



QUANDONG

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Newsletter of **WANS** the West Australian Nutgrowing Society

VISIT OF U.S. NUT PROPAGATOR

One of the real difficulties in the establishment of a West Australian nut growing industry is the difficulty and expense involved in obtaining the required grafted trees. Supplies are either scarce, prohibitively dear, or, for some species, quite unobtainable in Australia.

This situation has arisen to a large extent because of the relatively high skill and experience needed in grafting most nut trees, and the comparative lack of skilled and experienced propagators in Australia. There is no simple and cheap way around this problem, for example, importation of grafted trees is forbidden.

The Society has therefore entered upon its most ambitious project, that of attempting to temporarily import WANS member Paul H. Thomson from Bonsall, California, for the period of September-October 1978. Paul is a commercial nurseryman and propagator, and is especially experienced in the area of nuts and rarer fruits. He is one of the world's foremost propagators of the macadamia, is also very experienced with jojoba and pecan, and has propagated many nuts and fruits which most members will not have even heard of. Paul is a Co-founder of the California Rare Fruit Growers, a former Director of the California Macadamia Society, and an active member of the Northern Nut Growers Association. He has published widely on nut and fruit horticulture.

As the Society could not support the full cost of Paul's visit, it has made arrangements with him by which he will perform propagation (on a production scale) for nurserymen, firms, and individuals, and lecture and demonstrate for horticultural organizations, both on a fee basis. Members are urgently requested to contact anyone they know who could be interested in such services; the response will determine whether or not the visit will take place. Members should also consider the possibility of making a personal pledge (e.g. for £50) for the use of Paul's services on their own trees. This is a unique opportunity, it may never be repeatable, and deserves our fullest support.

If Paul's visit comes off, Paul will certainly visit Perth, at least one centre in the SouthWest, and possibly some of the other States outside W.A., depending on the response from these. He will not have enough time to travel all over Australia.

Arrangement for the visit are being handled by member Tony Bryant, and all enquiries and pledges of support should be directed to him at the following address:

Mr A.V. Bryant, Propagator Visit Coordinator PO Box 98, Gosnells, W.A. 6110. (Phone 09-459 2449) (home number)
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West Australian Nutmeg Society

WANS

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SOCIETY PUBLICATIONS

WANS publishes its newsletter QUANDONG 4 times a year. This is devoted to news of meetings and events, details of tree and seed sources, notes about books and pamphlets dealing with nuts, reprinted short articles, notes from members, and other items of interest. The major publication is the annual WANS YEARBOOK, which contains articles drawn from Australia and overseas, covering any aspect of nut horticulture and production, and is regarded as an important research journal in this area. Members receive one copy of each WANS publication as a subscription benefit.

BACK NUMBERS

WANS began publishing in 1975. Back numbers of publications are still available. Some issues of Quandong are available only in photocopy form. Cost of each Yearbook is \$6.00, cost of a 1-year set of Quandong (3 or 4 issues) is \$2.00. Contact the Secretary for back numbers.

MEMBERSHIP

Any person or organization interested in the growing or production of nuts may subscribe for membership. Members are welcomed from outside Western Australia and overseas, as well as in W.A. Write to PO Box 27, Subiaco, WA 6008. Secretary is normally in attendance at 225 Onslow Road, Shenton Park, each Wednesday from 12-3 pm; phone is (09)-3818656. The current membership subscription rate, which runs for a calendar year and covers all publications issued in that year, is \$8.00.

wansco

Members of the Society own a co-operative, West Australian Nut Supplies Co-operative Limited, a legally registered Co-operative Company set up to buy and sell nuts and nut products. WANSCO operates a retail store, SQUIRREL NUTKIN, which sells nuts and trees at 225 Onslow Road Shenton Park. Any person may apply for and hold shares in the WANSCO Co-operative; each share costs \$1.00, and between 10 and 100 shares may be held per person. For shares write to Edmund Czechowski, PO Box 12, Wanneroo WA 6065.

NEW PUBLICATION REVIEW

COMMERCIAL ALMOND GROWING, by Brenton Baker and Frank Gathercole (South Australia Department of Agriculture and Fisheries : Bulletin No. 9/77). 28pages.

