The Lake George Gem and Mineral Club -

Club News, August, 2009

REGULAR CLUB MEETING: 9:00AM, August 8
Lake George Community Center

LGGMC President John Rakowski sent the following announcement for the August meeting:

Following a short business meeting Saturday August 8 starting at 9 AM, we will adjourn to the show site to lay out the spaces for our annual show, after which the club will provide pizzas for the volunteers at Lake George Pizza. Last year we had a good turnout of volunteers and got all the work done in a little over an hour!

Showtime!

Remember; the annual show is **August 14-16** with the jumpstart on Tuesday. Dealers will begin arriving on Tuesday the 11th! We need lots of volunteers to set up the grounds, to help Roger and Dee Loest welcome and sign in dealers Tuesday through Friday, and guide dealers to their assigned spaces. Volunteers are also needed to staff the club booth to answer visitor questions about the show and the Club and mineral collecting in general. It's fun, and it's a great way to get to know fellow club members better.

Rebecca Blair has 37 dealers signed up so far with a couple of others considering signup, and Show Chairman John Rakowski has covered all the advance work such as mowing, putting up signs and arranging for trash bins and portable toilets. It should be another great show.

Coming Events

Contin-Tail Rock and Gem Show, Buena Vista Rodeo Grounds (free admission)	**… Aug. 6-9**
Fairplay Bead & Fiber Show; Fairplay, CO; contact Pat Pocius at 719-836-2698.	**… Aug. 8-9**
Lake George Gem & Mineral Club Annual Show, U.S. Highway 24 (next to Post Office), Lake George (free admission)	**… Aug. 14-16**
"The History of Scientific Discovery at Florissant Fossil Beds N.M." by Dr. Herb Meyer and Steve Veatch, Friends Summer Seminar Series; cost TBD. Call 719-748-1156 to register. Can be used for 0.5 hrs. grad. Credit at Adam State College (tuition extra).	**… Aug. 23**
Colorado Mineral & Fossil Show (Fall), Holiday Inn, 4849 Bannock St., Denver (free admission); info at MartinZinnExpositions	**… Sept. 16-20**
Denver Coliseum Mineral, Fossil, Gem, & Jewelry Show, Denver Coliseum, 4600 Humboldt St.; $3/$2 admission; info from Lowell Carhart, 719-886-7046.	**… Sept. 16-20**

Bead Renaissance Show, Crown Plaza, 15,500 E. 40th Ave., Denver; call 575-894-1293 for info.	… **Sept. 17-20**
42nd Annual Denver Gem & Mineral Show: "Fossils—Windows to the Past" Denver Merchandise Mart Expo Hall, 451 E. 58th Ave. (I-25 exit 215); $6/$4 admission.	… **Sept. 18-20**
Colorado Fossil Expo, Denver Merchandise Mart Plaza Annex, 451 E. 58th Ave.; $6/$4.50 admission; info at MartinZinnExpositions.	… **Sept. 18-20**
Field Studies in Paleontology: Exploring the Shelf Road from Cripple Creek to Garden Park, Colorado, Cripple Creek Parks & Recreation; cost is $69. Call 719-689-3514 to register. Can be used for 0.5 hr. grad. Credit at CSM (tuition extra).	… **October 3**
46th Annual Pikes Peak Gem & Mineral Show, Phil Long Expo Center, Colorado Springs, contact Rick Copeland, 719-332-7915 or rick@rockymountainwonders.com	… **Dec. 5-6**

Club News

The Victor Study Group gave its presentation at Victor Gold Rush Days on July 18 (see the July newsletter for details). All reports asuggest that this was a very successful event, and the LGGMC received a "thank you" from the Victor Lowell Thomas Museum for helping them to raise $540 to preserve the Museum. Many thanks to all who helped out with this. The next milestone will be in November at the Socorro Show.

I understand that **Rich Fretterd's** "nose" for crystals is still working. He reports finding a topaz pocket at his Petra Placer claim on the Club's July 11 trip. I haven't heard whether anybody else was so lucky.

Steve Veatch tells me there is a new book that outlines the history of the Cripple Creek and Victor gold rush. Titled *The World's Greatest Gold Camp, An Introduction to the History of the Cripple Creek & Victor Mining District*, the book, which includes a dozen articles by Steve and several other authors, was released in July as the second installment in the World Museum of Mining & Industry's Mining History and Technology Series. It's available by contacting WWMI (visit wwmi.org). Steve is also organizing a kids' group for the Lake George Club; we'll hear more about that soon.

