

# HOME

ISSUE SIX

SPRING 2011

“**SCIENCE IS FACTS;** just as houses are made of stones, so is science made of facts; but a pile of stones is not a house and a collection of facts is not necessarily science.” —*Henri Poincare, French mathematician and philosopher of science*

## BUILDING SCIENCE & TECHNOLOGY—THE LATEST

Each year, the homes we build get better and better. Incrementally, small advances add up to a vastly improved product—a home that is more comfortable, healthier, drier, safer, stronger, more technically advanced and electronically connected.

Just as human beings have bones, circulatory and nervous systems, and skins that shed water, so do the homes we live in. As we continue to expand our knowledge of health and fitness, our lifestyles change, and so, we want our home to reflect who we are and what we know—in addition to providing safety, security, and comfort.

Ultimately, a home, whether it's bold and contemporary or cozy and

traditional, has to perform. Old or new, home construction is complex. A home may work just fine for years. Then things change, families evolve, new owners move in, floor plans become dated, people grow more sophisticated, and the urge to create, build, remodel, and renovate takes hold.

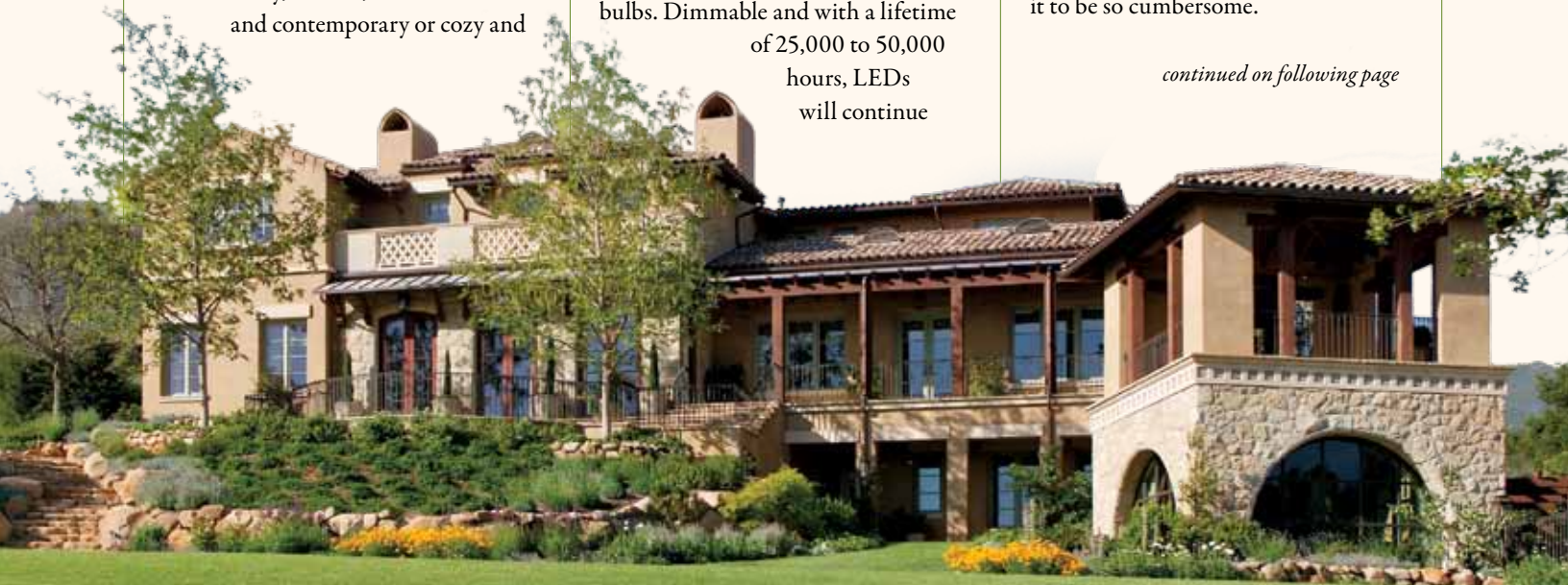
### *Following are some of the latest positive trends we're seeing:*

A major shift is occurring in **LED LIGHTING**. Finally, a technology has arrived that is environmentally friendly and has a “people-friendly” quality of light. LEDs can now replace incandescent or fluorescent bulbs. Dimmable and with a lifetime of 25,000 to 50,000 hours, LEDs will continue

to improve dramatically over the next few years. With the end of the incandescent bulb soon upon us, LEDs will only continue to improve.

