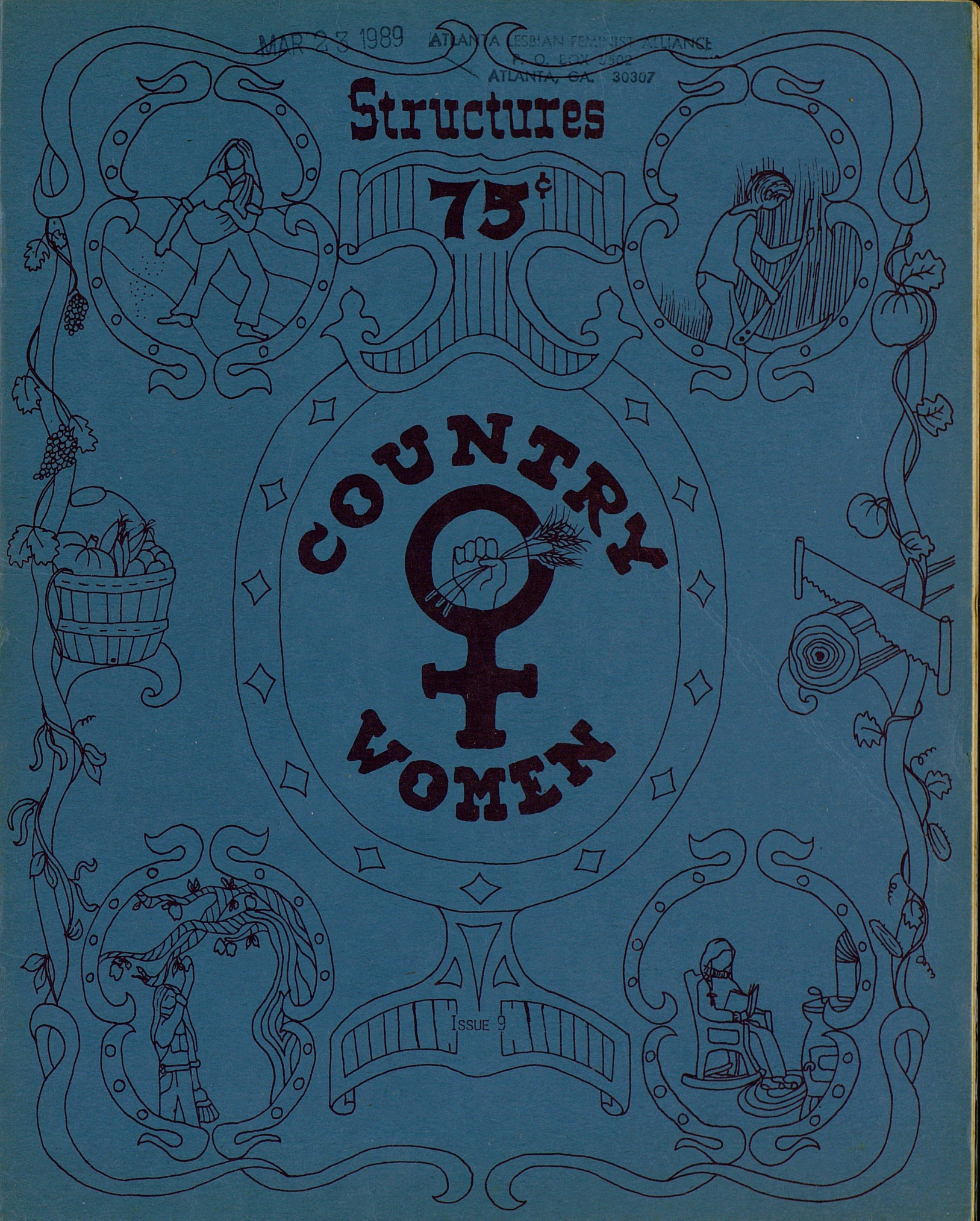
Structures

75¢



ISSUE 9

Credits for photographs and graphics are on the back cover.

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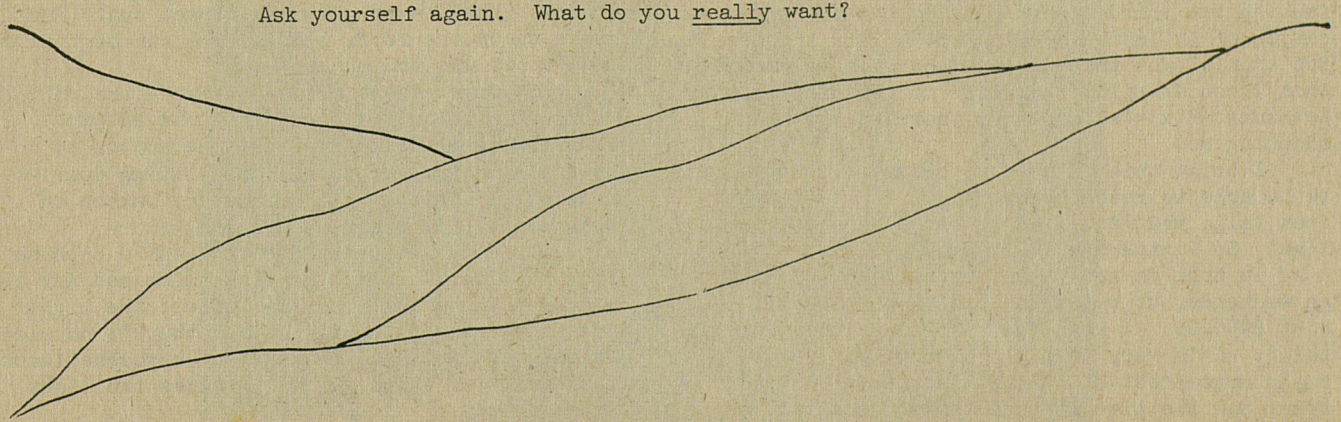
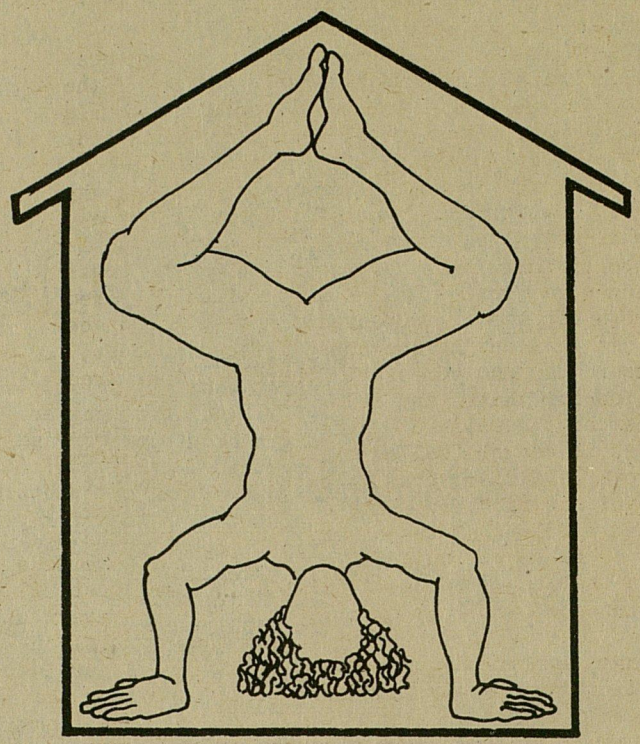
shelter meditation

Clear yourself a clean space in your head.
Forget what you think you know about "houses", what they look like and what they are.
Forget about corners and windows and heating and toilets.
Forget about shelves, closets, and rooms.
Throw away all the pictures in your mind, all the things you've been taught to think you and a house should have.
And think about yourself, about who you really are.
And think about the land you wish to live on.
How do you want it to be between you?
How will you be together, you and the land and the water and the trees and the sunlight?
Ask yourself what you really need.
A shelter.
A place to be warm and dry.
A way to get water.
Then ask yourself what it is you want.
Do you want to be able to smell the mornings, to listen to the grasses?
Do you want to see the meadow, or the ocean?
Do you want running water inside your house?
Enough space to share with others?
Electricity, a gas stove, a refrigerator?
And weigh your answers, long and deep.
Weigh them until you know their real cost
in time and energy
in installation and in maintenance
to you and to the land.
Your shelter will reflect and provide a frame for you and your life.
What you build, you will have to maintain.
What you change will not be the same again.
What you take you will have to, ultimately, give back.
What you decide does make a difference.
Ask yourself again. What do you really want?



BUILD YOUR HOUSE TO FIT YOU



This house grew from the inside out. I didn't design it as it is now at all! What I built was a 12' x 16' box on a platform. With some trepidation, because I'd never built a house before and I'm a woman. I had a carpenter friend whom I asked to help me and he helped me put the platform up and showed me how to line it up. But when the time came to help me build my little house, business called him away and he couldn't stay. So he said to me, "Go ahead! You can do it! Throw away your plans (I had drawn it to scale with an 8' ceiling) and get 500 board feet of 2 x 4 and just start. And just one thing to remember: don't build with anything you can't pick up and carry yourself." Which seemed like good advice, because everything is carried in about 100 yards or so. So that's what I did. I got those 2 x 4's and carried them in and started to build. The platform was built 12' x 24'. That was important here because it's so wet. So it's up off the ground, sort of like a ship.

I built my 12 x 16 box on my platform, but when I was about three-fourths through, I thought oh! it's too tiny! I need to have a little something for a kitchen. So I built another little deck and then added a 7 x 8 addition for the kitchen. In fact, that part was the most fun for me, standing in the middle of the space and thinking, now let's see...where can I push it out now?! I added foundations and little decks where I wanted extensions. I added two feet on one side and two feet on another side and six feet on the third side. I never had any anticipation of building anything but a 12 x 16 house. But then, I got this disease and once I learned that I could build, that it's not so difficult to hammer 2 x 4's together, there was nothing stopping me!

I built this to my size because I wanted to be able to reach everything. I'm not eight feet tall; what did I want with eight foot ceilings? So I made the ceilings 6'3".

It took me about six months, just working on weekends, to build the basic house and it cost $950.00. I kept the records of the whole thing. It's very helpful to know. My neighbor's house cost $50.00, but you have to consider all the time it takes to scrounge all those materials.

I need a lot of light, so I have a lot of windows. One problem was, originally I made all the windows out of 10 mil. plastic, and I put it on very carefully, like you stretch canvas. It took days and days, and it had all cracked within a year. So I replaced it with plexiglass, which also cracked in several places because I hadn't known how to put it on. I put in too many nails, I didn't drill the holes large enough and I put a sealer all around. I just held it too tight, and it didn't have enough room to expand and contract. I'd rather work with glass, anyway; it has a kind of intrinsic life. And it's heavy! It's solid. Plexiglass does have the marvellous qualities that you can bend it and drill it, and it's easy to work with. I don't think I'll ever have to replace the side windows; they never get much direct sun. But right up on the roof, I guess the sun beating down on it was too much.

The front doors slide, allowing the wall to open completely. I was inspired in part by Japanese architecture, and the notion of having a very open house. The sliding door is made of plexiglass with a layer of bamboo on both sides. It's nice and light.

I decided to paint one wall white because it's so often dark in the wintertime and any amount of white surface will reflect the light instead of absorbing it. Since there's no electricity and it's all candles and kerosene lamps, the amount of white space increases the light tremendously.

And here's another thing. When I was building the roof, I knew I wanted skylights at the

ridge, because I wanted maximum light. Not knowing any better, I started the roof at the top because I wanted to have the right amount of skylight space there. I kept going down, adding boards, and when I neared the bottom ends of the rafters I said, "Oh! Isn't that nice? I like that space all along there." So I left all of this open space on both sides which made skylights along the bottom of the roof as well as the top. I could stop building the roof whenever I wanted to, so I did. Because it looked nice. And that's the way the whole house is built: if it looks nice, why not? But then I found, living in it for a while, that skylighting on the south side is too bright. So I covered it up on the south and vice versa. On the north side, I wanted more light so I increased the skylight space.