Steve also announces 2 upcoming courses:

Field Studies in Paleontology: Exploring the Shelf Road, from Cripple Creek to Garden Park, Colorado, October 3 from 8:30-5:30. Sponsored by Cripple Creek Parks and Recreation, the course costs $69 and is open to all ages. Call 719-689-3514 for information and registration.

Dinosaurs: A Concise Natural History, October 10 from 9:00-5:45. Sponsored by the Rocky Mountain Dinosaur Resource Center, the course costs $69 and is open to all ages. Call 719-686-1820 for information and registration.

If Field-Trip Chairman/Web Master/Vice President **Dan Alfrey** seems to be a bit distracted these days, it's because he just opened (as of July 29) a new Italian restaurant, called Mangia Mangia, behind the Pizza Hut in Woodland Park. Having eaten there, I can attest to the fact that all of his hard work paid off—check it out!

Dee Loest asked me to remind Club members to pick up their t-shirts asap. She will have them at the August meeting.

NOTES FROM THE EDITOR

Bob Carnein, Editor
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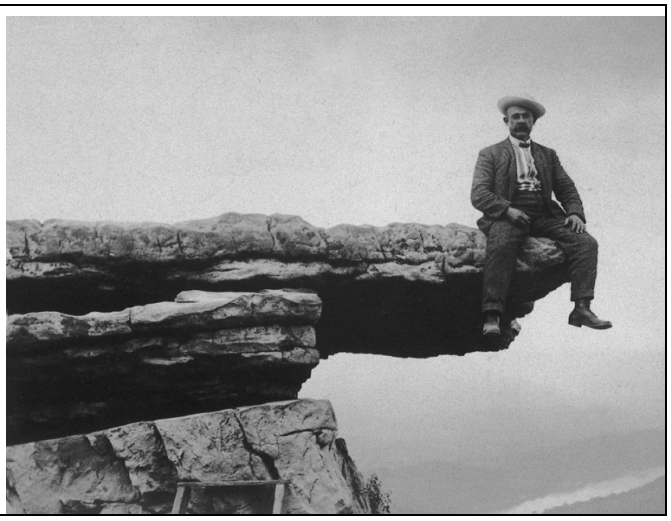

Please read: Sometimes it isn't easy for newcomers to "break into" a club that has been around as long as ours. So, please make a little extra effort to welcome new members. With that in mind, I'm hereby asking members, both old and (especially) new, to send me, by e-mail, a picture of yourself and a short (1 paragraph) biography (WORD docs only, please), telling us about your interests and experience (if any) in mineral collecting, lapidary, fossil collecting, etc. If I get a good response, I'll try to put 3 or 4 of these in the Newsletter each month. **Don't be shy!** Send them to ccarnein@gmail.com or, if you aren't computer savvy, send them to me as hard copy. You be the judge on what you want included or left out.

This month, I received an interesting article by member Mike Nelson. In addition, I wrote an article about one of my favorite collecting areas—twinned crystals. Hope you enjoy them.

GOING TO THE FIELD
by Mike Nelson CSMS and LGGMC

I have spent a good portion of my life "in the field" hunting for fossils and later prospecting for rocks and minerals. And, it seems the older I get, the more "stuff" that I haul to the outcrops either on my ATV (if laws allow), or my pickup, or my backpack. Today, a prospector needs multiple hammers, pry bars, gads, shovels, sacks, cell phone, GPS units, bags, acid bottles---you name it. The only thing missing, and at times I wish it were available, is dynamite!

I often wondered what "the old timers" hauled out and how they prepared for prospecting. Well, in searching the archives at PPLD Penrose Library Special Collections, I ran across a little book titled ***Prospecting for Gold and Silver*** by Arthur Lakes of the Colorado State School of Mines (published in 1895). I thought it might be worthwhile to take a look at Lake's advice for much is apropos today!

"The regular prospector, as a rule, has …learned by observation, the appearance of different ores, their different values, how the veins appear on the surface…and the use of a pick, shovel, and blasting powder….he has become too restless to stick to steady work…the life of a prospector offers many attractions to one who is restless and loves to roam and who loves to find something new.

