

MISREADING A HOUSE

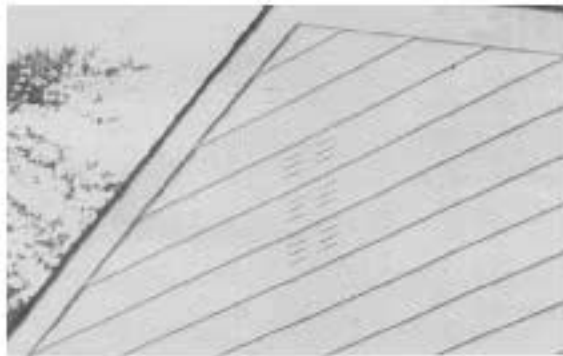
HOUSE ▲ DETECTIVE ▲ WORK

Many "hidden" building problems leave visible clues. Train your eyes to pick them out at a glance and read them correctly. The information gleaned could spare you many unpleasant surprises once you're knee-deep in the job.



◀ Heavy canvas wall coverings can hide crumbling plaster and—more important—deteriorating brick. If bricks are damp and deteriorating (look for red dust), what about the joist ends resting on the brick?

▶ Soot near this through-the-wall furnace indicates bad draft or something seriously out of adjustment. Also, could backdrafting fumes be entering the wall jack above?



◀ This poor excuse for a gable-end vent was left by the vinyl siders. Better take a look in the attic.

▶ Stained soffits: Ice dams? Roof leaks? Gutters backed up? In this case, it's from condensation dripping off air-conditioning ducts buried within the second floor.



Don't be surprised on the job. Read and heed these red flags BEFORE you start your next remodeling project.

Expressions like "bottomless pit," "can of worms," and "quagmire," are unfortunately a part of every remodeler's vocabulary. All have their war stories to tell, and most would consider their slip-ups valuable learning experiences. But few would care to repeat them.

Many such war stories could have been avoided had the contractor "read" the house right at the start of the job. There are other types of mistakes too, like poorly specified contracts and misread clients. But to start off on the right foot, you've got to know what work lies ahead of you.

When you Misread a House

There are several things that can happen if you misread a house. You can:

- Not recognize hazardous situations, and precipitate some yourself.
- Not identify and communicate existing discoverable problems, including intermittent problems (on-again, off-again) and incipient ones (about to happen).
- Create new problems with your work you should have been smart enough to avoid.
- Unearth hidden problems that complicate or expand the scope of the work, or do work without knowing all the rules.

HAZARDS

Old gas lines. Lines that once serviced overhead or wall lighting can be disturbed, leak, and cause explosions when electricians think they are conduits. Make sure they are disconnected at the gas meter.

Asbestos. It can become airborne due to your work. Though it cannot generally be verified without a laboratory analysis, there are many materials that are extremely likely to contain asbestos. You should be wary of whitish plumbing or heating pipe lagging, whitish materials around boilers or furnaces, and resilient flooring (sheet goods or tile) that are to be torn up or sanded. Be aware of asbestos and how your work could send asbestos particles airborne.

Radon. The changes you make in a building could inadvertently bring about high radon readings in the air or water supply. Your contract documents should disclaim such risks.

Buried wiring. Wiring for yard lights, etc. always seems to find your laborer's shovel, while low overhead wiring will invariably hang up your painters' or siders' ladders.

DISCOVERABLES

No existing house is problem-free,

and you'd better expect that some homeowners will gladly stick you with problems they know already exist. Here are a few to beware of. Try to find them and document their existence in your contract.

Cracked foundations. Look for cracks in the foundations due to settlement, poor drainage, tree roots, rotating concrete stoops, and the like.

Damaged wood. Check for damaged wood due to rot, insects, or past fire damage. Inspect every crawlspace house you ever find.

Homemade electrical problems. Inadequate electrical power or circuitry, or overextended circuits are common problems, especially if there has been homeowner remodeling. Expect problems with do-it-yourself enclosed porches, finished basements and attics.

Ungrounded wiring. You agree to change all the old two-hole type to the polarized three-hole type and then you find that the Romex wiring you saw was the ungrounded type.

Heating and cooling inadequacies. If you modify or extend the heating or cooling system, don't be surprised if you're blamed for any and all discomfort later.