**PHOTOVOLTAIC SYSTEMS** are now being installed by electrical contractors as well as solar PV contractors. The mystery has been removed from the “system install.” Unfortunately, obtaining rebates from utility companies and the state of California remains frustratingly difficult. To paraphrase Winston Churchill, the process is a riddle, wrapped in a mystery, inside an enigma. The complexity of the paperwork is daunting, and there's no reason for it to be so cumbersome.

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**Building Science & Technology** *continued from cover*

Because it is overly complicated, the rebate system will not lead to energy independence. It will, unfortunately, foster a cynical belief that the utility companies and governments say one thing, but their actions prove another.

The good news is that the market is competitive so the price of the installed systems continues to drop, and we are growing accustomed to seeing them on our roofs. Yet, let's face it...many of the homes in our region are architecturally significant, and PV panels are not what most would consider aesthetically pleasing. One answer is utilizing ground-based units. What's frustrating is that we need some help from local government in relaxing zoning codes, allowing alternative energy sources to be placed outside the development envelope.

All of this is good timing because the amount of circuitry required in today's homes to run our "instant-on" electronics and conveniences, such as electric towel warmers and warm bathroom floors, means that we need to be much smarter in how we produce our home's power.

Another exciting trend is in **ELECTRIC CARS**, and here we're on the cutting edge. With gas prices rising once again, the cost of recharging an electric car is around \$1.50 a day. Having the system in place to recharge your future electric car in your garage or parking area is smart planning.

**WHOLE-HOUSE AUTOMATION** through low-voltage switching systems is becoming increasingly mainstream. Manufacturers are developing simpler and better products for controlling more and more of your home's systems. In new homes, it's not uncommon now to have lighting, music, media, pool, spa, security, door locks, appliances, window treatments, and heating and cooling handled through a single remote, or even from your cell phone or your computer, no matter where you are. Even better for the end user, the tech engineers have finally figured out that the rest of us are not into programming; we just want things push-button-simple, and they're giving us just that.

*We need to be much smarter in how we produce our home's power.*

We are moving to a carbon-neutral society, something that's already mandated in Scandinavian countries. California passed a law in 2007 requiring all new homes to be carbon neutral by 2020. However, there are challenges associated with this endeavor. Whether you agree or not that climate change is a fact, there is no doubt that less reliance on other volatile countries for our fossil fuels is a good thing.

As for **WATER CONSERVATION**, appliances and plumbing fixtures continue to become more efficient and visually attractive. A case in point is the new trend we're seeing of wall-hung toilets, which eliminate visible tanks and make cleaning much simpler. Many come with two-button choices to give you options for just the right amount of water to flush.



Where we tend to indulge ourselves is in our showers. While showerheads themselves are mandated to be low-flow, body sprays and rain showers are not. Plumbers euphemistically refer to these as “car washes.”

Pardon the pun, but we need more clarity from Santa Barbara County about gray-water plumbing systems. The primary concern about gray water is the affect of laundry soap phosphates and bleach on the creeks and ocean environment, yet those issues can be mitigated with the right selection of consumer products. It makes a lot of sense to recapture our shower water in the garden rather than let it run down the sewer pipe and out to sea.

In **FIRE RESISTANCE** and energy efficiency, we’ve learned a lot from the Tea and Jesusita Fires, as we rebuilt 11 homes that were lost and provided courtesy estimates on 22 other properties. It’s all about reducing the chance of wind-driven embers and firebrands catching on your home. In a firestorm, embers are forcefully blown into any opening—attic vents, crawlspace vents, under door

bottoms, even into plastic drainage pipes and wood mulch. Having your home survive a wildfire is a numbers game. You want the odds on your side.

Any exterior cavity should be insulated to increase its fire resistance, even if it’s not part of the conditioned area of your home. Exterior soffits, eaves, and columns, when they’re insulated, do keep fires from spreading. We saw this first-hand: A small area of a roof or covered patio would smolder but not ignite because someone, for some reason, had stuffed insulation into cavities that technically didn’t require it for conditioning the building.