The best education for a prospector would be a course at a school of mines, where he will learn the elements of geology, mineralogy, assaying, etc….A little knowledge of blowpiping may also help him. Having left his school, he should learn the practical use of the pick, drill and blasting powder…A little carpentry will teach him how to make a handwinch, and a few lessons in blacksmithing, will teach him how to sharpen and temper his tools."

Professor Lake followed "Mr. A. Balch" in describing the needs for an outfit. "First: two pairs of heavy blankets weighing about 8 pounds each. Second: a buffalo robe or a blanket lined poncho. Third: suit of strong gray woolen clothes, pair of brown jean trousers, a change of woolen underclothing, woolen socks, pair of heavy boots, soft felt hat, three or four large colored handkerchiefs, a pair of buckskin gauntlets, toilet articles, etc. Fourth: a breech loading rifle or shot gun and a revolver. Ammunition. Around his waist is a strong sash to carry his holster and knife, in a sheath. Pipe and tobacco. Fifth: a sure footed native or mountain pony. A Mexican saddle …and a long lariat. Sixth: …a poll pick and prospecting pan. Seventh: a frying pan 8 inches in diameter of wrought iron, a coffee pot, tin cup, spoon, and fork, and matches in a tin box, pocket compass, a spy glass. Eighth: bacon, flour, beans, coffee, pepper, salt, and a box of yeast powder. Ninth: …a pack animal or a donkey."
I often wondered why I became interested in rocks, minerals and fossils. Now I know---it appears that I am "one who is restless and loves to roam and who loves to find something new". Now if I could find my buffalo robe and buy some blasting powder I would load up the mule…..!

Twinning in Crystals
by Bob Carnein

Anyone who is interested in minerals and crystallography will eventually encounter twinned crystals. My introduction to twinning occurred when, as a 12-year-old, I collected staurolite crystals from the classic garnet/staurolite locality at Roxbury Falls, Connecticut. Younger readers may have seen the beautiful staurolite crosses from New Mexico, for sale at the Contin Tail Show in August, or the Russian staurolites sold at most shows and on the internet.

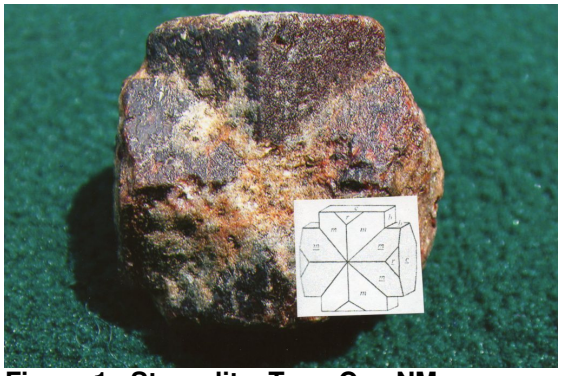

Figure 1. Staurolite, Taos Co., NM

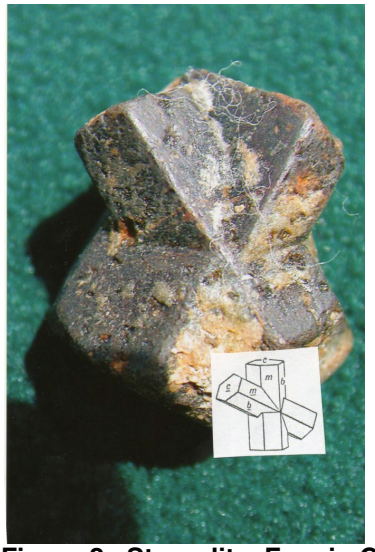

Figure 2. Staurolite, Fannin Co., GA

Closer to home, many Colorado localities, including the Crystal Peak area, produce spectacular feldspar twins. Cripple Creek is noted for twinned crystals of the gold-silver telluride, *sylvanite*, and Mt. Antero has rare twins of the beryllium mineral *phenakite*. All of these sell at a premium when available.