South Australia currently contains the only significant commercial plantings of almonds in Australia, and these form the only long-established tree nut industry in the country. The State currently has over 700,000 trees growing, a bearing area of about 1,700 ha, and a production valued at \$1.5 million. Moreover, plantings and production are increasing, and some large investments have been made recently in this area.

There is no doubt that this increase in plantings is due in part to the intense interest and encouragement provided by the S.A. Dept. of Agriculture, an example which should be recommended to the corresponding organization in our own State.

The booklet is an excellent and thorough review of all aspects of almond production under the low-rainfall conditions of South Australia. Some of the headings are: Yields; Future prospects (tariff protection; scope for expansion); Growing requirements (soil and climate; frost; shelter; birds); Establishing the plantation (rootstocks; raising young trees; reworking; layout); Pruning; Pollination (orchard layout; pollinator varieties; bees; location of hives); Cultivation; Herbicides; Fertilizers; Cover cropping; Irrigation; Harvesting (mechanical harvesting; hulling and drying; cracking); Marketing; Diseases (including deficiencies and pests); and Varieties.

The fourteen varieties described and illustrated include many which are new to Australia, mostly introductions from California (which produces more than half the world's almonds). No hard-shell varieties are included. This is reasonable, because while hard-shell varieties give better bird protection in isolated and small plantings, on a commercial scale it is better to plant much bigger areas and equip these with bird-control equipment.

In the Editor's view, almonds are a good prospective crop for western Australia, particularly in the light, well-drained soils of the coastal basin to the north of Perth; but to be economic, plantings must be large (at least 1000 acres) and backed by considerable financial and technical resources. Essentially this means a diversification project of a large company, or an expansion move by an overseas producer, rather than a small sideline venture.

MARKET NUT STALLS

FREMANTLE MARKETS. Fremantle Markets are still looking for someone to run a hot nut stand at the Markets, which are open on Friday and on Saturday morning (member Ron Williams has had to drop out of this project). This could be a first-class business opportunity. If any member is interested, please contact Mr Guy Tristram at DMI Pty Ltd, 16 Altona Street, West Perth 6005 (phone: 322 2297).

MIDLAND: FARMERS MARKET Member Graham Leigh is involved in a stand at the new Farmers Market in Midland, which opens on Sundays. The stall is run by Graham's wife Christian (Herbs & Things). Nuts supplied by Squirrel Nutkin!

REPRINTED FROM: CALIFORNIA MACADAMIA

SOCIETY YEARBOOK, Vol. 11, 1965

Macadamia Nut Bits and Pieces

W. B. Storey*

The first discovery of a macadamia tree by Europeans was made in 1857 by Walter Hill, Director of the Botanic Gardens at Brisbane, and Ferdinand von Mueller, Royal Botanist of the Herbarium at Melbourne, in the forest along the Pine River in the Morton Bay District of Queensland, Australia. Mueller found it to be a new species, belonging to none of the established genera in the Proteaceae. He described his new genus in 1858, naming it *Macadamia*, not, as many persons believe, for John Loudon MacAdam, Scottish engineer who devised a system of road building, but actually for John Macadam, M. D., who was Secretary of the Philosophical Institute of Victoria at the time. The macadamia was, of course, known from time immemorial to the Australian aborigines who prized the nuts as food which they called "kindal-kindal."

The type species for the genus *Macadamia* is *M. ternifolia*, which is known in Queensland as the Gympie Nut and Maroochy Nut. Strangely enough, its botanical name became attached to the species we know now as *M. tetraphylla*, while it picked up two new names, *M. minor* and *M. lowii*. *Macadamia tetraphylla*, the first species to be cultivated for the nuts, actually masqueraded, therefore, under another species' rightful name for nearly 100 years. In 1954, it was given its present name by L. A. S. Johnson of the National Herbarium of New South Wales at Sydney. Despite its having been known horticulturally as early as 1870, its discovery as a species new to botanical science must forever date from 1954. Unfortunately, at the same time Johnson transferred the name *M. ternifolia* to the species we know now as *M. integrifolia*, which only served to add to the confusion for a while. Finally, in 1956, exactly 99 years after the first discovery, L. S. Smith of the Botanic Gardens at Brisbane figured things out and properly identified each species with its rightful name. (Note previous article 1959.)