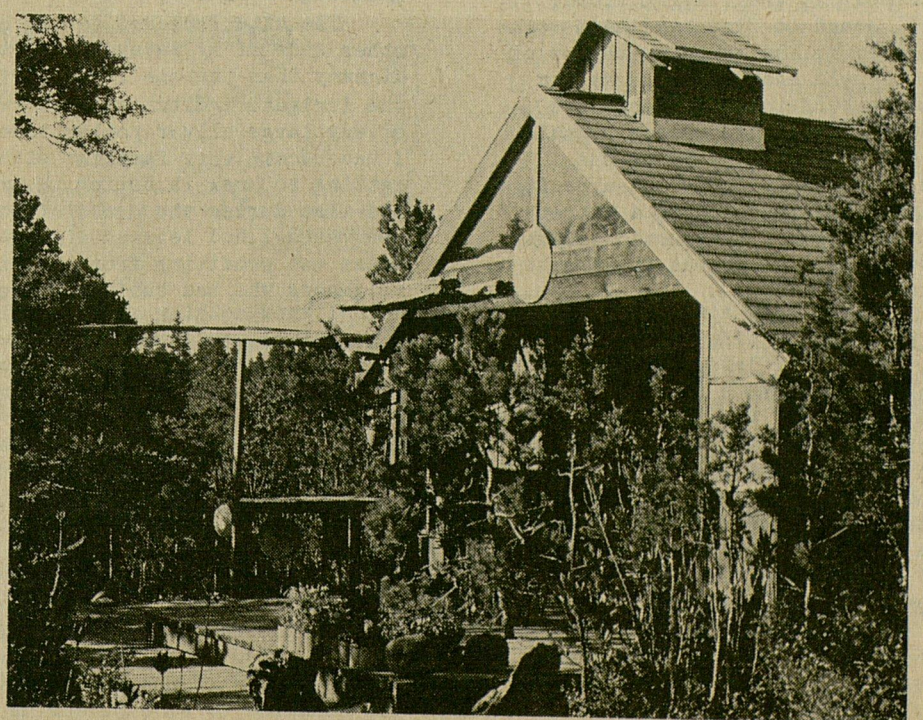
In locating the house I faced it East, where the sun comes up. There's a long tradition for that. And below the high shelf I carved the Delphic oracle, in Latin. Translated it means, "Called or Not Called, God Comes Here". I discovered it because Jung has it over the front entrance of his house in Zurich and I felt that was a very fine thing to have.

As to the building code, it's built to code in the sense that it's built as a pier construction shed would be built. It's on piers every four feet with 2 x 8 joists and then a subflooring. I figured there was no point in my putting all of this money and energy into something that wasn't going to be sturdy. I had to buy all new lumber; I didn't have a source of old lumber. My carpenter friend encouraged me, saying, "Look if you're going to do it, do it right!" So I did. It's done right. It's done on two foot centers, which is also code shed requirements. I think the requirements of the building code for private houses are far too stringent, but just for a safe, strong, sturdy building, I wanted it to be at least as strong as a shed.

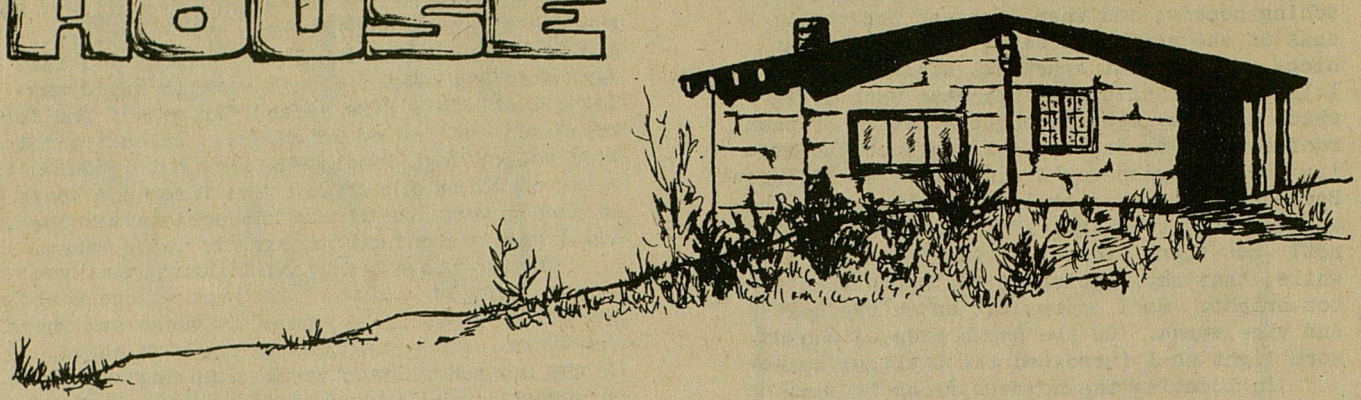
I also wanted it to be safe from fire. So there's asbestos board behind the fireplace. And it has a double insulated chimney. I felt very strongly that I didn't want to build anything that was a fire hazard for myself and for the woods and for my neighbors. It cost a lot more to get that insulated pipe, but I wouldn't think of doing otherwise. The fireplace keeps me plenty warm except for the coldest mornings, and I have a kerosene heater for those times.

The whole secret to building is that you do one thing at a time. You pick up one board, you put it down. You hammer it there and there and there. Then you pick up the next board. At any one point you're only handling one piece of lumber. And I found that a 16' 2 x 4 (the length of the big room) was just about my maximum to handle. Everything else was smaller than that, eight feet and ten feet of wood, which isn't much. At any one point, it is not difficult. The only difficult part about it is the perseverance. You have to keep on doing it, because it doesn't build itself. It's exactly like writing.

It seems to boggle people that I did this thing, and they often say something like, "Oh, did you plan it?" And I always say "No! It designed itself - it really had a life of its own." It said, "Now I want this!" And I was just a servant. It had its own notions of what it was going to be. People say, "Oh, I could never do it, because I could never plan it and design it and decide it." And you don't have to! All you have to do is start. And then the house does it. It grows. And you serve its growth.♀



ADOBE HOUSE



When I went to New Mexico in the winter of '69, it was solely to visit a long-haired niece of mine whose young wisdom I felt I needed on the head-changing journey I had been taking for the past two years. The last thing I imagined I would do was end up buying a farm where I would later build my own house. But one event led to another and I developed a taste for the countryside and became inspired by the self-reliant spirit of a woman of my own age who was farming and building her own structure.

The farm I bought had 7 1/2 acres of land, a funky old adobe house with six little rooms, and an old barnyard. The house felt strange to me at first with its irregular one foot thick walls and funny shaped doorways and windows whose feeling contrasted with the linoleum covered floors, the wallpaper and wall board ceilings. I felt somewhat like an archaeologist pulling up five or six layers of linoleum to discover a beautiful, grey, aging floor; tearing down wall board to find hand hewn vegas (beams) on the ceiling, and scraping layers of wall paper from the old adobe walls. My own private dig took me back in time before the plastic age. Here I was, discovering organic materials that had been covered up by the Spanish who had used them. I, the ex-urbanite, valued returning to the land and to a vibrant and alive structure which I knew would someday go back into the earth from whence it came, without polluting the land.

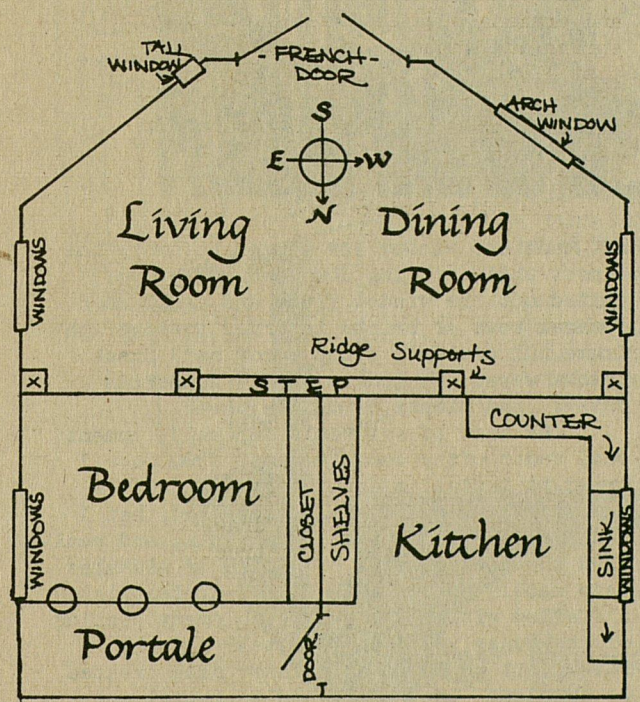
The house was very dark and some of the walls needed remudding. I didn't feel competent at knocking out bricks for larger windows, or mudding walls and so I hired a Spanish neighbor of mine. My 48 years of living in the city and being a woman crippled me from trying out tasks that had always been in a male's domain. The women's movement hadn't reached me in Taos yet and so I had to struggle for many months, being dependent on men before doing things on my own.

When I started playing around with the idea of building my own house I thought I had better practice first on something of a more modest nature. So I decided to build a chicken house and bought myself 300 adobe bricks. I had a back hoe dig into the side of a slope so that I needed to construct only one wall of bricks, as the other three walls could be lined with a dry wall of rocks. Adobe bricks are made from adobe mud and straw, in forms of two or three bricks at a time, and dried in the sun. They are sufficiently hard to build with, but of course not as durable as fired bricks or cement blocks. I learned to mortar with mud, placing in windows and door frames and making a roof with vegas and boards. With this experience, I was ready to start on my own house, but then decided to wait through the winter as one can't build with adobe in the wintertime because the mortar would freeze when wet and crumble when it dried out. The following spring and summer were spent in farming so that I didn't break ground for my house until after the harvest. By that time I had young men and women living and working with me on the farm and they helped me on and off with the building of my house.

The site I picked for my house was on the other side of my barnyard, further from the highway than the one I was living in, close to the irrigation ditch with its willows and near a very large silver poplar tree. By this time I had become very familiar with this spot, getting to know it during the various seasons and also during the hours of the day. After two years I had learned a great deal by getting ideas and profiting from the mistakes of neighbors who had built their own homes.

I knew nothing about drawing up architectural plans, so I began by drawing a rectangle representing a 24x30 foot structure, and modifying it to suit my needs and my artistic sense. I decided to narrow my bedroom on the north side to allow for a portale, or porch, for my firewood. I gave a rounded affect to the south wall by angling it in three parts. I placed my bedroom on the east side so I could watch the sun come up and also be able to keep my eyes on the goats in the barnyard. On the west side I wanted the dining area and the kitchen in order to catch the fantastic desert sunsets. Two large French doors were planned in the middle of the south wall to allow for the sunshine to come in during the winter months.

This was also the side I wanted for a patio overlooking the ditch and willows and the valley of Arroyo Hondo. The north side had no windows, except for three wine bottle portholes. This solid wall allowed for extra protection from those northern cold winds. Another method for creating better insulation from the winter cold and the summer heat was to dig the house several feet into the ground. My plan was to have it 2 to 3 feet deep but the ground turned out to be so hard and rocky that I gave up hand digging after 1 1/2 feet. Since the house was on a slight slope, I fudged a little and instead of making the floor level I made it split level. Actually it turned out to be a good plan as my fireplace and wood stove was on the lower level in the living-dining area and the kitchen and bedroom on the upper level could be thus very efficiently heated. I decided that all my inside walls would be made of rough lumber and be functional in nature. So I had a full wall between the kitchen and bedroom which had cupboards and a closet while the walls between the upper and lower level were waist high with counters and bookcases. This allowed for a good balance between open and closed spaces. I might mention that unlike a wooden frame house, it is more difficult to attach cupboards and shelves to an adobe wall, so wooden inside walls was not a bad idea. Two by fours have to be placed in the adobe walls at the time of building for the support of shelves.



I built the foundation of cement and rocks 1 1/2 feet deep and a foot above the ground in order to protect the house from being washed away during the summer flash floods. Discovering that adobe bricks had become almost twice as expensive since the time I had built my chicken house and feeling that making my own would be a tremendous task, I decided to use a method that a friend of mine used in building her weaving workshop. This was the utilization of forms, which I learned later was the old Spanish way of building before they started using bricks. I borrowed my friend's two three foot forms and constructed a five and a seven foot form which could be taken apart by using hooks and eyes. They were all 1 foot high and 1 foot wide. They were placed on the foundation and filled with a mixture of adobe and straw. The amount of straw, which was chopped up into two inch lengths, was just enough to give the adobe body; the mixture was just wet enough that it would stick to your fingers. To avoid having to mix so much mud and to do my bit for ecology, I placed rows of cans in between two inches of mud in each form. The cans were not squashed as the air space is supposed to be excellent insulation.

On a warm day, the wooden forms could be lifted off a half hour after the mud had been placed in them. By the time a row around the entire house had been completed, the mud was hard enough to take on the next row. As in laying ordinary bricks, the seams of an adobe wall are scattered. At the place where a door or window was going to be, the frame for it was put in. Pieces of wood were nailed to the outside of the frames which would be embedded in the adobe wall to hold the frames in place. Lintels, which are three to four inch boards, are placed over the doors and windows, resting on the walls with a foot or so overlap to protect the frames from the weight of the remaining adobe bricks. I placed additional lintels in the walls where I might at some later date knock out the wall for entrance to additional rooms. Framing is not absolutely necessary for doors or windows, which makes working with adobe so flexible; without frames, however, it is harder to make doors airtight and for windows, the glass is embedded in the mud for stationary use only. I let myself go and deviated from using window frames by making a small arch window and placing whole gallon Almaden wine bottles in the bedroom and half gallons in the living-dining room walls. Another great joy in working with it is that without a great deal of talent one can sculpture little shelves in the walls and make all shapes and sizes of windows. Building a fireplace with adobe bricks is always a fun thing to do and allows one to be as creative as you want in design. Two women friends of mine built one in the corner of the living room, piling bricks onto bricks, making a free form shape. I finished it off by giving it a smooth mud surface. Another distinctive feature in building adobe structures is the ease with which additional rooms, doors and windows can be added. When the walls were completed, a cap which is a board one inch thick and as wide as the wall was placed on the walls where the vegs would be laid. This allows for an equal distribution of the weight of the vegas.