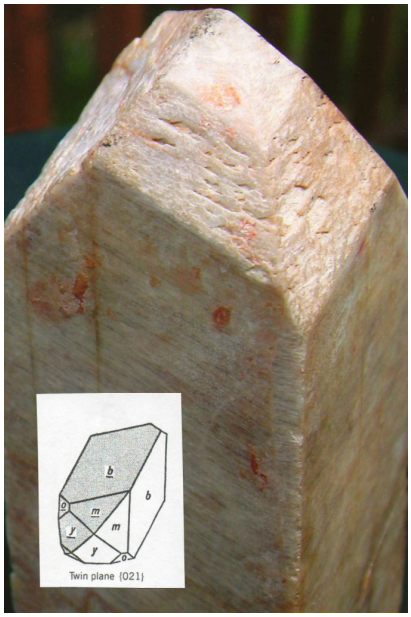

Figure 3. Microcline, Baveno twin, Naegi, Mino, Japan

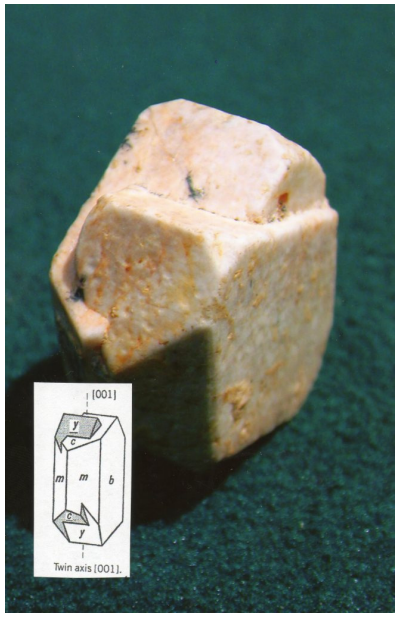

Figure 4. Microcline, Carlsbad twin, Kern Co., CA

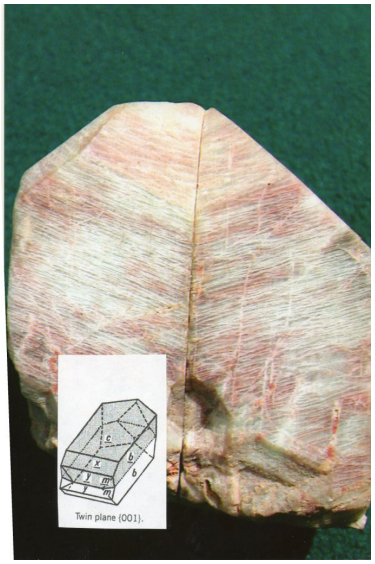

Figure 5. Microcline, Manebach twin, Crystal Peak, Teller Co., CA

New collectors often are unaware of pitfalls they need to avoid when they are offered a twinned crystal. Search eBay and other sources and you are likely to find dozens of "twins" that are, at best, products of an over-active imagination, or, at worst, attempts to deceive. Minerals commonly sold as twins include the feldspars, staurolite, and phenakite, as well as aragonite, beryl, chrysoberyl, calcite, cinnabar, garnet, pyrite, quartz, rutile, tourmaline, and others. Although some of these form twins, others do not. So, how does one distinguish a true twin from a fake?

First, let's consider a definition. According to Klein (2002), twinning is "a symmetrical intergrowth of two (or more) crystals of the same substance." Notice that, if 3 or 4 crystals are intergrown, we don't call them "triplets" or "quadruplets". They are still *twinned* crystals. Note, also, that twinning is a special kind of **intergrowth**, and this is where problems commonly arise. Those who attribute magical properties

to crystals often seem to think that any two intergrown crystals are twins and so have special "powers". Although I can't comment about crystal magic, I can assure you that, for every kind of twin, there is a **twin law** that governs such things as the angular relations of the individual crystals and how their symmetries relate. Twins most definitely are not random intergrowths. Ultimately, all of this relates deeply and precisely to the arrangements of atoms and ions in the crystal structure.

Two broad categories of twins are **contact** and **penetration** twins. **Contact twins** consist of two or more crystals joined along a plane or planes of contact (called *composition surfaces*). Examples are **Manebach** and **Baveno twins** in microcline (Figures 3 and 5), **Japan twins** in quartz (Figures 6 and 7) and **spinel twins** in spinel, copper, and galena. You can clearly distinguish the composition surfaces in each of these. Interpenetrating crystals characterize **penetration twins**. Here, the composition surfaces are irregular, rather than planar. Examples include Carlsbad twins in microcline (Figure 4) and the twins shown by staurolite (Figures 1 and 2) and aragonite (Figure 8).