Two teen-age boys had a part in the domestication of the macadamia and helping it on its way to becoming a commercial crop.

The first, to our regret, must forever remain an unknown hero. The story goes that one time when Walter Hill was botanizing in the "bush," he collected some fruits of *M. integrifolia*, which, at the time had still to be discovered and classified botanically, in the belief that he had found a larger fruited variety of *M. ternifolia*. He turned the fruits over to his youthful helper to remove the seeds from the husks for planting. He noticed, when the boy returned the husked nuts to him, however, that there seemed to be some missing. Upon questioning, the boy confessed that he had eaten a few of them and found them delicious. Hill was incredulous, for he had tried the nut of his original discovery, and found it bitter as gall. Furthermore, he knew the bitter principle to be due to a prussic acid compound and, therefore, probably poisonous. He did screw up his courage enough to give a nut a try, however, to discover that the boy was right. Thus was palatability of the Bauple nut established.

The other boy was Ralph H. Moltzau (now a Libby, McNeill, and Libby pineapple plantation executive), a Honolulu high school student of about age 16, who was employed by the Hawaii Agricultural Experiment Station during his summer vacation in 1926 to help with propagation, planting, weeding, and other jobs in the nursery. He had never been informed that macadamia grafting had been attempted at various times by a number of competent propagators, with a history of complete failure; consequently, the species had acquired the reputation of being impossible to graft. One day, when he was doing some grafting of other things, he thought he would try a few macadamias, using year-old potted seedlings for rootstocks and scions from a large branch which had been broken but had not actually been torn off a bearing tree about three weeks previously, but still was not showing any sign of wilt. Lo and behold! two out of about a dozen grafts grew, and clonal propagation of the macadamia by grafting had its genesis.

In 1953, not long before Dr. J. H. Beaumont was to depart for Australia, accompanied by Mrs. Beaumont, to study the species of *Macadamia* in their natural ranges of distribution under a Fulbright Research Grant, Mrs. Beaumont was given a farewell luncheon by a number of ladies at the Ulumiu Swimming Club on Waikiki Beach. A lady guest of recent arrival in the Islands expressed her pleasure mixed with envy over the wonderful trip Mrs. Beaumont had in store. "And what," asked the lady, "will your husband be doing in Australia?" "Oh," replied Mrs. Beaumont, "he's going there to study some Australian nuts." "Well, for goodness sakes!" said the lady, "I didn't know he is a psychologist; I'm sure somebody told me he is a horticulturist."

One day, after a long and tiring expedition into the bush near Gympie to try to track down macadamia trees in the wild, our party stopped off at Amanoor for a meat pie (which enjoys the same status in Australia as the hamburger sandwich does in our country) and a glass of cold beer (the universal beverage of the country, outranking both water and coke by a sizeable margin). I stopped momentarily before entering the pub to listen to the loud amusing clatter of a flock of kookaburras having a wonderful time laughing, prattling, and cavorting among the tops of several tall kauri pines about 50 yards away. As I turned to enter, I noticed a boy about 7 years old sitting on a step waiting for his mother to emerge from the post office, which adjoins the pub, looking me over rather critically. Just for fun, I said to him, "Say, who is doing all that laughing over there in the kauri grove?" His facial expression immediately changed from one of curiosity to one of a mixture of scorn and pity, and he replied in a voice brimming with sarcasm, "Them ain't people, Mister Yank! them's jackasses!"

Joys and tribulations of Macadamia hunting in Australia (ask Wells Miller):

Resting with as pleasant company as one could ever want, in a dry stream bed in the gloom of the native bush, so dark at midday that the pointer of a wide open light meter won't even register, listening to yarns of the country, as told by dinky-die diggers; the fire crackles as we sit around it, sipping our billy brewed tea and munching the cut lunch that we toted along in our tucker bags.

We never caught up with the famous slingshot artist of Kyogle, who knocked nuts out of trees for Herb Beaumont, but we latched onto someone just as good, an agile young forester from Gympie, who, not only could smell out macadamia trees in the gloom of the native scrub, but also could scurry up into them with the facility of a squirrel.