Another observation: By building exterior wall systems with a greater thermal mass and, perhaps more importantly, using foil-faced rigid insulation on the exterior of a home’s walls, not only is the day-to-day heat reflected but, also, so is the heat from a wildfire.

Techniques used to improve a home’s fire resistance also make it more energy efficient. Attic spaces are now sealed and conditioned the way the

living spaces are. Crawl spaces, too, are becoming insulated, as are mini-basements, sealed from the exterior but conditioned like the interior.

For both fire resistance and day-to-day heat gain reduction, the exterior glazing and cladding of windows and doors by major manufacturers improves each year. Most convenient, from the homeowner’s point of view, is the ease in cleaning and maintenance.

While the perfect home hasn’t been built yet, we continue to strive to produce the very best homes possible. The knowledge we’ve gained by examining what’s worked and what could be better becomes a never-ending quest to get every detail right—beginning with site preparation, then executing the structural engineering as flawlessly as possible, up to making sure the finishes live up to our clients’ expectations. Beyond that, our goal is to ensure that the homes we build age gracefully...kind of like us (we hope)! With proper maintenance, care, and attention, our homes should wear well and last a lifetime. 🏡



*Cover: The 2004 CALM Showhouse and Traditional Home Magazine’s Home of the Year; architecture by Harrison Design Associates, landscape architecture by Katie O’Reilly Rogers. Facing page and this page, left to right: Warm, radiant floors take the chill out of the air efficiently in this classic Santa Barbara–style home; architecture by Don Nulty. A comfortable kitchen, breakfast area, and family room in a traditional style gets a lot of daylight through south-facing windows; architecture by Tom Meaney, interior design by Jennifer Gray. A renovated beach house incorporates a Texas shellstone fireplace surround; architecture by Hugh Twibell, interior design by Sue Aldrich. With solar tubing placed in the surrounding patio, this pool stays warm throughout the season without natural gas heating; architecture by Tom Meaney. A bedroom window opening onto a shaded south-facing portico makes the room seem larger; architecture by Don Nulty.*

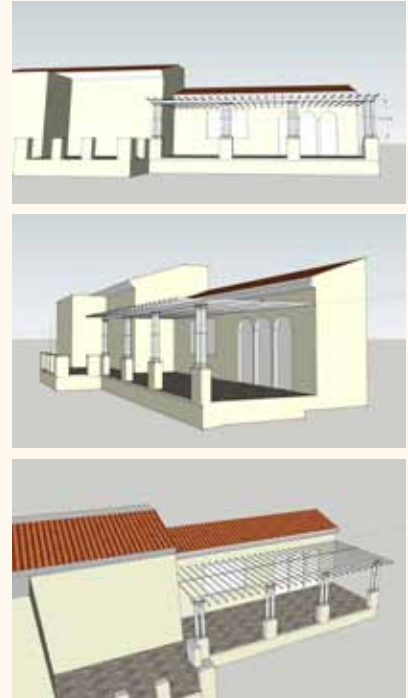
**NEW HOME TECHNOLOGY** Q & A WITH GEOFF CRANE

*Technological innovations seem to be changing the way homes are built and lived in at an ever-increasing pace. Giffin & Crane co-founder Geoff Crane shares some thoughts on what's new and what's cool—and whether we need it or not.*

**Q** What kind of things are you finding new and exciting in home building these days?

**A** I think that modern technology has made the entire process—from estimating through construction—much more efficient and accurate. Bruce and I always laugh when reminiscing about our first real billing done on a Tpestar electric typewriter. Hours of input to an invisible memory, then what seemed like hours to print, just to finally find all of the typos and mistakes. Then along comes the fax with heat-sensitive paper rolls. We thought it was something, until we realized all of those very important faxes would soon disappear as the type faded away. Our first computer finally arrived fully loaded with Lotus123, and all in some jargon

called MS-DOS. I'll never forget my uncle looking at it and saying, "It's just a big calculator!" Today almost everything we do has some integration with technology. Smart phones, iPads, and now more and more tools are going digital and using lasers, gyros, and other kinds of computer-aided devices. Easy-to-use programs like Google SketchUp are giving us the ability to communicate in 3-D via email, which in my opinion saves a bunch of time and also the aggravation of trying to convey something in writing, when a picture that you can rotate or walk into says it all in an instant. The other exciting thing happening in the building industry is the "smart home." It's not necessarily a new idea, but wireless communication systems



within our homes have not only become much more affordable and easier to use, it seems that many of them are focusing on making your home more energy efficient. Today, we can operate almost all systems in your home from a smart phone or set various systems to change, based on an atomic clock, so some lights are never on when it's light outside. The options are endless.