I had decided on constructing a pitch roof, one inch slant to every foot, rather than the

cont.

usual Spanish flat roof with fire walls and canales. It just seemed simpler and I felt more secure having sufficient pitch for run-off of rain and melting snow. I bought vegas which were nicely dried and weathered gray rather than cutting down my own, as I hadn't had experience working with a chain saw and didn't feel sure of myself in using one. I needed 20 vegas placed one and a half feet apart; 10 each running from the north and the south wall, meeting side by side on a center beam. This beam, 10 x 10 inches, lay the width of the house supported by the east and west wall and four 10 x 10 uprights which were about 9 feet tall. The vegas were

a smooth affect. The outside plaster could have a portion of cement in it to make it more resistent to the rain.

The building of my house took over six months to complete. I had started in September but could only work until the end of October because of the cold. I did make the mistake of not covering my last row of bricks with plastic sheets to keep them from the rain. As a result they were wet when the first freeze came and when I resumed my building the next spring, I found that they had frozen and were crumbling apart. So a whole row of bricks had to be demolished. I also discovered that I had

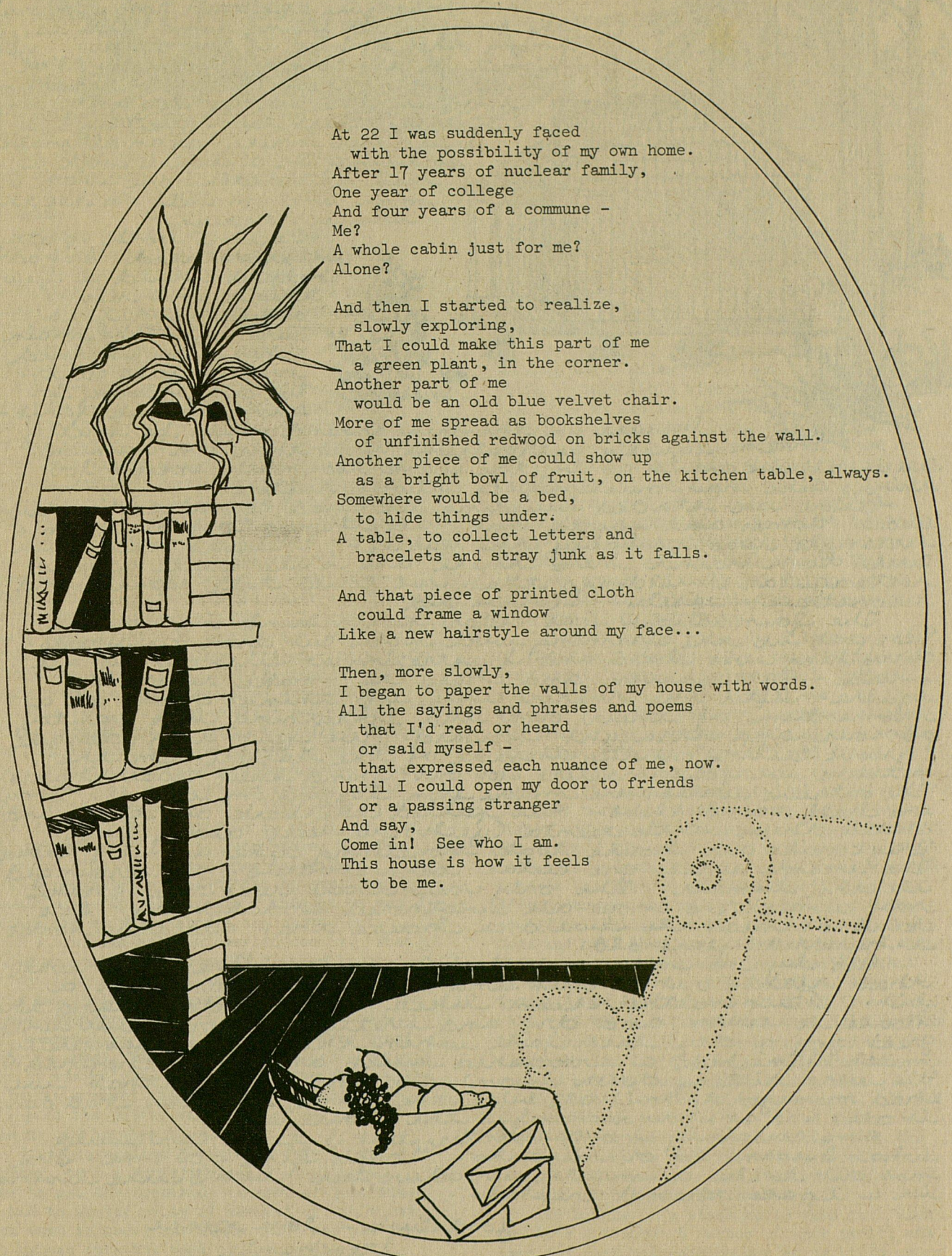
spiked to the center beam and held in place on the outside walls with adobe bricks. The roof had one inch boards of various lengths and widths which were nailed to the vegas. Over them were placed two layers of celo for insulation and then a layer of tar and roofing paper. The roof had a one foot overhang to protect the adobe walls from being washed away in the rain.

I had planned to make adobe floors, which are saturated by linseed oil but moving into the house made it difficult because the floors couldn't be used until linseed oil and kerosene had been applied several times and allowed to dry between each application. The answer to my floor problem came when a man arrived one day with a truck load of local flagstone to sell. We laid the flagstone on three inches of cement in the living-dining area after having tried laying them in the kitchen using adobe and linseed as the base. The latter method hadn't worked for us because we hadn't put on enough applications of linseed oil and hadn't let it dry sufficiently before using it. We never did get around to finishing the bedroom floor.

The last step in construction of an adobe house is to plaster the walls with mud to give

not made one window low enough to catch the sunset while sitting down and therefore I pulled out the window frame and demolished several rows of bricks in order to lower the frame. I couldn't believe how hard these bricks were. It took a sledge hammer and chisel and plenty of muscle power.

The cost of materials for sand, cement, wood and roofing came to aoout $300.00. I tried to install my own electrical system but chickened out when I discovered that I really didn't know what I was doing and realized the consequences of a fire if mistakes were made. So for $200.00 I had electricity installed with plugs galore in every section of the house. I didn't install running water, but to do so at a later date created no problem. One merely had to chisel out holes, put in pipes and cover them up again with mud. This is what is so beautiful about building an adobe house. I never even thought about precise measurements, plumbing walls, blueprints or anything else of a technical nature. What comes from the earth is simple; only civilization makes things complicated.♀

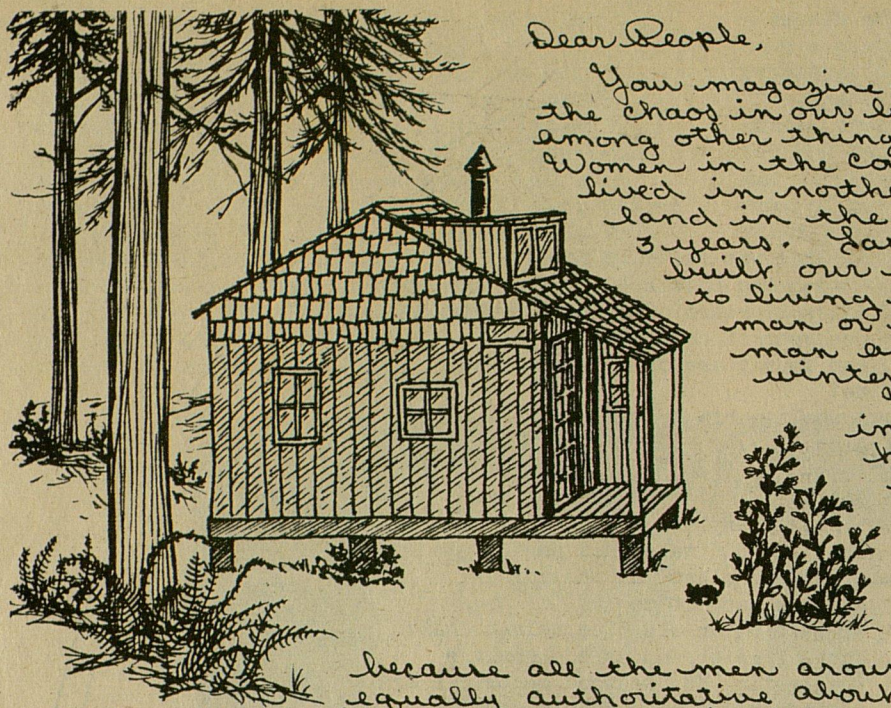


At 22 I was suddenly faced
  with the possibility of my own home.
After 17 years of nuclear family,
One year of college
And four years of a commune -
Me?
A whole cabin just for me?
Alone?

And then I started to realize,
  slowly exploring,
That I could make this part of me
  a green plant, in the corner.
Another part of me
  would be an old blue velvet chair.
More of me spread as bookshelves
  of unfinished redwood on bricks against the wall.
Another piece of me could show up
  as a bright bowl of fruit, on the kitchen table, always.
Somewhere would be a bed,
  to hide things under.
A table, to collect letters and
  bracelets and stray junk as it falls.

And that piece of printed cloth
  could frame a window
Like a new hairstyle around my face...

Then, more slowly,
I began to paper the walls of my house with words.
All the sayings and phrases and poems
  that I'd read or heard
  or said myself -
  that expressed each nuance of me, now.
Until I could open my door to friends
  or a passing stranger
And say,
Come in! See who I am.
This house is how it feels
  to be me.



Dear People,

Your magazine appeared today through the chaos in our living room. This is, among other things, a love letter. Women in the country, yes, yes. I've lived in northern Oregon on some land in the woods for going on 3 years. Last summer Meg & I built our house - as an alternative to living in a house with a man or building one with a man and mainly to see the winter through.

We were both pretty inexperienced. I had helped build a few things but never alone, never just women. The main thing we learned was to just do it. We didn't look for advice or ask for it - because all the men around would be pretty equally authoritative about their own opinion. All in all we didn't go by the book too much except for things like how much space between rafters.

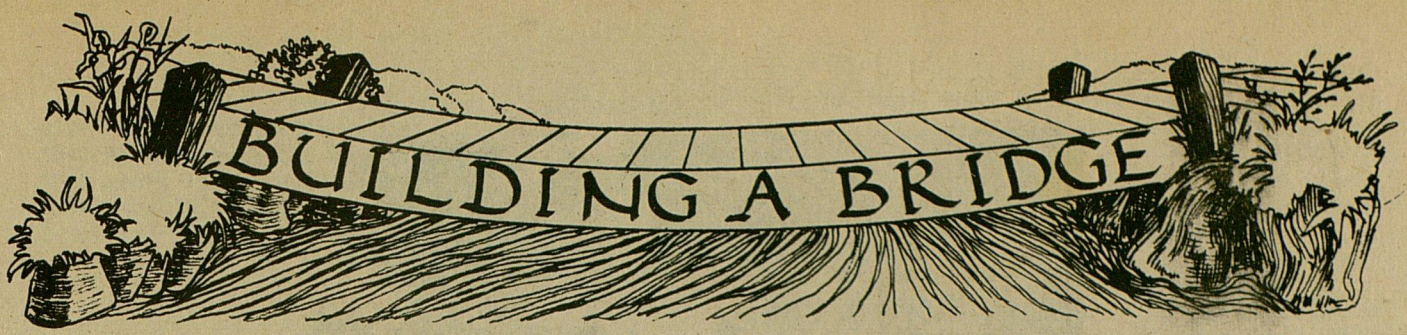
Before we started building we had countless discussions about domes and yurts, but all things considered, this rectangle was probably the easiest, cheapest thing we could do. Around here there are still quite a few rectangular buildings that we could take apart and reconstruct easily. So we did.

The foundation was cedar posts sunk in concrete. We put up the framing with poles cut from our woods. Everything was hard and frustrating at first. Poles are weird - all uneven and hard to make reasonably square. After the rafters were up, things took on a momentum of their own and everything was pretty obvious and straightforward. We put a 1×4 tongue & groove ceiling on the inside of the rafters. On the outside we put nailers for our hand-split cedar shakes. The outside walls were made from logging mill-ends. They are half round slabs. We peeled the bark off them and coated them with penta (yech) to keep away bugs. They make our house look something like a log cabin. The inside walls are cedar barn boards. We scrounged all the lumber. The only new wood was the shake roof which is now all weathered and silvery. It's kind of neat to build a house that already looks a hundred years old.

It's by no means perfect carpentry. There's a wall that slants out a bit and one that slants in a bit. But neither seem likely to fall down and the house is warm and dry and pretty. I remember with great joy a day last fall when the house was pretty much finished, a woodshed built and wood chopped. We were sitting down burnt-out and amazed that we had managed to do it all before the rains, that we had done it all, and at how wonderful the house was.

I'm certainly no carpenter but I feel I can build what I want to or need to. That's fine for me. I'm not out to be a master woodworker but I like living in a space that I created.

good luck - love peace
Stephanie



The gravel road ends at the spring. The house will be across the streambed and up the hill. How to get from one to the other? A footbridge!