First order of business upon emerging from the bush: removing one's shoes and socks, and even pants, and ridding oneself of hitch-hiking leeches. If you miss one, you may find a shoeful of blood when you get home or hear the plop of a big soft something full of blood on the tile floor of your shower. U-u-u-gh!

Second order of business: dose up the scratches inflicted by the lawyer plants which seem virtually to reach out and grab at you as you walk along the track, and the stings of the nettle-like gympie bush, in addition to the bumps, abrasions, contusions, lacerations, blisters, and other discomfitures which are the penalty of exploring wild mountain country. Also, hunt for wood ticks. Wells brought one out buried in his shoulder; this necessitated a visit to the garage for a drop or two of sump oil to put on it. In a half hour or so, it had relaxed its grip and could be extracted *in toto*. I would really have been worried if I knew then what I read a little later in a scientific journal: that a wood tick could make a person deathly sick if the body is pulled off leaving the head embedded.

Third order of business: Head for the nearest pub for a glass of ice-cold beer and a pie, of course.

I noticed that the Australian horticultural officers tied the bottoms of their pants legs or secured them with bicycle riders' clips. "Protection against ticks or chigger or snakes?" I asked. The reply, "No, against macadamia leaves. The blasted things will crawl right up inside your pants legs, you know." I didn't know, but, by golly, I soon found out that they had something there!

Trying to get four persons, plus their luggage, plus the driver, into a Holden (Australia's compact car) for the trip to the north coast. It couldn't be done, so we had to round up a utility (pick-up truck, to you) to transport the luggage.

A real joy: serving as landing decks for a few hundred of the several thousand birds of every description that come into the Currumbin Bird Sanctuary at feeding time; a spectacular sight.

Whimsey: The person or persons unknown who painted a cross-walk full of little koala footprints on the pavement of the main highway from Brisbane to Sydney, where it passes through the Koala National Park, near Carrumbin.

Thrill: a ride on the ferry from Circular Quay to Manly, a suburb of Sydney, during a storm, and wondering if the boat is going to founder when it crosses the opening between the heads which lock in Port Jackson (the real name of the bay on which Sydney is situated, in Sydney Cove, in fact); before the trip is over you almost wish it would.

Things to avoid: Getting caught in a round of "shouts" in a pub. This can be disastrous if there are more than three persons in the shouting group and you are not conditioned to the potency of Australia beer; Getting stuck in downtown Sydney at 5 o'clock in the afternoon when work lets out, if you must depend on taxi's for transportation. Capturing one is a good test of your ability as a hunter; Referring to the geographical location as "down under." Remarks about their driving on the wrong side of the road; Making unfavorable comparisons of the food, service, and accommodations of the eight-room Grand Imperial Hotel of Binnaburragerudgee (Pop 619) with the Statler-Hilton back home; In most places, coffee, unless you are desperate.

Real enjoys: The people of Australia who never were anything but friendly, affable, courteous, helpful, patient, and interested in America and everything American; The welcome first sight of the Bay, and Sydney with its great bridge, as you circle in for a landing in the early morning light after a 12-hour flight from Honolulu; Ferry trips around the Bay from Sydney on a calm, bright, sunshiny day, with a visit to the Taronga Zoo thrown in; Eavesdropping on conversations, and trying to see if you can translate the unfamiliar accent and the colorful, highly evolved slang into something comprehensible; Seeing koalas, kangaroos, wallabies, bandicoots, kookaburras, parakeets, cockatoos, and many, many other representatives of the fauna in their native haunts, and realizing that this is not a dream—you are really here! The "smokes" when we took a break for a cuppa and a crumpet or a scone, and a little light banter before getting back to work. Many lovely week-end trips seeing all we could of this beautiful land. Lazy-ing of a Sunday on the beautiful beach at Coolangatta after a hard week's work. The well-wishes of the many friends we made, when, all too soon, the time of parting was at hand.

Parrots in Australia don't say "Polly want a cracker." They say, "Cockie want a biscuit."

Electricians don't ground the receptacle, they earth the power points.

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FROM: (Please attach label or give name, address, and membership number: ,

If you ask for pie, that's what you get meat pie. The nearest thing to our pie is a tart.

The Australian equivalent to our hash made from leftover is "bubble and squeak."