**Q** Are you using any of these products personally?

**A** I do have a system called Control4 in my home, and I also use the same system to monitor a cabin that we have out of state. Locally, it's more of a convenience while operating our audio-visual equipment, since there is just one remote instead of several. For the cabin, it gives me peace of mind to know that the house isn't freezing in winter and that heat-rise sensors within would



*Turning a digital photo into an Adobe PDF, and using the dimensional "comment" tool bar, allows a construction superintendent to easily and accurately communicate actual sizes of a new fireplace to a marble fabricator across the country. **Top, right:** Steve Potter, G&C Superintendent, was able to show in 3-D the interfaces of a proposed trellis for a home under construction in about 90 minutes utilizing Google SketchUp.*

indicate other problems. I have it set to send me a text message if something is not working as planned. Also certain lighting scenes, interior or exterior, can be set to come on at night and go off in the morning while we are not there. The best feature is warming the house before we arrive in winter. This can all be done easily from my phone.

**Q** How do you find it makes a difference in your own life?

**A** Well, it's a catch-22. Although technology allows us to do more work faster, we all have to realize that it really just enables us to do more work! We don't seem to put in fewer hours because technology has made it easier, faster, and more efficient. However, having said this, I do like the fact that I can work from practically anywhere, anytime.

**Q** What technologies would you recommend?

**A** Personally, I like a good simple home control system that makes sense for the particular environment, although you are talking to someone who likes that kind of thing. Ask my wife, and she will have another view. She really just likes to flip a switch and not worry about any of the technical stuff. There's a fine line when making recommendations. I think it needs to be left to the individuals to decide.

**Q** Is there a "must-have" list?

**A** I would say no! Following my wife's lead, we really don't *need* any of this. In fact, in some cases all these

things just get in the way. I do like the fact that some technology can make our homes more efficient—but at what cost? We live in a hectic world, and sometimes it just adds more to have to deal with.

**Q** What would be on the "nice to have" list?

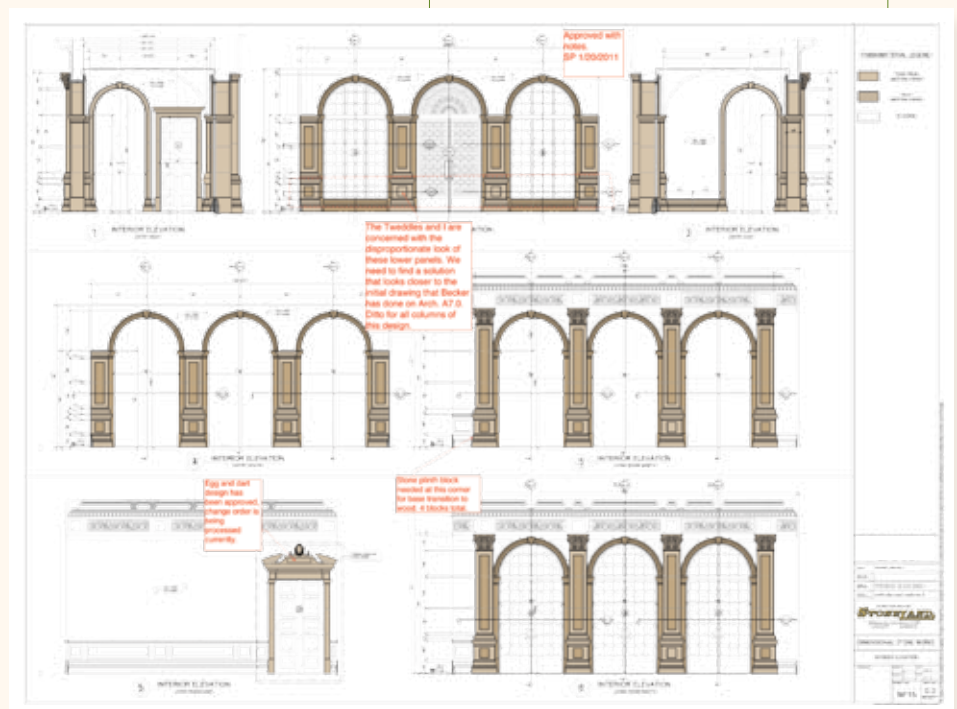
**A** Two first-class round trip tickets to Paris!