A bridge is a big engineering project, think I, imagining the Brooklyn, the Golden Gate, the George Washington. What I really had in mind was one of those beautiful swinging bridges like in the mountains of Kentucky, but that seemed hard, too. It would have to be a very simple bridge - to go with the site, and to fit my building skills.

How does one begin a bridge? Well, we measured a bunch - 35 feet across and about 6 feet from the ground - it still seemed like a very big project. I spent a lot of time sitting on one bank imagining bridges, thinking about materials, getting rocks out of the streambed for a walkway and exploring the banks, thinking about what could hold up a bridge. Some guys from the Conservation Dept. came out and talked about the kinds of bridges you have to put over streambeds - very complicated poured concrete affairs, with culverts for the water and flanges and things. Discouraging, but I figured we didn't need anything so complicated over this particular streambed, since the water only flows in it about once a year, and the bridge would likely be higher than the water ever would.

Finally I got up my courage and started telling people I was planning to build a bridge, thus getting more ideas about how it could be done. Turned out a neighbor had 4 phone poles, two 30 feet long, two a little shorter - that he was willing to part with. I thought a lot about sawing poles lengthwise to put decking on top, setting poles in concrete piers, but the structure didn't come together in my head. Another neighbor mentioned that he had a bridge I could use - 28 feet long. I thought he was joking, and anyway that was too short, but after a couple days went over to see it. What he had was the back of an old flatbed truck, 14 feet long and 8 feet wide. He figured we could saw it in half lengthwise and put the two halves together for decking for the bridge. That seemed like a good idea, but how to span the streambed? Measuring again helped - this time it was only 30 feet - wow! The phone poles would fit across! And the truck bed could go on top of the poles, with some pieces of wood from an old barn at the ends!

I was so excited I couldn't wait to get started, so one hot afternoon 4 of us went over to get the truckbed - a monster job, since we had to shovel piles of sawdust off it first, then turn it over, saw it in half, and get the two halves onto the back of our neighbor's truck, then unload them at our place. Then the phone poles. Off in the truck to get them. By this time it was raining, and the yard where they lay behind a barn was a sea of mud, slippery, too. While some of the men debated whether to use the Cat or the tractor to pull the poles to the truck, the rest of us (the women and one man) discovered we could lift them ourselves and suggested we just carry them to the truck. Which we did, with 6 people on each pole. The poles were chained down in the back of the truck but still bounced, so two of us stood on them, in the downpour, while driving the 5 miles or so back to our place. Going through Viola with torrents of rain running down me and the wind whipping away I was mainly conscious that I was drenched and braless in that very straight town and hoped no-one was looking out their windows. As the truck turned up the hill to our place there was a blinding flash of lightning followed immediately by thunder and we realized we'd almost been struck (the lightning struck an electric pole about 100 feet away). Suddenly I was struck by the danger and absurdity of the project - but by then we were up the hill and it was just funny.

The next day we moved the 2 longest poles to span the streambed - "we" being me, (a not very strong amateur country woman), 2 high school girls who were visiting, and 3 of the neighbor kids when they got home from elementary school. We moved each pole about 6 inches at a time, with many "heaves", and finally got them into place, shoved into the banks and more or less level, very proud of ourselves. The next morning 2 loggers came to look at our timber and stayed a few hours to have breakfast and visit. They offered to help move the truck bed sections onto the poles. We thought of how hard it had been to get those sections on and off the truck, and gratefully accepted. They moved the sections easily and went on to level them and nail them down. They so enjoyed their strength and dealing with the materials that it was a pleasure to work with them, even though I was disappointed not to do it all myself. It was clear that they were helping from the friendly spirit of the morning and not to show off. We finished off things that afternoon by putting barn boards at the ends.

So that's how the bridge got built. It had a great bounce to it at first, but soberer heads said it needed a support underneath the middle, which was made later from more barn timbers and cement, so now it's more sedate - and easier on the banks, probably.

The bridge is a pleasure to walk on. Right now it's got about 6 inches of snow on it, and even the deer and rabbits are using it to cross the gully to the spring. I'm mighty proud. ♀

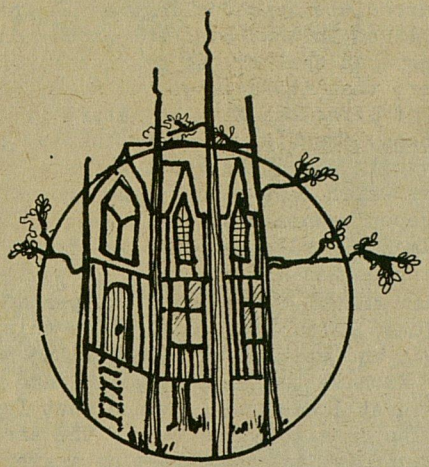
ON DWELLING

Some ironic twist of fate has found me putting together a book on houses instead of beginning to build my own house as I hunger to do. So be it. Timing is a tricky business and...you never KNOW.

Some things I'm coming to know though, as I read and write, think and dream, plan and wonder. Not wanting to intrude too much my 37 years of existence into the billion years old earth-rock-soil-life spot I call "mine" and wanting to bring only beauty to a place already so beautiful I can scarce bear to touch it, I wonder if it isn't indeed too beautiful to change at all; if I shouldn't leave it in its pristine glory, shouldn't find another forlorn spot more in need of caring. Don't know. But there's time to think and wonder and I'm doing it.

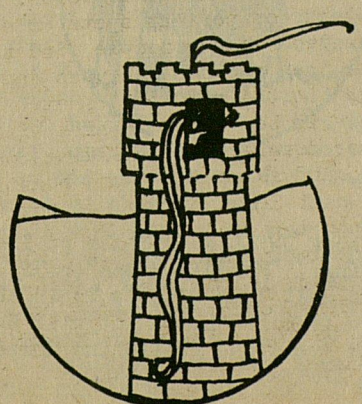
In the midst of reconsidering my house site a friend stops in; I explain my dilemma. She explodes in an excited shower of words, "Right! I know! Thousands of perfect spots on earth have been obliterated because people find those lovely spots and then put their houses and shops and schools right in the middle of them. You'd do well to leave it be." And I think of Sherry who wants to tear down all the buildings on her land because the land is so much more beautiful without them. Or at least figure out how to drag them back into the woods where they can't be seen. And Barry, designing houses that could easily and handsomely reside in ravines, leaving prime flat land for gardens, orchards, meadows or just plain open space. Caring. About our EarthMother. About ourselves.

I wonder if I really do want to fall those eight adolescent redwoods, cure them, and use them as the posts for my house. I could let them grow; let natural selection decide which ones make it, which ones don't. What part do I (want to) play in natural selection? Will the earth be richer for those trees, or for my house?



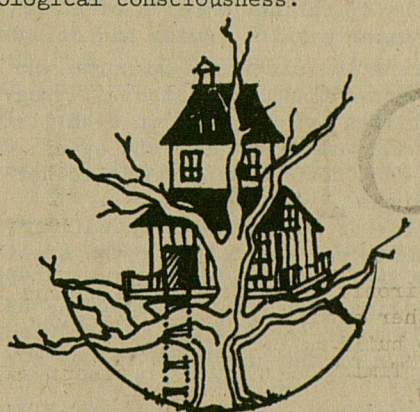
Couldn't I find more old buildings to take down, reusing the gift of trees already dead? Or decide to build a much lighter weight house, using the wood I've already scavenged? What does it mean to be responsible?

The ability to respond. It is the other side of freedom. Many of us ran away not so long ago from an atmosphere claustrophobic in its power to prevent real choice, true freedom. We reacted to the prisons of our past by leaving, and living out of back packs, in tents, trailers and plastic wikiups, in converted chicken coops and dilapidated hunters' cabins. We have seen plastic covered domes disintegrate in the sun's rays and watched the crumbling remains attempt to work their way into the soil. And we wondered: how do we best live on the Planet Earth? How best do we use her resources, to our mutual benefit? As the fuel runs out and the water runs out and the time runs out it behooves us to wonder. Better late than never, we hope. As our awareness sharpens and we begin to see results of our rampant consumer consciousness we look for an alternative and begin to wonder, "What is Enough?"



How much space do I really need? I want to dance, I want to write and draw and paint and learn to make love and music. Is it possible to construct a house flexible enough to meet all those needs without having to make a separate studio for this need, a work space for that? What about Ela's ten-sided house, furnished entirely with mats, pillows and hammocks, so that the space can be cleared in minutes, readied for dance or drama or the poetry of openspace? What of Feather's house, built 6'3" because she knew she had no need for 8' ceilings? I'm smaller than she is, and can't reach anything on the top shelves of my genuine, tar-paper shack. What can I learn from my friends who have already built, and are building, their shelters? And what can I learn from a careful consideration of the shelters of my own life, as I've moved from space to space and visited thousands of structures which left me feeling high or low, comfortable or awkward, curious or bored, sane or somewhat crazy? What I'm discovering leads me to believe we all will live more simply, more sanely, more ecologically and indeed more joyously as we loosen the fetters of ancient assumptions about houses and take a look at the boundless world of space.

"Amazing Space"! - the name of a dome company begun by a woman friend who is doing her Ph.D. thesis on domespace. Thinking about domespace is a good place to begin opening our awareness to the relationship between space and consciousness. She feels, as do many domedwellers, that domes are the answer. In terms of economy of earth materials and of construction time, domes really can't be beat; there is much, much less wood in a plydome than in any conventional wood house. Less trees. Something to think about, as we pride ourselves on our ecological consciousness.



An interesting experiment for anyone who is considering space is simply to tune in to the various feelings created by spaces. Some spaces feel first and foremost comfortable and cozy; nothing threatening or awkward about them. Why? Height of ceiling? Amount of open floorspace? Number of windows? Use of heavy timbers? The familiarity of conventional building techniques? Reminders of past pleasures? The shape of the space? And on and on.

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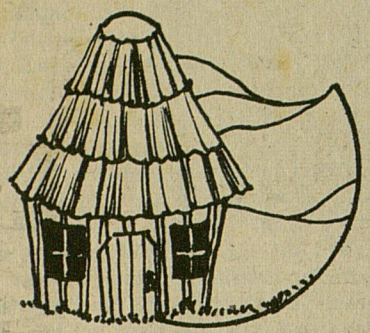
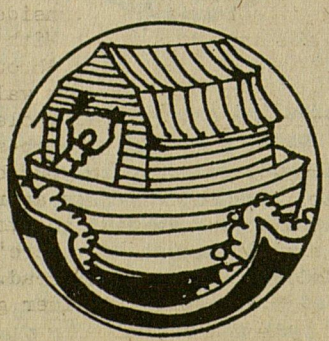
I know that part of me yearns to repeat the innocent contentment of childhood spaces. That part of my fantasy life leans toward a snug cottage (with wallpaper and curtains, the square rooms full of corners for making bridge-table houses and blanket draped hideaways). Another part of me, the adventuress, seeks a very different space. Something that calls me to the outer edges of awareness, that challenges me to live as daringly into what I believe as possible. At this point I begin thinking of some of my more courageous sisters who are already doing it.



I think of Barbara and Heather, yurtdwellers. Barbara commits her life to simplicity in her yurt which has only double hung canvas walls in an area not famous for gentle winters. I admire her commitment, celebrate her joy as she rolls up those walls in springtime to vistas of drifting clouds and mountains that seem to move off into the ends of the earth. I picture her building her bed of lashed branches, building her cook fires beside her house, feeding herself a diet of freshly picked native plants, feeding her head. Heather grows wise and content in yurtroundness, finding the spiraling patterns of energy in her yurt a constant symbol, guide and delight.

There's the old woman up north who lives inside her redwood stump, contentedly weaving her wonderful rugs and hangings in a shelter as natural as the wool she cards and spins, dyes and weaves. What does that space do to her consciousness, I wonder.

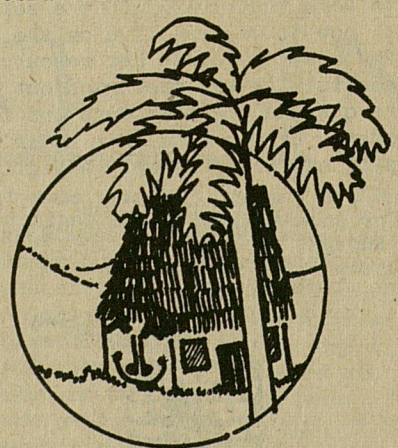
I think of Sasha, houseboatbuilder, who lived with us while she put together the sections and panels of her self-made prefabricated river houseboat. I think of her alone, now, on the river in the tides, in the howling winter wind; afraid. Brave. High on the knowledge of her own courage and wisdom. No land to buy. No taxes! She loves adventure and growth more than security. She'll take a small space in exchange for the cycles of moon and weather she feels beneath her as she learns what it feels like to discover that she and her shelter are one.



I remember Tania and Diney, Ela and Molly - and myself - all sometimes tipi dwellers, and of the incredible spacefeeling we all grew to know as we lived in that honorable squaw shelter. Finding that shelter can be much more than just shelter; that it can speak to us softly of the unity of life, can coax us naturally into centeredness. Wanting to share the joy of that discovery with women who grew, as we all grew, in a culture which lost sight, long ago, of some of the deeper meanings of sheltering. (Which is why sometimes we write articles and books instead of building houses...)