In the swankier places, "I am sorry, sir, but coffee is served only after dinner in the lounge." Just try to get a cup with your meal! Eh, Wells?

If you like your steak rare, order it underdone.

That linen thing on the dinner table is a serviette. A napkin is the thing that is folded into a triangle and applied to a baby.

Our "safety zone" is a "pedestrian refuge" in Sydney.

A pub is not really a barroom. It is a so-called "public hotel" which has a license to sell liquor, which requires it to have a public bar, to serve meals, and to have accommodations for lodging. Hotels lacking a liquor license are called private hotels. The independent bar or cocktail lounge as we know them here do not exist in Australia.

Bar prices on a Qantas plane: Sydney to Honolulu: Beer, 1 shilling (11¼ cents, U. S.); Highball, 2 shillings. Honolulu to San Francisco (same plane, same bar, same beer, same whiskey, same glasses): Beer, 35c, U. S.; Highball, 65c, U. S. How come?

To get back to macadamia: Identification of the three species became so garbled in the early years that you will hear any or all of them called by or spelled with the following names: Queensland nut; bush nut; Australian nut; Bauple nut, Bopple nut; Popple nut; Gympie nut; Maroochy nut; Macademia nut, Macedonia nut.

Eleanor Dark, the noted Australian authoress, has written a book entitled "Lantana Lane" (published by Collins, St. James Place, London), which is a collection of stories and anecdotes about the people who live in the Blackall Mountains in the vicinity of Maleny, about 100 miles north of Brisbane. One of the stories is an amusing piece about "The Nuts that Were Ullaged." It deals with a very meticulous grower with a phobia for statistics, and how, although he kept adding to his hoard of nuts as the harvest progressed, the supply on hand didn't agree with the amounts he had tallied and put away. The mystery is solved when he discovers that there is a hole in his barn through which the nuts were leaking and were being put to use by some neighborhood children playing store and using them as legal tender. Early in the story, there is the implication that, because the macadamia is native to the country and grows without trouble or care, it cannot be very good, and certainly offers no challenge to the farmer; therefore, it can hardly be worth cultivating.

IN A NUTSHELL (No. 15)

The Bunya Pine has another trick to cope with extra dry conditions at the time of nut ripening. Under such conditions, the enormous cone, weighing over 10 lbs, falls to the ground, but does not separate into individual scales. Instead, the surface of the cone seals into an impermeable, hard layer, creating moist greenhouse conditions inside. The central stalk softens into a fibrous mass, and the secondary nuts grow inside this.

Editor's Note: The following article is reproduced from the California Rare Fruit Growers newsletter. As is well known, conditions in California are quite similar to those in the south of Western Australia, and so the article will be of interest to us here. All, or almost all, chestnut trees in W.A. are of the Spanish Chestnut, Castanea sativa. Chestnuts may not be imported into W.A. except with special permission, because of the danger of introducing the devastating disease of chestnut blight, of which Australia is at present free (keep it that way!).

THE CHESTNUT IN CALIFORNIA

Arlo E. Smith
66 San Fernando Way
San Francisco, California 94127

The Chestnut belongs to the Fagaceae family along with the oak and the beech, and to the genus Castanea, which comprises some 10 species and several varieties. The genus is widely distributed in the northern hemisphere in North America, Europe and Asia.

Four species of Chestnuts have apparently been introduced to California at different times. The Spanish Chestnut, Castanea sativa, is the largest and most common sort in California, producing the medium to large, sweetish nuts usually sold in the stores. Native to the Mediterranean region, it is the most drought resistant type and is, therefore, most highly recommended for southern California and the Central Valley. The American Chestnut, Castanea dentata, now virtually extinct in its native ranges in the eastern United States due to the Chestnut Blight, produces a smaller but sweeter nut. As its native habitat was dry ridges in the east, it should be adaptable to most of California except the deserts. The Japanese Chestnut, C. crenata, is a smaller tree than the above species, bearing very large nuts generally of inferior quality. Luther Burbank, however, did develop a high quality variety of this chestnut, the Japanese Miracle Chestnut, a tree of which survives on the grounds of his house in Santa Rosa, now a State Park. Finally, the Chinese Chestnut, C. mollissima, also a smaller tree, produces nuts similar to the Spanish Chestnut. It is reportedly intolerant of alkaline soil conditions, making it difficult to grow throughout much of California. The Japanese and Chinese species show a high degree of resistance to the blight.