Poor installation. Probably 90 percent of wood stoves are installed improperly, and chimney fires are common. To be safe, avoid modifying homeowner-installed units.

Fireplace flues. Look for soot on the facings of fireplaces or recently painted brickwork. This can be a sign of backdrafting. Also look for chimneys that can get a downdraft from nearby trees, or eave-edge chimneys that can be affected by wind currents over roof ridges. Shine a powerful flashlight up inside the chimney and look for broken flue tiles. Be doubly certain to do this with flues that serve old oil-burning equipment (the flue gases can make sulfuric acid, which can deteriorate clay tile).

Backdrafting Furnaces. Look for scorch marks on the front of furnaces and boilers. Then operate all heating and exhaust equipment at once and check the draft at vent hoods.

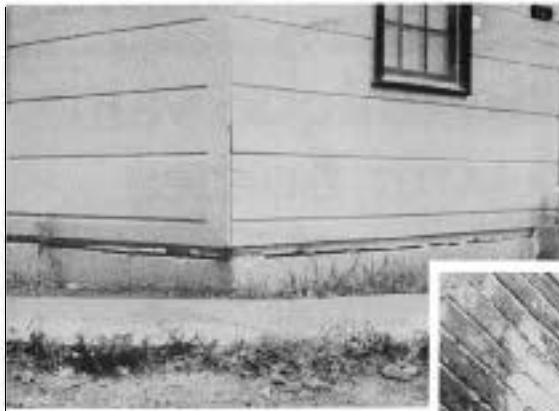
Stopped-up sewer lines. Look for trees growing over the lines and remember that in the late 1950's and early 1960's a lot of bituminous and cementitious pipe was used that is crumbling and collapsing today.

Backed-up plumbing. Run the plumbing fixtures and look for backups in the basement floor drain or basement bathtub. Never allow your drywallers or painters to clean their tools in a homeowner's sink. Always look at the ceiling under ceramic tile showers (or any bathroom for that matter) for stains or past repairs. Pull access covers behind tubs and look for signs of leakage. Tap on the tile around showers and tubs and see what is loose.

Leaky brick walls. Beware of water seepage through old brick walls with soft mortar. If the old plaster finish on the interior of these walls is covered with canvas, be wary. Sometimes water leakage through side walls can rot the ends off floor joists.

Leaky roofing. Be especially sure to look under patched flashing. Use a powerful flashlight in the attic to look behind all flashing areas and under the eave edges. Report any delaminated sheathing, rotting eave edges, or decaying rafters.

Loose or cracked plaster. Push against walls suspected of being loose and up against ceilings. You don't want to repair "damage" you have not caused.



The star anchor is safely secured to the wooden floor structure. Unfortunately, the brickwork is crumbling around the star—making for a precarious situation



This slab-on-grade has settled in the corner, but the wood-frame house above has stayed in place. Hence, the extensive horizontal crack. Watch for this problem. It is common in areas with expansive soils.

Leaky basements. Look for swelling in paneled walls or acoustic ceiling tiles. Tap floor tiles for looseness and look for stains on woodwork. Look for water stains on the bottom riser under the stairs. Also look under furnaces and water heaters. Look for peeling paint or efflorescence (white powdery stain caused by migrating lime salt) on masonry foundations.

The neighbor's chimney. If you built up past it, you may just have to raise that chimney on the adjoining property—to meet code, and prevent downdrafts or smoke in the window of the new addition. (Chimneys must be three feet above a roof deck and two feet above anything within 10 feet around.)

Missing vents. Your plumber calls from the job and says he needs a lot more material and a lot of carpentry work to install the backvents. You scratch your head and then remember that that old house had "S" traps and not "P" traps. It dawns on you that the whole system may have no backventing.

Truss tricks. You see the roof from the ground. Duck soup say you, a simple overlay roofing job. You give a good price and away you go. Next week, the homeowner calls to say he is worried about the shingles your supplier has stocked on the roof as the roof appears to be sagging. In the attic, you find that the homeowner has cut out a whole series of truss chords to provide himself with some storage.