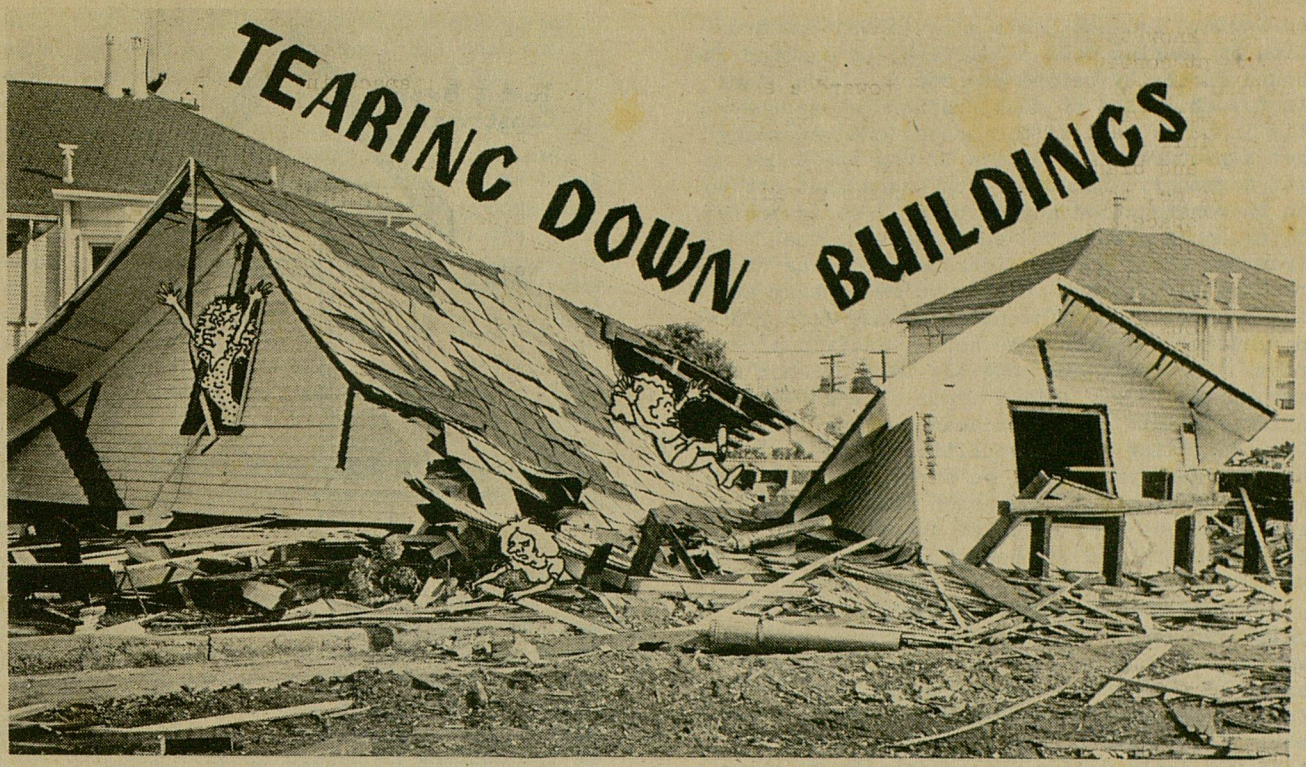
Now that I think about it, perhaps one of the nicest gifts I've received is this time of research and writing on the dwelling book. I actually do have the time to wonder and to figure out as best I can who I am and what I want right now. The questions are many - the answers are slowly coming in. Sometimes an answer comes as the fog comes in off the Pacific, revealing clarity as it leaves. Sometimes as a shooting star, zooming, clear-bright. Sometimes as the downpour, steady, relentless, until at last I hear myself. And I have to remember that sometimes the most faithful thing I can do is to live with an unanswered question.

So, instead of fretting because I haven't begun my house yet, I think I'll take my time, since I have it. I want a mind-opening, personally meaning-full space; it may take a while to grow it! And I want that house-a-borning to seek its own site, its spot. I'll walk these hills 'til it's found, the birth spot, where site and house and self will come together as one, whole life celebration. ♀



River's book DWELLING will be published this spring. "Mandala House"(p.32) and "Build To Suit Your Size"(p.2) in this issue are from her book. It will be available from Freestone Publishing Company, Box 357, Albion, Calif. 95410

TEARING DOWN BUILDINGS



There are a lot of good reasons for recycling wood. Wood is expensive, and we have more time than we have money. We have more time than we have trees. As I watch the firs and redwoods roll down 101 on trucks, I think it senseless waste because enough trees have already been cut to house us all. That lumber surrounds us in the form of old buildings no longer used, but full of still usable wood. The wood that my family and I recycled from a house came years ago from trees in our very own hills. It seemed only just that the wood came to us and to others who are trying to restore logging raped land.

Some research is necessary to find available houses, barns, garages, and then, of course, a fair amount of labor to tear down the building, but eventually you can get yourself a lumber stash.

Old houses and barns close to your home are probably your first choice. Be sure to find out who they belong to and make some arrangements before you start. Places where there is about to be new construction are good to check. At the local office of the Division of Highways you can get on a mailing list which will inform you of the bids to be let on buildings to be torn down for highway construction. The auctions are held at the site of the building, so you will have to go there to bid. Some of the minimum bids will be out of your price range, but you will find some that start at $1.00. Yes!! But check this out; it is no longer available to "non-professionals" in some areas. It might be worth it to do some city footwork and find a building there for demolition. And then, rumor can be on your side .. put out the word that you're looking for a house to tear down. Some people are glad to get old unused buildings off their land. Especially if you sign a contract to clear and clean up the site.

Once you have located a building, you should do some preparation. A Demolition Permit is "required" from your county Building Department. If you deal with them, get one; they cost around $5.00. There are a variety of tools that you'll need for the job. If there are a number of people working together on the job, try to gather as many tools as you can so there will be tools for everyone (borrow them). Here's a list: crowbars, nail-claws, light sledges, hammers, wrenches (for dismantling plumbing), screwdrivers, wirecutters, flatbars. Once you have all these tools, be sure to use the right tool for the job. A flatbar is flatter than a crowbar and useful for getting into tight openings; with a nail-claw and a hammer you can pull nails right up out of the wood, and then use a crowbar to pull them entirely out. Don't use a hammer for a job that a crowbar can do better; the crowbar gives you leverage. Consider obtaining a sawz-all or reciprosaw. With the right blade, this tool can cut right through nails. This makes it possible to remove wall or wood shingle sections to be trucked whole to your site to be re-used as "new" prefab-style wall sections. Remember tools for your body, too. This is demolition derby--dress appropriately: shoes, gloves, if you prefer, to avoid a million splinters, even a hard hat if there's a danger of things falling down on your head. If you're working on farm property, consider getting a tetanus shot ahead of time.

With all your tools in hand, you're ready

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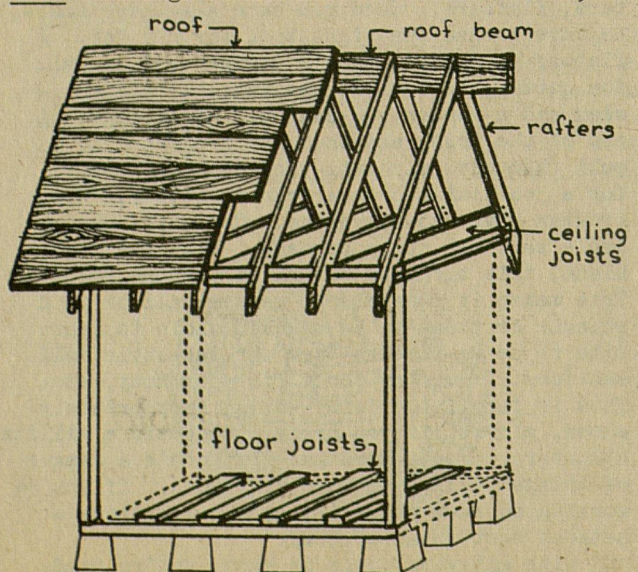
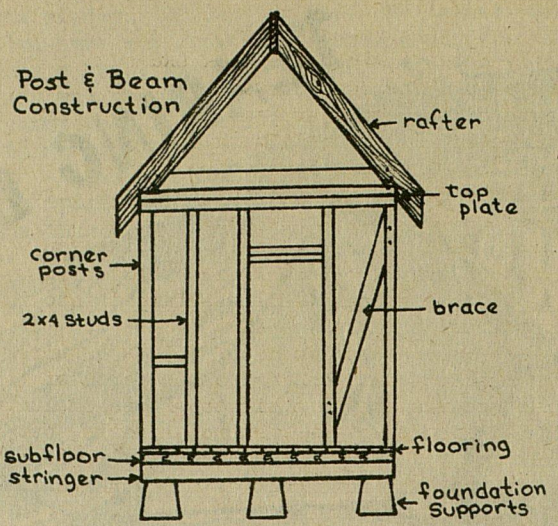
to begin. You can learn a lot about construction by tearing down a building, so examine the house carefully before you start. Note beams that look rotted or weak, rafters where they tie into the rest of the house, and generally get a picture in your mind of how the house is put together. Sometimes you learn what not to do in construction and carpentry, so as you go along, poke around the substructure, the framing, etc., and consider how well the construction has served. While you're looking at the house, take an inventory of the wood you'll be getting. Measure the house, individual rooms, the roof, and note the type of wood in each place (i.e., 10'x12' room of 1"x8" siding). Allow yourself 15-20% breakage during demolition, depending on the condition of the house. Also, before you begin, be sure that utilities (if there were any) have been disconnected, and clean out the inside of the building. Broken chairs and old bedsprings can get in the way.

A note about safety. Demolition can be hazardous work. If there are several people working at once be sure to arrange the work areas so that no one is in danger of rafters falling on them, tools being dropped on them, etc. Keep track of who is working where so that you don't wander into someone's wrecking space.

Begin wrecking. As soon as possible, take out all the windows and put them in a safe place well away from the building. Sometimes some of the siding will need to be taken off before you can get to the window to remove it. Then, take it from the top. Whatever is covering the roof comes off first, starting at the peak. If the roof is particularly steep, you may need to rope yourself to the roof by securing a rope to the side opposite where you're working. It would be helpful to learn some mountain climbing knots that would give you mobility on a steep roof. Once the tarpaper or shingles are off, begin again at the peak, with crowbars, nailclaws and hammers, to take off the roof. Note which way nails are hammered in, and pull with that angle. After the roof is removed,





the rafters will be exposed. Most of this work is a matter of pulling the nails and taking down each individual rafter carefully, as these are long pieces which could break. In most conventional houses, though not in sheds and barns, below the rafters are the ceiling joists which the ceiling is probably nailed to. If the ceiling is nailed up into the joists, don't stand on it, as you will be putting pressure downward on the nails, and weak boards could give way underneath you. When you take these ceiling joists out depends on when the ceiling comes down, before or after the inside walls. Anyway, you can get down from the roof for a while and take the outside siding off, and then the inside walls. At this point the wall structure will be visible and you should check the bracing and test the walls to see if they are wobbly. If so, put up temporary bracing to stabilize them. (In fact, if any time during the destruction the ceilings, roofs, or walls look shaky, for your own safety, a few braces or stud supports are in order.) At some point it will be easier to pound siding away from the nails, rather than pulling out nails with the nailclaw. Use a block to pound on to avoid damaging the wood instead of hammering directly on the wood. Pound close to where the nails are rather than in the middle of the board. After all the siding is off, you will have the skeleton exposed. Then you can pretty much work where you want to, dismantling inside freestanding walls, inside walls, and the ceiling.

There are a number of ways to take down the walls. You can pull them apart piece by piece, or carefully push the whole wall over so that it is lying on the ground or floor and more accessible to rip apart with crowbars. Lowering the wall (skeleton) to the ground with a rope pulley probably means less breakage if it's a large wall. In order then: you take down the ceiling, ceiling joists, top plates, wall studs and braces .... downward to the flooring, subflooring, joists and foundation.

The flooring is likely to be tongue and groove, and if you want to preserve it in that state, it's important to be careful removing the

nails. If it's nailed into the tongue at an angle, be sure to take the nail out that way. Gently does it. Use the hook end of the crowbar to pull the board toward you. Go along the length of the board at each joist and ease the nails out. If you pull hard on just one nail or section, you may damage the tongue, or break the whole board. If the tongue and groove is nailed on the top rather than through the tongue, then you can take it out like you would any other board. If there is subflooring underneath, it's probably nailed straight into the joists, and comes up easily.

The foundation and floor joists require more muscle work than some other parts of the house because they are bigger pieces of lumber, and nailed with bigger, sturdier nails, but by this time you are working hopefully close to the ground, and have most of the work behind you.