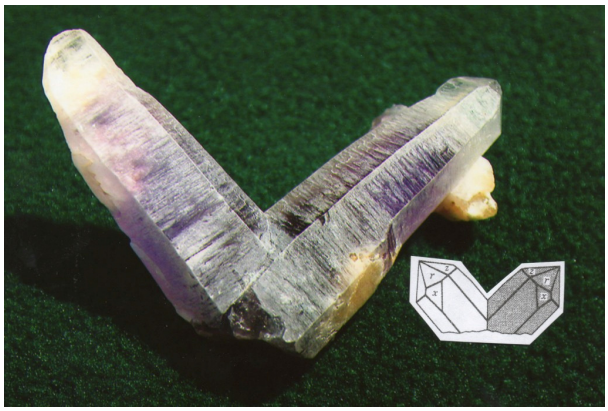

Figure 6. Quartz, Japan twin, Guerrero, Mexico

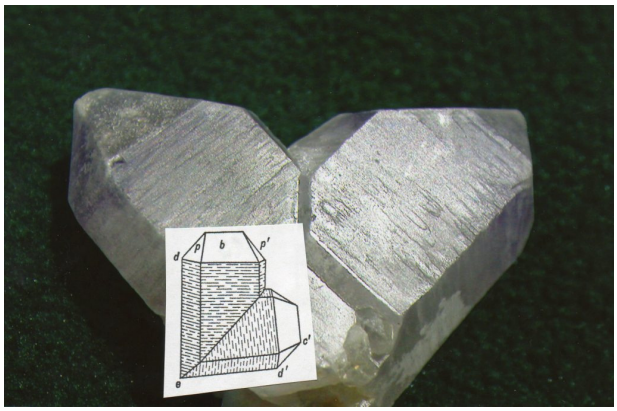

Figure 7. Quartz, Japan twin, Zard Mts., Pakistan

Twins also can be described as **simple**, where only two crystals are involved (Figures 1-7), or **multiple**, if 3 or more crystals are intergrown according to the same law (Figures 8-11). If all of the composition surfaces are parallel, multiple twins are said to be ***polysynthetic***. Examples include plagioclase feldspar, in which polysynthetic twinning causes the *striations* that provide a near-certain clue to the mineral's identity (Figure 10), and in some calcite that has been subjected to pressure during or after crystal growth (Figure 11). Multiple twinning along non-parallel composition surfaces is called ***cyclic*** twinning. Examples include aragonite (Figure 8), rutile and chrysoberyl (Figure 9).

Sometimes twinning is obvious even to the beginner, and, at other times, it is subtle and unlikely to be noticed. Japan-law twins in quartz, the cross-shaped twins in staurolite, and Carlsbad twins in microcline fit into the former category. These are all simple twins, and the two crystals involved are clearly visible. However, most quartz exhibits Dauphiné twinning, in which the only obvious clue may be offset striations on the prism faces (the flat surfaces parallel to the crystal's long axis). Only rarely is Dauphiné twinning obvious (Figure 12). Many aragonite crystals have a roughly hexagonal outline because they are cyclic twins made up of three crystals that are intergrown as shown in Figure 8. Many beginners think aragonite is hexagonal, but, in reality, it belongs to the orthorhombic crystal system.

Twinned crystals constitute a rare, fascinating category for the mineral collector. Keep your eyes open, and you might find a beautiful twin hidden in a dealer's stock at a show or in one of the gem "pockets" at Crystal Peak. They're well worth the search.

Reference:
Klein, C., 2002, *The 22nd Edition of the Manual of Mineral Science (after J.D. Dana)*: New York, John Wiley & Sons, Inc., 641 p.

Note: All photos are of specimens in the writer's collection; line drawings came from Klein (2002).