Not getting the whole story. You agree to make a simple 12x16-foot bedroom in the basement, and give a price. Just paneling and some carpeting, the homeowner says. After the bootleg special is underway and well before you have received any money, the homeowner asks where the permit is and why you are installing the paneling before the electrical work gets installed, and how will the room be heated and cooled? You begin to get a sinking feeling in your gut.

The intermittents. Be aware that some roofs (and windows, doors, thresholds, and sidings) only leak when there is a certain wind. Often they will leave no identifiable clue. (Try for candor, ask your client if there are such prob-

lems.) Ask if any doors or windows stick occasionally. Look for symptoms of "rising-trusses," which is a phenomenon whereby the ceilings of houses with trussed roofs will rise and fall with the seasons. This causes cracks to appear at the ceiling/wall joints near the center of the truss spans.

Another intermittent problem is ice damming in gutters and seasonal leakage inside houses. This is usually due to poor attic ventilation, which allows escaping heat to melt the snow on the roof.

The incipients. Old lead waste pipes and galvanized supply and drain lines can leak at any time—and probably will—soon after you finish the ceiling under them. Old roofs may be fine one day and leaking the next. If these problems manifest themselves soon after you finish your work, expect to hear from the client.

PROBLEMS YOU CREATE

Settling additions. Building additions can settle because they are placed on the backfilled earth of the original structure—or because the new foundation ties-in improperly.

Overextended electrical circuits. Disposal and dishwasher are run on one circuit, or multiple taps are taken off fuses or circuit breakers. This happens countless times on remodeling jobs.

Overextended ducts. Your heating contractor taps into an existing forced-air heating system for a room addition or basement finishing job. The pressure drops in the rest of the duct system and now the entire house is uncomfortable.

Retrofitted heat pumps. You retrofit a heat pump into a house that has had a fossil-fueled forced-air heating system. The lower-temperature air and the smaller duct size make the unit inefficient and keep the house uncomfortable. The unit runs all the time and the air noise reminds you of O'Hare airport. The outer wall temperature drops and the owners invest in a sweater mill.

Baseboards full of air. You remove the old radiators and install short lengths of baseboard. The house won't heat up, but the owners boil over. You agree to extend the baseboards and finish the job, and then you get to learn

what air binding and purging are all about. The baseboards load up with air and the water won't flow through the system, and you can't bleed the air out because the heating contractor failed to provide adequate air purging at the boiler.

New steam boiler that makes matters worse. You upgrade the old steam boiler to a nice compact "efficient" one. Compared to the old unit, the boiler-water capacity is much less than the old unit and the firing rate is different—causing the unit to alternately starve for boiler water and flood itself with condensate return. The burner cycles off and on more frequently than McDonalds sells hamburgers.

Noisy drains. You install the new bathroom using plastic drains and waste and run them over the new den. The pipes are held nice and tight and the homeowners complain about the "tick, tick, tick," noises when the hot water expands the pipe and mentions Niagara Falls when they show you the number of times they have heard the toilet flush in the past week.

Overextended circuits. You install the new larger electric water heater and find that the circuit breakers blow all the time. You read the wattage for the elements and realize that not only is the breaker too small, the wire is too thin, and must be replaced to match the heavier circuit breaker.

Fixing the foundation for good. You are certain that no more water will enter the basement. You have trenched around the inside, installed a perimeter drain and sump pump, and even left a slot along the inside of the foundation wall with holes through the foundation to receive water into the perimeter drain. You have your hand out for the check while the homeowner is listening to a structural engineer discuss how this sort of thing sets up foundation failure (due to soil erosion and consolidation) and then there is the radon consideration. You see the homeowners face turn from white to red.

Stuck appliances. A week after you install the new kitchen floor, the homeowner calls to tell you the dishwasher quit and asks that you get it out from under the counter. He or she is a

little mad that you locked the dishwasher in under the countertop with the new underlayment and sheet goods.

Moving tile. Your tile man does a beautiful job thin-setting a new tile floor in the kitchen or foyer. Within a week the homeowner asks that it be regrouted. You look at it and notice the deflection when the owner walks over the floor. No one thought about beefing up the floor structure.