Literally hundreds of chestnut varieties have been propagated, but none are common at the present time. This is largely because many selections of American and Spanish chestnuts were destroyed by the Chestnut Blight, Endothia perniciosa, in the east, and selections of the Japanese varieties lack wide distribution due to the tendency to fall after a few years in areas with colder winters. Chinese varieties are hardier and are found growing as far north as southern Canada. As the importation of both trees and scions into California is quarantined to prevent spread of the blight, distribution of clones is limited to those developed or already distributed in this state.

Felix Gillet, a nurseryman of Nevada City, California, in the early decades of this century offered Chestnut trees for sale for many years. C.E. Parsons, of the Felix Gillet Nursery, worked with the Chestnut and originated a number of varieties that were introduced and sold by this nursery. Some of these are 'Castiva', 'Colossal', 'Large American Sweet', and 'Mayseptjan'. Since the trees are very long lived (one tree in Sicily was reportedly 1000 years old before being

killed by an eruption of Mt. Etna in the early 19th century), it is quite likely that specimens of these and Luther Burbank's selections can still be found. Also, a search of old nursery catalogues at the University of California : Berkeley Agricultural Library indicates that both the California Nursery Company of Fremont, and Armstrong Nurseries, Inc. of Ontario sold superior French selections up through the 1930's.

While widely planted by the early Spanish and Italian immigrants, today the Chestnut seems to be an incredibly scarce tree in California. Despite the high price and often low quality of imported nuts (many of those I have seen for sale are half-rotten) there appear to be few, if any, commercial plantings in the state. Few nurseries carry it, and I have seen only a few one-gallon size American Chestnut seedlings in a small nursery in Sebastopol.

The low cost of labour in Spain and Italy -- a factor which political upheavals could change in the near future -- may account for the lack of commercial plantings in California, but there is no good reason for the widespread absence of this tree from home plantings. While some Chestnuts are large trees 60' or more tall, mature trees which I have seen in Sonoma County have not exceeded 30 feet. Furthermore, the Chestnut's attractive foliage and long creamy flower clusters borne in June or July should qualify it as an ornamental tree decorative enough to be planted in front of one's house. The 'litter' problem, stressed so heavily by the Sunset 'Western Garden Book', created by fallen burrs, can hardly be considered a problem when one considers that it is these burrs which contain the nuts. In addition, trees usually bear at a young age, sometimes as early as 2 to 3 years from seed.

The tree does have one fault, however, as usually two or more are required for cross pollination in order to produce nuts. It is likely that this problem could be overcome by grafting scions from a different tree onto an individual or by planting two specimens of the smaller species in the same hole.

Seedling chestnuts usually produce satisfactory trees. Seed germination is easy, providing two precautions are taken: 1). Seed must be stratified by being placed in a jar filled with moist sand and left in the refrigerator for 2 or 3 months; 2). Seed must be fresh. The latter point is particularly important since I have never got nuts purchased at the store to germinate except when overly moist storage conditions had caused them to begin to sprout. If the seed coats have broken open to expose the cotyledons they are in this condition, in which case no stratification is necessary.

IN A NUTSHELL (No.16)

The Editor once obtained some fresh green fruits of a tree called Pachistroma longifolia, which has nuts and leaves resembling a macadamia (although completely unrelated). The tree is a native of Brazil. The fruits were left on a shelf in a plastic ice-cream container, and some months later the Editor cursed the cat when he found most of the dried nuts on the floor. After some repeat instances, he realized that the fruits explode as they dry, propelling the nuts quite a distance!

NUT SOCIETIES ACTIVE

67th Annual Report

OF THE
Northern Nut Growers Association
Incorporated



Subscription (Overseas) U.S. \$ 9.00 p.a.
Treasurer: Lois Davie, 3100 Kane Road
Aliquippa, Pa. 15001, U.S.A.

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NEW MEMBERS

A warm welcome to the following new members, who joined the Society during the last half of 1977 or in the first few months of 1978. This is the longest new-member list we have ever printed (115 in all), and includes our first member in Japan.

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