously their seed as soon as the flower has fallen the female flowers of the Millium Anthrocarpos – the Plymouth County Centaury

This Natural Family called Leguminosæ Pap.ᵒ &c – are a very sleeping one

The Indigofera has a pulvelence in which the hair is horizontal, bigger in the centre & is as if a pin was pushed through the substance of the leaf.

The Malus diversifolia & Acer stipulatum.

June 17th.

The Plantagenet of the kings of England was a nick name because a Count of Anjou was famous Genista Planta Plantagenet he planted broom because he was fond of them and not because this man in his pilgrimage to Rome or to the holy land flaggelated himself with Genista or Broom (Arms Emblem

The Name of a king of Spain was hogs bristle because of them was famous for a mole with stiff hair and so many great folks

The Pentandrous & tetrandria often vaccinate into each other - 2-4 5 6.7.8-9 & 10 but not the multiples of 3 - 6 - nor the monocotyledonous

Porto Rico settled by Spaniards but not much attended to until the distresses of the other Islands.

May 19th. 1816

The difference between Pinus Balsamea silver Pine / the scales of the Amentum are entire and almost marginated - this greener and whiter. The Pinus nigra is darker-cone also, and the edges of the scales are crenate undulate.

May 28th –

The Inflorescence of the Solanum Tuberosum has allied by a cyma with a caruncle or swelling at the union of the small peduncles.

Mc Mahon's a maculate Phlox called P. revoluta – excellent – Also Acer Stipulatum. Malus diversifolia –

J May 20th 1836

Ranunculaceæ –

The Nectaries different – Ranunculus a scale – Delphinium consolida – double & ~~Nectaries~~ Aquilegia. –

The Ran: e is reputed very medicinal Vermifuges – Aquatilis used as fodder – and bulbosus.

Magnoliæ –

The seed of the M. have a funicular Umbilicus, by which they hang out of the seed vessel – The Hazle nut has a leafy Um. Tun. within the sheel – Corylus Americana

The stipulae fall off and leave a ring resembling a transverse cut on the bark

Liliaceae.

The calyx. 3-fol. Cor. 3-pet. Like those people who live together with their slaves they are protected, and their slaves do all the work. —

Orach is a root of the Iris Florentina Orris Florentine —

Tridae —

Orris as above — Erectic.

Gladiolus mutabilis — The G. Plad abundant a the Cape — Monkey's root offer which they dig at a great distance McMahon has a great variety. The tame Virginica a long slender leaves. very flexible: stem round and the capsule perfectly triangular, with sides not curved.