Building next door. Your masons reline a chimney in an old townhouse on the party-wall side. As you are admiring the house from the street you notice that the terra-cotta lining actually seems to be on the neighbors' side of the party wall. To your horror, you find that the masons have broken into and used the neighbors' portion of the old chimney. Counting lawyers' fees, this is sure to be expensive.

Tire ruts. You are johnnie-on-the-spot getting the shingles ordered and up on the roof. You arrive at the house expecting to hear the cheery greetings from the happy homeowner. You see him, his wife, and the kiddies walking the length of the tire ruts the boom truck has left in the front lawn.

Sealing it up. You replace a slate roof with asphalt shingles, and that winter the homeowner reports a condensation problem under the roof sheathing. For the first time you notice that the attic has no ventilation and it dawns on you that maybe the moisture was exiting the attic right through the slate surface.

House tightening. Your crew replaces those old drafty steel casements with new tight-fitting double-pane windows. The homeowner calls in the middle of winter to complain about mildew growing on the walls of her house.

Siding overrun. An upset homeowner calls in the winter to suggest the siding you installed is causing ice damming she now gets regularly and for the condensation forming in the attic. You arrive at the house and realize that your siding installers have run the siding over the gable-end vents.

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Frozen pipes. Your crew installs partitions in the attic and insulates some walls. That winter the homeowner calls and blames you for the frozen pipes. You realize that maybe you are at fault.

Poison in the ducts. You subcontract a termiticide treatment around your new addition and find that the technician has treated the whole house (a slab house with heating ducts in the slab) and has apparently drilled into and injected the termiticide into the ductwork itself.

The wrong roofing. A townhouse owner with a flat metal roof hires you to scrape and paint it. You return to find the roofing subcontractor has coated it with hot asphalt. The homeowner claims this ruined his roof and threatens to sue.

Misplaced asphalt. Your subcon-

tractor has removed the old tar-and-gravel roof and has completed the new one. The homeowner rushes to meet you with a painting streaked with asphalt that he says is typical of all of his possessions stored in the attic.

Delayed thinking. Somehow the once-happy client has gotten it into his head that your room addition is the cause of his recent wet basement. Now you reflect on that terra-cotta pipe you found in the backyard as you were excavating. Could that have been a runoff for a perimeter drain, you ask yourself?

Fire hazard. A fire erupts in the attic of a house you recently weatherized. The newspaper suggests that recessed lighting was involved. You check your records and realize that you had a subcontractor blow the attic cavity. You pray that he used shields around the recessed lighting fixtures.

Rotten insulation. Two years after you weatherize a house you get an angry call from your former client who threatens suit. It seems that a roofing contractor recently told him he would need all new sheathing as well as new roofing. It seems the insulation your men installed was stuffed up tight under the roof sheathing, and condensation rotted it out.

HIDDEN PROBLEMS AND ON-THE-JOB LEARNING

Wormy wood. You are expanding a swinging door to a set of sliding doors to lead to the rear yard and find extensive termite damage, or extensive wall rot due to past ice damming.

Brittle wire. You agree to change the lighting fixtures in the house and then find that the old copper wire is too brittle to make connections (try soldering them) or find that the wiring is aluminum. If you touch the aluminum, you should make connections with the AMP special crimp device lest you inherit the incipient fire risk.

Pipe in the way. A recessed medicine cabinet above the vanity? Sure, no problem. Then you find the backvent pipe runs right down the middle.

No return. Add air-conditioning to the heating system of a cape. No problem until August and the 2nd floor is sweltering. Now you realize the importance of having a return duct on that second floor.

Lead's a no-no. Change the old horizontal basement supply pipes to copper? No sweat. You install the copper and then the building inspector asks what type of solder you used. He shakes his head when he sees the 50/50 lead solder and then he informs you that you have to redo the work—and replace the old main to the street as well. Something about no more lead in the water systems.

No Perk. You build the addition and then the inspector asks when you are going to expand the septic system and asks to see that permit. You didn't know that adding the extra bedrooms meant that the existing septic system had to be expanded. You begin to pray the ground will perk.

Final words

I was able to write this article because I've come across each and every one of these problems in my home-inspection business. Maybe these examples will encourage you to inspect properties thoroughly before and after your jobs. It should make you a believer in adequate insurance coverage, and hopefully save you some personal grief. ■

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