Probably the most monotonous part of the job is pulling the nails from the wood you are going to save, but you can use this work to take a rest from the more strenuous destruction. Space the nailpulling out so that you won't have all of it to do at once. Make yourself a nailpulling stand, or use a couple of sawhorses; your back will love not stooping to the ground to pull nails. Nails come out of wood much more easily if the wood is wet. We found our nail pulling time cut at least in half after the first fall rains. Consider wetting down your wood! This is the time to decide what wood you want to save, and then stack it for trucking. You have to establish some standards about the quality of wood you want to save, or else you'll be standing there considering each individual piece and its possible uses. Rotten wood goes into the burning pile (or the dump), anything under 2 or 3 or 4 feet (depending on your needs) is junk, but good for kindling. Watch for termites! Separate termite wood from good wood, and consider the damage the critters have done. Either discard it completely, or if the piece is still basically good, give it a heavy dose of (ugh) creosote before you use it. This is especially important in structural lumber...a house built on termites does not stand.

When you've finished tearing everything down, clean up the area as much as possible. The earth under the former building will be pleased to breathe again. A big magnet will help to pick up stray nails. Remember fire seasons and burning permits. In some places you can burn, in some you can't. Burn what you can (except stuff that produces noxious fumes, like plastic, roofing paper, linoleum, rubber, etc.) and haul the rest to the dump. Plant some flowers.

Now you have all this wood. If you're planning to build with it immediately, stack it so that the wood you need first is easily accessible, i.e., structural wood like 4x4's, 2x6, 2x8, is needed before siding or roofing. Anarchy in the lumberyard is frustrating; stacking all the 2x4's separate from the 2x6, and separating tongue and groove from lap, and regular wood will save you time searching when you are in the midst of building. If you are storing the lumber on the ground, be sure to put several pieces of 2x4 below the stack for the boards to rest on.

If you are planning to truck your lumber yourself, you might get some advice from a lumberyard, and some heavy chains and chain binders to hold the load on securely. Also, in most areas it is possible to rent, for a reasonable amount, a strapping machine which makes it possible to pull the wood load tightly and securely together and hold it in place with flexible steel strapping which is paid for, by the pound, when the strapping machine is returned. If you have lumber longer than the truck bed, put some long boards on the bottom to extend the truck bed. However, never attempt to load a truck with boards of 1/3 more in length than the bed (minus the tailgate, if there is one) of the truck! Important! If a truck is overloaded, expecially with boards that are too long for the bed, you will cause costly damage to the truck.

Truck it home and hear the voices of the swaying firs and redwoods thank you. ♀

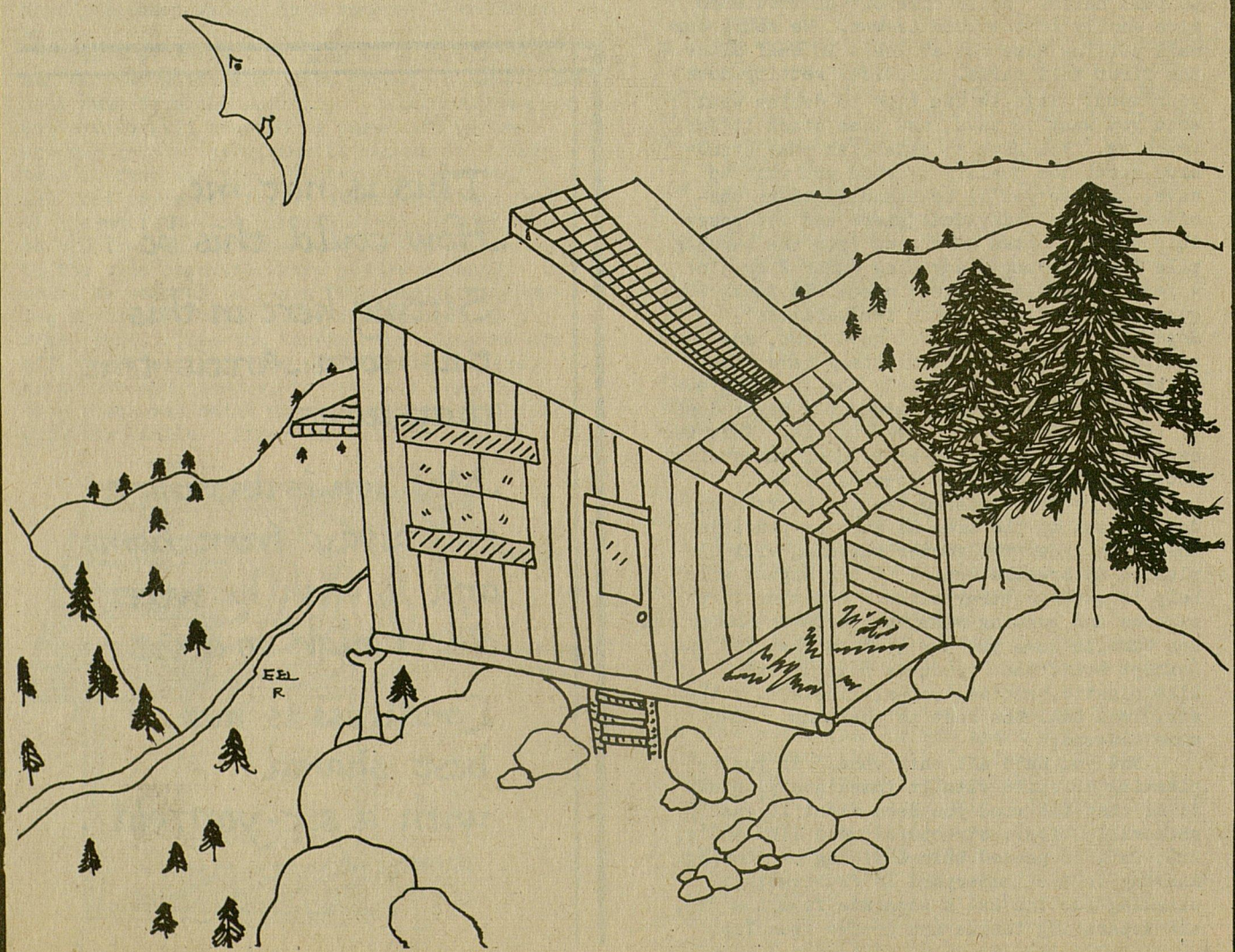
This is not me
How could this be ?

Sitting here in this
this torn Arctic tent
that leans.

My son is dressing to
run away from home
and I wish he were
old enough to do it.

Loneliness is not
best shared
with a six-year old.

This small oddshapen house on rocks
where months ago the wind met no resistance
where now Stravinsky lulls my child to sleep
this house, this brazen, windy house
that rides the rising river fog and claims the cliff
defends its space, defies the cold
defines our place, protects our hold
this small, oddshapen, cocky house
describes our bold presumption, yet
the other night a storm blew up; Frog said
"The trees are dancing". I felt us swaying too
felt wind that whistled through our walls
like two front teeth, felt us take on
the rythm of the rain and thought,
a fair exchange of form: Stravinsky for a storm.



BETTER BARNS AND GARDENS

The creation of our own living space is one of the most important problems we can ever try to solve. I should like to share with Country Women an experience my family had which has helped us re-orient our thinking as to what is necessary to have a comfortable living space in the country.

Several years ago we found ourselves intrigued with 40 acres of land near the Canadian border, in the foothills of Sumas Mountain. The land was idyllic - a year round mountain stream, open meadows, wooded hills situated at the end of a dead-end road. A beautiful place for anything we could dream of: children, dogs, chickens, goats and gardens. However, it soon became evident that the big drawback was going to be adequate housing. We were seven people at the time: myself, my husband, our four children and a woman friend of mine. Yet, the only house on the property was a very tiny dilapidated one bedroom shack. The other buildings on the property were in a near state of collapse except for the dairy barn. It leaked like a sieve in places and was much filthier than the cows had ever seen it, but there was lots of room. A joking comment was made to the effect that "we could always live in the barn." I immediately balked. No way was I going to move into that barn! But the more we thought about the property, the more I fell in love with it. I began thinking back on all the places we had looked at and this one seemed to have everything we wanted (including a reasonable price) except a house. The barn was beginning to look better already. Finally, I said I'd be willing to give it a try. Believe me, this was no small decision. My husband was teaching full time at the local junior college some forty miles away. There was going to be a real time pressure. If we wanted to get a garden in by spring, we would have to move in without too much preliminary work on the barn. We rented the little house to some friends who were willing to put energy in toward a garden and we began.

Here was our opportunity to try out all those things we kept reading and talking about. So first things first, with pitchforks in hand, the remaining hay and cow manure was pitched out the barn doors. The old farmer had used a high pressure hose and there were specks of manure splattered all up the walls and ceiling. Our mothers would have been proud of us, after three days with scrub brushes in hand, Renee (my friend) and I had scrubbed an entire dairy barn from top to bottom (no small accomplishment, let me tell you!). We also dug the outhouse hole (our mothers weren't too impressed).

The cow stanchions were ripped out, leaving a long rectangular structure with support posts and about an eight inch rise running lengthwise, plus a drainage ditch. The roof was redone and we moved in. We spent several nights with our bed straddling the drainage ditch. Soon, a wooded floor was put in covering the drainage ditch and Bill began to build walls where the stanchions had been. What emerged was a living-dining area at one end of the barn with parents' sleeping quarters on the side. The other half of the barn was a children's and work area with sleeping cubicles along the side. The barn doors were replaced with regular doors and windows.

Over the summer the barn became more and more aesthetically pleasing as ceilings and walls were painted and some beautiful old wood from one of the tumble down buildings was used for panelling in the living-dining area. We were fortunate to have a milkhouse attached to the dairy barn which was already wired for electricity and had water available (gravity flow from the mountain stream). This became the kitchen. The old tubs were removed and a conventional sink was put in. We built in plenty of storage and counter space but we kept the original concrete floor. Although I wasn't initially impressed with that floor I really began to appreciate it. The whole floor slanted toward a drain; whenever we wanted a clean kitchen floor we would just hose it down!

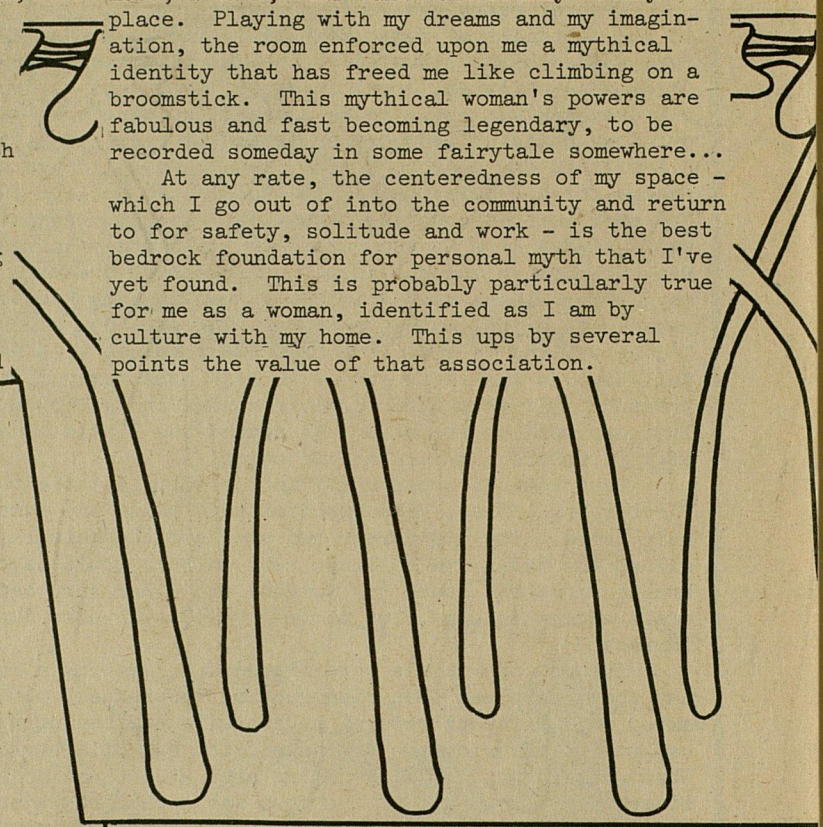
I guess what I want to say about that barn is that in retrospect it was a great place to live. I can still remember freezing to death that next winter because we hadn't had the time, money or inclination to do all of the work necessary to insulate (whatever you build, INSULATE). But I did learn how to chop wood and to stoke a fire. Because the structure itself was nothing fancy, we felt perfectly free to throw up something here and tear something else down there. By the next spring a greenhouse, of sorts, had sprung up at the far end of the living room and the garden and goats were right outside the door. I had acquired some strong feelings about what a country living space was all about.