**Q** What would be all the features that you would see in a "dream home"?

**A** Whose dream? Good lighting, good HVAC, good music, and everything working well would be the first things on my list. Warm floors are a nice feature, too. Beyond that...keep it all simple, fun, and interesting.

**Q** There's been an evolutionary improvement in the homes you build. What are the differences?

**A** Building products and the environments that we build have improved dramatically over recent years. Lead-based paint, asbestos, products that off-gas, and many other things that are hazardous to our health have either been banned from the market or have been altered to be safer to use in home construction. Our philosophy at Giffin & Crane has always been to build to the best and highest standards possible. We not only want our homes to perform better than any others, but we also want them to be healthier. When we say "Building Peace of Mind," we really mean it! ▲



*Changing shop drawings into an Adobe pdf and incorporating the "comment" tool bar, quickly facilitates reviews, approvals, and distribution of the revised plans to designers and fabricators.*

## MAINTAINING PEACE OF MIND

*A Unique Giffin & Crane Home Maintenance Service.*

Over the years, many of you have asked us to provide home maintenance services for your residence. We've heard you... and we're pleased to announce that a new group within Giffin & Crane—Maintaining Peace of Mind—has been established under the supervision of Eric Carlstedt.

Our maintenance services, available to all homeowners, are on call, and we can provide a customized checklist tailored to your specific property. Regular inspections take place at a frequency that suits your needs, ranging from annual home checkups to twice-a-year or seasonal maintenance to weekly walkthroughs for out-of-town clients.

### Among our services:

- Inspection of attics and crawl spaces for leaks, insulation, signs of moisture, or poor air quality

- Drainage and grade inspections
- Inspection of heating, air-conditioning systems, and water heaters
- Inspection of doors, windows, and fireplaces
- Mapping the property for locations of shut-off valves, breakers, meters, electrical panels, low-voltage transformers, lighting and time clocks
- Written recommendations for repairs
- Repairs, maintenance of home systems, and other small jobs

Our goal is to offer a “Peace of Mind” experience to regular or first-time clients, with excellent customer service, a dependable professional staff, and the highest standards of quality. For service or more information, please call our office at 805.966.6401. ▲



**Bottom left to right:** Eric Carlstedt; a guest studio set in a bucolic backyard; design by Jill Hall and Elyse Pardoe, architecture by Jason Grant, landscaping by Blue Agave. **Top to bottom:** A gracious motor court awaits the arrival of guests; architecture by Don Nulty, landscape design by Eric Nagelmann. A beach house kitchen; architecture by Hugh Twibell, interior design by Sue Aldrich. A see-through entry; architecture by Howard Wittausch, landscape design by Eric Nagelmann. An elegant and functional luxury kitchen; architecture by Harrison Design Associates, interior design by Barry Dixon.



## HOME ENERGY REBATE SYSTEM (HERS) AND THE CALIFORNIA ADVANCED HOME PROGRAM (CAHP)

Recently, at a client's request, Giffin & Crane undertook a project designed to obtain a more substantial rebate from the utility company and the State under the New Solar Homes Partnership (NSHP) program. It's a rigorous program and, while there are additional costs in obtaining the rebate, the refund is significantly more than the standard rebate for solar. Additional benefits may be obtained for energy efficient new homes by participating in the California Advanced Home Program (CAHP).

Mike Staniforth, Giffin & Crane Project Manager, learned a lot from this process, and Steve Mann, a LEED Green Rater from Home Energy Services, provided a lot of the guidance. Here are their key points and recommendations for successful results:

- For the NSHP, technically you don't need to get the utility company involved until later. You can even wait until the house is built. For the CAHP, you have to get the utilities involved before drywall goes up, preferably a while before it goes up.