Figure 8. Multiple, cyclic twining in aragonite, Bastennes, France

Figure 9. Multiple, cyclic twinning in chrysoberyl, Pancas, Espirito, Brazil

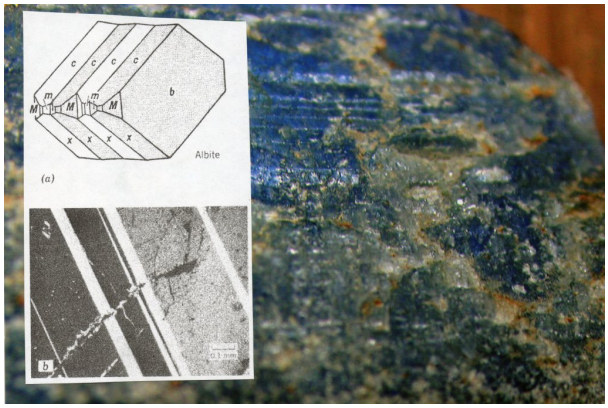

Figure 10. Striations indicating polysyn- Synthetic twinning in labradorite, from Labrador

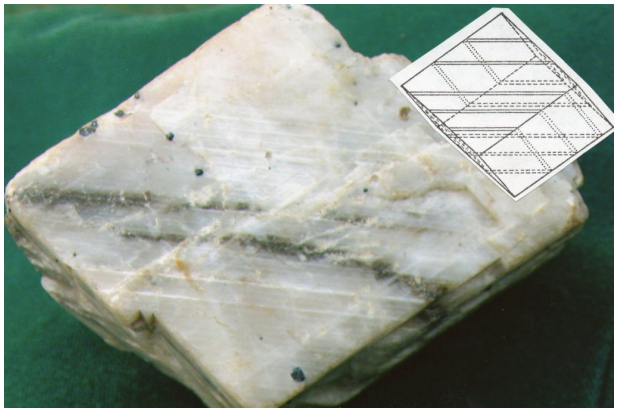

Figure 11. Striations in calcite, caused by pressure twinning, from Franklin, NJ

Figure 12. Dauphiné twin, smoky quartz, Teller Co., CO

Lake George Gem and Mineral Club
Box 171
Lake George, Colorado 80827

2009 MEMBERSHIP APPLICATION

Name(s) _____

Address _____City _____State __ Zip _____

Telephone ( ) _____-_____ E-mail _____

Names and ages of dependent members: _____
_____

Annual membership - dues Jan. 1 through Dec. 31 are as follows:

- Individual (18 and over) …….. $15.00
- Family (Parents plus dependents under age 18) ……. $25.00

Annual dues are due on or before March 31. Members with unpaid dues will be dropped from the roster after this date. **Anyone joining after August 30 shall pay one half the annual dues.**

I hereby agree to abide by the constitution and by-laws of this club.

Signed _____ Date: ____/____/____

I have previously been a member of Lake George Gem & Mineral Club. Yes __ No ___

My interest areas include:
Minerals __ Fossils__ Lapidary __ Micromounts __
Other _____

I would be willing to demonstrate any of the above for a club program or educational activity? If yes, which: _____

Please indicate which of the following activities you might be willing to help with:

Writing _____ Editor _____ Mailing _____ Local shows _____

Club Officer _____ Programs _____ Field trips _____ Refreshments _____

Questions about the club or club activities? Contact John Rakowski (719) 748-3861

Lake George Gem and Mineral Club
P.O. Box 171
Lake George, CO 80827

The Lake George Gem and Mineral Club is a group of people interested in rocks and minerals, fossils, geography and history of the Pikes Peak/South Park area, Indian artifacts and the great outdoors. The club's informational programs and field trips provide an opportunity to learn about earth sciences, rocks and minerals, lapidary work and jewelry making, and to share information and experiences with other members. Guests are welcome to attend, to see what we are about!

The club is geared primarily to amateur collectors and artisans, with programs of interest both to beginners and serious amateurs. The club meets the second Saturday of each month at the Lake George Community Center, located on the north side of US Highway 24 on the east edge of town, sharing a building with the county highway shops. **In the winter we meet at 10:00 AM. From April through September, we meet at 9:00 AM, to allow more time for our field trips.**

Our organization is incorporated under Colorado law as a nonprofit educational organization, and is a member of the Colorado, Rocky Mountain and American Federations of Mineralogical Societies. We also sponsor an annual Gem and Mineral show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems or jewelry. Annual membership dues (Jan. 1 through Dec. 31) are $15.00 for an individual (18 and over), and $25.00 for a family (Parents plus dependents under age 18).

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