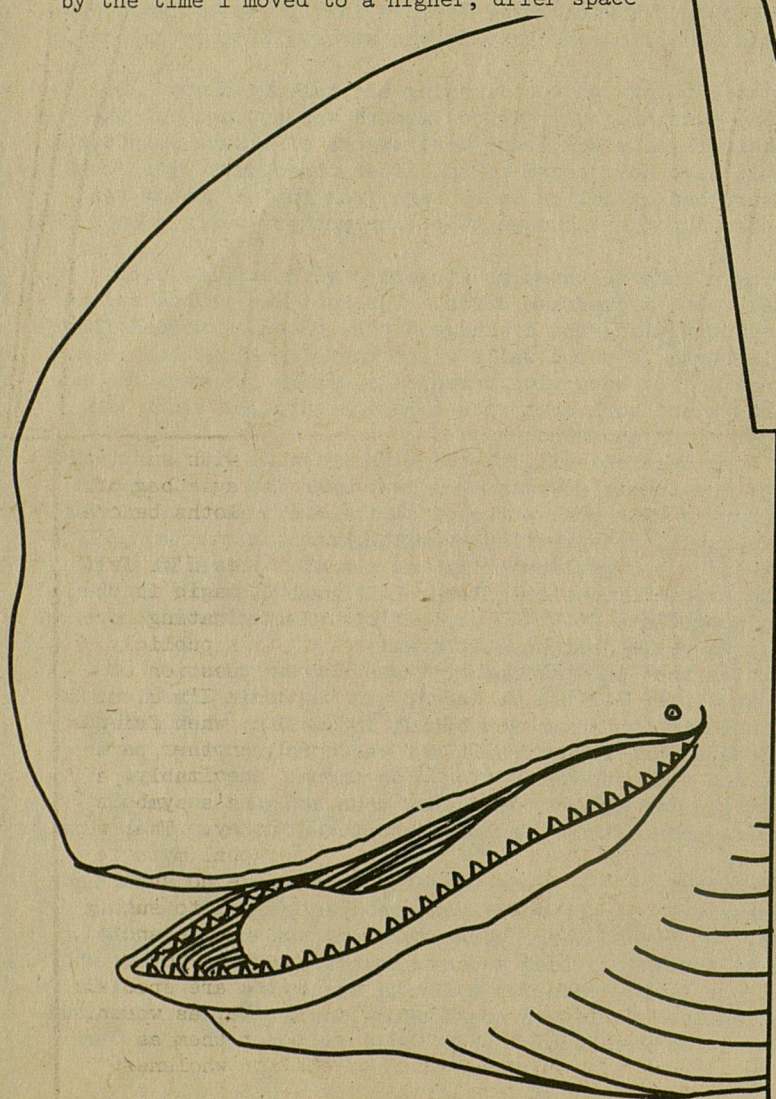
Country women need living spaces which are flexible. A place where it is okay to have the baby goats inside the living room. Warmth and dryness are primary where you are likely to be spending a fair amount of time out in the cold and damp. We needed large work areas and yet our sleeping cubicles gave us each our private space. The milkhouse provided a convenient place for canning and for cleaning chickens. That barn supplied all our basic needs for a living structure and it was a real growing and learning place for the whole family. So if you are looking for a place in the country, be flexible. Remember, there is more you can do with a barn than house cows and more you can do with a chicken house than house chickens. ♀

A country home of one's own -- a cabin, a tipi, a shack, a redwood stump, or even a room in a big old house with six people breathing down your neck from the other side of the wall- can be the stepping off place for a wonderfully elaborate, energizing personal mythology. I've known in my head for a long time about the restorative, liberating power of symbol and ritual, but it wasn't until I began to perceive my dwelling as symbolic of my Self and therefore the natural foundation of a secret personal myth, that I began to feel the power in my life of what I'd read and thought about for years.

Coming to the country gave me the natural support and tranquility I needed to unlock the dream spaces and exotic fantasies that are expressed in my myth. I had not been at home with symbol and ritual in the city, much as I'd wanted to be. But as soon as I found myself gathering wood for my tipi in a small coastal valley last summer, I also found myself carving a ritual poker for the fire, placing sacred stones by the gateway to the valley, building an altar in front of my door with a wooden goddess from the beach. On and on it went, and by the time I moved to a higher, drier space for the winter, I knew I wanted to take my magic seriously. I knew, for instance, that fire -- any moving flame -- was vital to my survival. I could not get peacefully through a day without looking at least once into a flame. I also knew that the direction of my evening, morning, or whenever worship had to be the direction of the sea. I saw that my dwelling, my symbol of self, was no longer an oval but was now a rectangle. It was, furthermore, a dark, weird and wonderfully witchy place. Playing with my dreams and my imagination, the room enforced upon me a mythical identity that has freed me like climbing on a broomstick. This mythical woman's powers are fabulous and fast becoming legendary, to be recorded someday in some fairytale somewhere...

At any rate, the centeredness of my space - which I go out of into the community and return to for safety, solitude and work - is the best bedrock foundation for personal myth that I've yet found. This is probably particularly true for me as a woman, identified as I am by culture with my home. This ups by several points the value of that association.

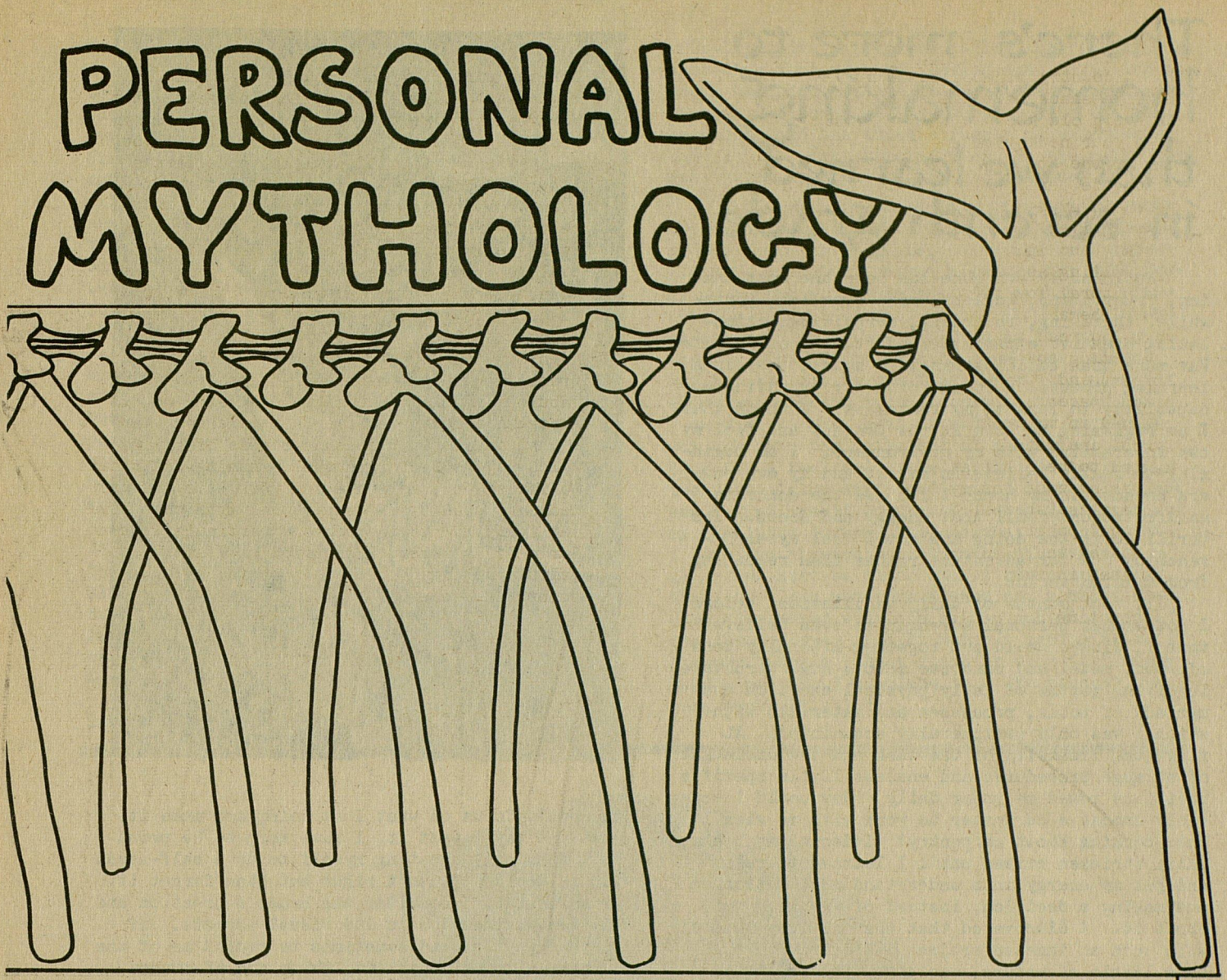




My room is in the bowels of a giant redwood barn. When I came to it, it practically cried out for a mythical inhabitant. Coming down the hill from the main house, you can approach it from two directions: outside through the pasture; or around through the great hall of the barn, down the stairs at the back and through the door by the horse stalls. Kids like the latter route; it's more dramatic. But then you miss the gateposts with their skulls, and the totems by the front door.

The barn itself I sometimes think of as Moby Dick - or Moby Jane. It appeared to me one day as a whale, beached up here on these sloping hills, waiting for a final return to the sea which lies far off, low on the horizon. The roof of the main hall of the barn is the whale's ribcage - hundreds and hundreds of redwood shingles, scores of which have fallen off with time and the battering of sea winds. The effect, now, of looking upwards from inside that cathedral-like space is of looking out through the whale's skeleton, sun and shadow playing softly on the walls and rafters of its central cavity. The mighty

PERSONAL MYTHOLOGY



"spinal beam" down the center of the roof has taken a beating from the weather, especially the snow of this year's blizzard, but it remains heroic and strong, braced against the elements.

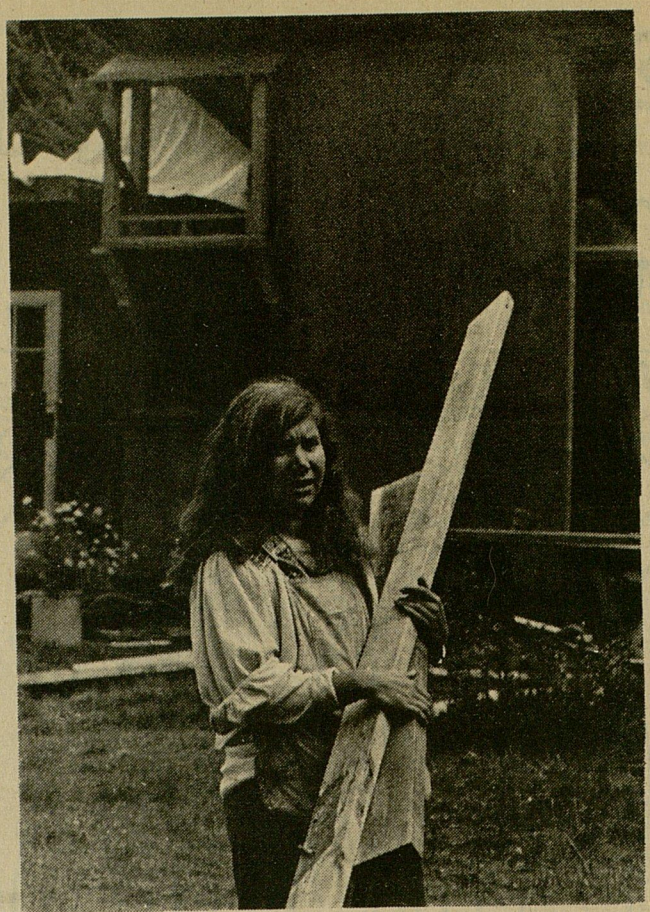
I live in the sheep shearing room down below, where the hill begins to slope away at the back of the barn. I came here to write and chose this room over others that I loved in the barn because it required only the building of a bed and desk and the patching of a few knotholes on the outside wall for me to move in.

From old beams lying around the barn I built a gargantuan bed, which offers - as any good bed should - reading and working space as well as sleeping and dreaming space.

Then I found, as if by magic, that the bed, at chest height, had created beneath itself a music making, meditation space exactly the size of the sleeping mat I had brought from my tipi. From that point on I was convinced of the specialness of the place for me. I peopled my room with ritual objects, having their assigned places and simple symbolic uses. More come to me as time passes. If I had to pack up today and go away to live out of a pack with survival possessions only, I would take a magic bag of wood, bones, jangles and special cloths before I would take almost anything.

One of the nagging uncertainties I've felt in creating my own, still budding magic in the past few months - uncertainty culminating here in trying to figure out how to talk publicly about creating it - has been the question of how much of it to share with people I'm close to. Part of me rebels, or is sad, when friends make public their private rites; another part is grateful for their sharing. Inevitably, a non-believer will find someone else's symbols hollow, their rituals slightly hokey. That's the nature of the process -- personal myth is Personal. In shared myth there are no such dividing lines. (And I look forward to such bonds springing up more between women - and men, for that matter. They unleash a lot of common energy.) But private rites are special; for me they've been invaluable. We, as women, should support each other's use of them as tools in our individual quests for wholeness and power in our lives.

There's more to homemaking than we learned in seventh grade



Building my own home has been the most taxing, frustrating, endless, mind-boggling, worthwhile, thrilling, rewarding, surprising, stimulating creative experience/undertaking of my life. Far more than building myself a house, this is a learning process, a focal point for expanding my capability to realize my fantasies. I think that I am beginning to live in the present and feel my own interaction with my environment. I am beginning to really believe in myself and my own powers because in my house I can see the concrete manifestation of all that energy and focus. The thrill is in the doing and now I feel myself reaching out for adventure rather than recoiling from unknown worlds.