- Having said that, for both programs you have to exceed Title 24 baseline by at least 15%. The sooner you get an energy consultant involved, the easier it is to do that without major disruptions to your construction process. The higher you go over 15%, the better the CAHP rebate. It can be several thousand dollars, without the NSHP rebate, if you also put PV on the house (the PV kicks up the CAHP rebate).
- In order to achieve those higher numbers, it makes sense to get an energy consultant who is HERS certified, because you're going to need HERS verifications to get those higher numbers, unless you're building a super-efficient home with, say, SIPs, or ICFs, or very high levels of insulation.
- HERS raters inspect the insulation, window installation, HVAC installation and Title 24 energy ratings on appliances and lighting.
- A door blower test and/or a pressure test may be required on the home to see how tight it is.
- Quality insulation installations are inspected, which can add 2 to 5 points towards the minimum 15% required for the rebate.
- Typically, the costs for the HERS rater may average up to \$1200, depending upon what inspections are required for Title 24 compliance. With the rebate being \$12,000 to \$15,000 per home, it becomes a worthwhile investment.

We want to achieve the highest possible energy efficiency in all our buildings. Taking advantage of the rebates as much as possible helps reduce the cost of doing that. 🏡



*Above, left to right: A laundry room that's a pleasure to spend time in; architecture by Harrison Design Associates, interior design by Francesca Wolfe. Photovoltaic solar panels installed on a home under construction; design by Jason Grant. Left: Mike Staniforth.*

## SPRING CHECKLIST— EARTHQUAKE PREPAREDNESS:

- Understand that in a major earthquake, police, fire and medical support teams are very likely to be overwhelmed for the first 72 hours, perhaps longer. Be prepared to care for yourself and your family for several days, and to help your neighbors.
- Check, update and replenish emergency supplies—bottled water, battery operated radio, extra batteries, first-aid kits, flashlights, backup heat source or camp stove for cooking.
- Recognize that your water heater may be your source of potable water except for what you have stored in preparation for an emergency.
- Secure large furniture pieces (hutches, armoires, etc.) to walls.
- Know how to open your automatic gates without power.
- Know where your gas and water shutoffs are and be sure you can get to them. Exercise water shutoff valves every six months. Keep an emergency shutoff wrench close at hand.
- Make sure that you have five gallons of bottled water stored for each home occupant. Refresh every six months.

*As always, if we can be of assistance, please call us at 805.966.6401.*



## SENIOR PROJECT MANAGER CHRIS LEONARD LOOKS FOR SOMETHING MORE IN EMPLOYEES

CHRIS LEONARD hires and supervises Giffin & Crane employees with a wide assortment of responsibilities and skills, but the thing he looks for most is attitude.

“Sure, we look for talent, but it’s important to hire people that fit into the G&C work environment,” says Chris, who’s been with the company since its inception. “Owners are going to have our people working in their houses, in their yards—in their lives, basically—and they have to feel comfortable with our presence. Having your home built is a big deal in most people’s lives, and it should be a good experience. The people you interact with are a big part of that experience.”

Chris, who learned his carpentry skills in his native Canada, says his biggest challenge is making sure everyone on a project is moving forward with the right information.


“It’s a team, and we all have to work together—owners, designers, architects, and engineers,” he says. “Working with creative people is both challenging and very satisfying; bringing together form and function seamlessly is the real challenge.”

As manager of the company’s safety program, Chris is proud of Giffin & Crane’s safety record. “We really do put safety first, and it pays off,” he says. “Every one of our workers is trained in first-aid and CPR. We’re also moving toward making defibrillators available on all our major job sites.”



Property protection is another of Chris’s responsibilities. Working with the local fire districts, he has implemented a program that trains employees in the correct use of fire extinguishers. He also monitors each site to be sure the extinguishers are up to date and properly placed.

“One of my biggest rewards is having satisfied owners, going back years later, and seeing a house that we built after it’s been turned into a home, with all the personal touches,” he says. “We create homes, and these environments shape people’s lives, especially families with children. Everyone remembers their childhood home. I consider myself to be a man of my word, and working with a company that has the same philosophy is key. Giffin & Crane fits the bill.” 🏡

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