It took months of daily vacillations before I got enough personal strength to even believe that I, Ginny, could put together literally tons of wood, metal and concrete into a huge structure involving months of daily physical exertion and myriads of tools, processes and materials with which I was only peripherally acquainted. At first the immensity of the task and the onslaught of strange procedures and endless little specific decisions mowed me under daily. How could I sensibly choose a carpenter to work with me when I knew nothing about carpentry? Indecisions became panic stricken crises until I learned to relax and put my energy into understanding the problem and making a decision, instead of freaking out about it. I discovered that the only way to deal with such an immense project is to trip through each little adventure, one at a time as it comes along, and let the house grow slowly like a flower. Gradually as I became more comfortable with building my attention span increased; I bent fewer nails, pounded more in and felt good about it. I hired a carpenter friend to help me with the housebuilding procedures and skills and just be a buddy to me through this heavy undertaking. Sometimes I'd prefer someone more experienced who would lead things on more quickly and smoothly, but basically I am thankful for the learning foisted upon me by having the major responsibility and for the joy of sharing the production. I didn't want to be just handing boards to the carpenter while he built my house.

I am not just building a structure to keep me warm and dry, but am also creating my own specially tailored little nest, a place for rest and regeneration, work and play, being by myself and with friends. I want it to feed me. I am putting as much positive and beautiful energy into it as I can, because everything I put into it will be reflected back on me - every person who worked on it, every fantasy followed through, every short-cut, every choice of material, every headspace. Each time I take the energy and care to really focus on what I am doing and make it just the way I want it, I have more to be proud of. I am only cheating myself to do a half-assed job or decide it isn't right but then forget it. As an artist, I consider the house a creation and pay heavy attention to its visual aspects. If Tony weren't around sometimes to remind me of the functional considerations, which are of course essential, I could conceivably end up with just a leaky sculpture. Part of the learning is that I am making a lot of mistakes, because I can't possibly know everything, but I feel strongly that I must test out my visions and not just proceed on everyone else's advice. Already I've patted myself on the back for persisting on certain things, but I'm also glad I was talked out of others.

The price I am paying for the luxury of electricity is extravagant because it means going code which will probably double or triple the cost of the house. It forces me to wade through acres of bureaucratic redtape and leaves me a house which makes me wonder whether I am building it for them or for me. I suppose I should be consoled by the increased resale value of my code-approved property, which one day I will no doubt appreciate. But why bother to build your own house if you can't do what you want?

The biggest surprise for me about housebuilding, especially a code house, is how minor a part of the project the actual carpentry is. For months before I even got started, I was deciding what, where, how and why, visiting other

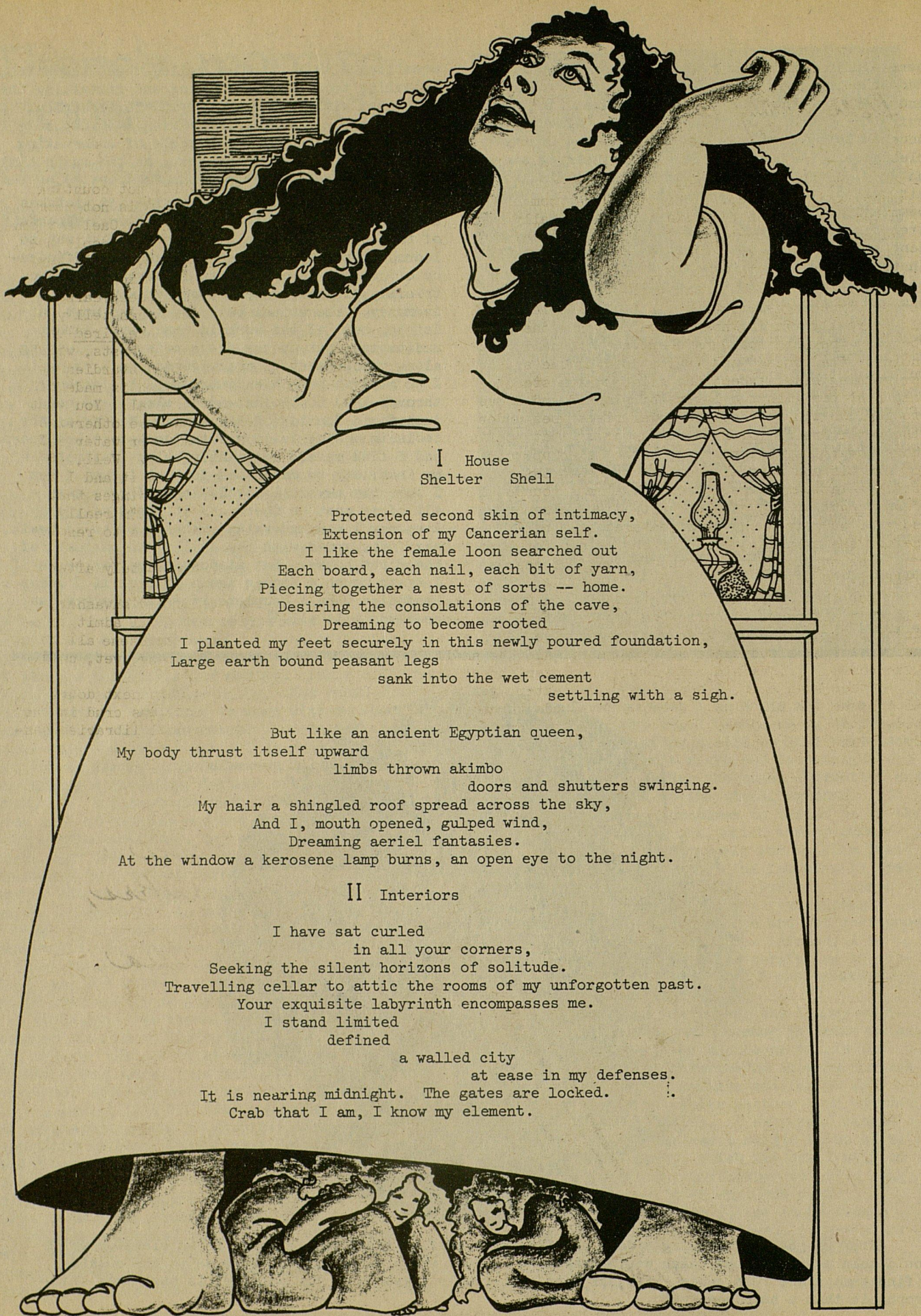
owner-built homes, and reading books. Then I had to choose a site, clear it, put in a road and stake out the exact location. Meanwhile, I suffered severe brainstrain coming up with plans acceptable to code, paying fees, getting county clearances, insurance policies, engineering signatures, a septic tank permit and a building permit, all of which led me on an adventure into a new land. A backhoe was hired, the foundation trenches were dug and rebar was purchased, cut, bent and tied into the trenches. The inspector inspected and then the Baxman dinosaur arrived, belching great masses of concrete. No wood or hammers touched yet.

I have spent as many hours in Fort Bragg scouting and purchasing materials as on the site. The purchasing is as important as the building itself and I have learned to use the phone to call around for the best prices, to anticipate the material needs and to plan ahead. Lumber has to be examined for cracks, knots, and twists, must be counted and addition checked, must be loaded and unloaded. It's also taken me and the lumber people a few tense scenes to get used to each other. I'm not always sure I know exactly what gismo I want and some have been surprised a woman could handle lumber at all. I fully understand now why one carpenter wanted $4.00 an hour for carpentry but $5.00 for trips to Fort Bragg.

I am presently occupied with getting my electricity installed underground which involves wrestling with a trencher called the Ditch Witch, shoveling tons of sand, buying and installing the meter box with its hordes of little electrical gismos. The cost so far has been $450.00, some headaches and the added struggle of undertaking this at the worst time of year, as the rains hurl mud, sticks and newts into the trenches.

Although it takes a long time and mistakes are made, I try to participate in as many aspects of the house as possible, since the best way to learn is by doing. I can also see the efficiency of hiring a professional for trenches, electricity, plumbing, etc., especially where time is money. The actual building is the most satisfying part of the work in some ways, almost meditative, out in the fresh crisp air plodding along measurement by measurement, nail by nail. I am glad to have been introduced to carpentry through hand tools instead of electrical ones, just for a feeling of the skill. Mastering the tools is a slow daily meditation that takes years and I find myself constantly being frustrated by my inability to make them do what I want. But I love the physical involvement of carpentry - all of me must be there and it gives me energy. Even now I can understand wanting to build again, next time armed with the skills and mistakes of the first house. But it doesn't matter to me if I never touch a hammer again or even if I leave Mendocino when I complete it - the process has been worth it all. ♀

After 25 years of opening a door and finding myself in a hallway, leading to an elevator which would take me to a lobby which would take me to a door which would at last take me to the outside, I find that a one room cabin, with ONE door that really takes me to the outside, is much less claustrophobic than a huge apartment...



I House
Shelter Shell

Protected second skin of intimacy,
Extension of my Cancerian self.
I like the female loon searched out
Each board, each nail, each bit of yarn,
Piecing together a nest of sorts -- home.
Desiring the consolations of the cave,
Dreaming to become rooted
I planted my feet securely in this newly poured foundation,
Large earth bound peasant legs
sank into the wet cement
settling with a sigh.

But like an ancient Egyptian queen,
My body thrust itself upward
limbs thrown akimbo
doors and shutters swinging.
My hair a shingled roof spread across the sky,
And I, mouth opened, gulped wind,
Dreaming aeriel fantasies.
At the window a kerosene lamp burns, an open eye to the night.

II Interiors

I have sat curled
in all your corners,
Seeking the silent horizons of solitude.
Travelling cellar to attic the rooms of my unforgotten past.
Your exquisite labyrinth encompasses me.
I stand limited
defined
a walled city
at ease in my defenses.
It is nearing midnight. The gates are locked.
Crab that I am, I know my element.

Dear lovely women,

...We (Betty, Jean and I) have also moved my Arctic tent (all 1500 pounds of it, not counting lumber) and set it up. I have built a room on the end of it, which pleases me. There is not room for two of us in an 8' x 12' tent, expecially if one of us is six years old! So I built Cael a room. Jean helped me side it and I covered everything in sight with plastic. I also found why people use gutters - because if you don't, water runs down the walls and leaks all over the floor, that's why. Well, enough plastic will cure anything. By the way, did you know that the clear plastic disintegrates in about nine months from sun and weather and the black plastic lasts two or three years? Learn something every day, what? Same price, too. This is one funny looking room, I can tell you. It is really amazing how much difference one half inch in a stud can make - a couple are wired on, because they are too damn short even to nail. The foundation beams hold up the corner posts, which hold up the cross-beams, which hold up the studs, which sort of steady the floor which sturdies up everything else, except the siding which steadies the studs and holds up the roof which is made of old bent tin with two layers of plastic and about six pounds of water-tight roofing seal. You want to lay the tin so that the lower piece goes under the upper piece, I discovered, because otherwise the water drains in, rather than off. That roofing plastic gunk really does stick under water - I have several small, but impressive lakes up there - it slants kind of funny, obviously. Well, 70' of plastic and several near broken necks later, it's tight and pretty warm. Cael loves it and I am still relatively sane. I was able to scrounge all but the plastic, gunk and two door hinges that Jean bought me out of sheer pity. She also hung the door, for which I was grateful. I'm really sort of surprised she even ventures over here at all - I always have at least two crises to resolve before she even gets a cup of coffee and for a coffee junkie, that's real love.

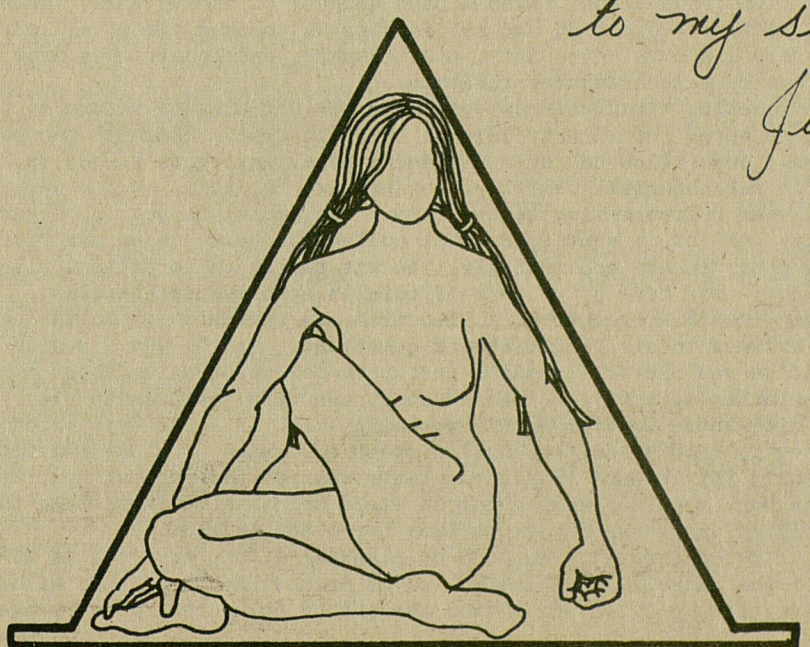
The other day one of the twelve foot boards (a 2" x 6") fell on my pillow, fortunately after I left it. Gawd!

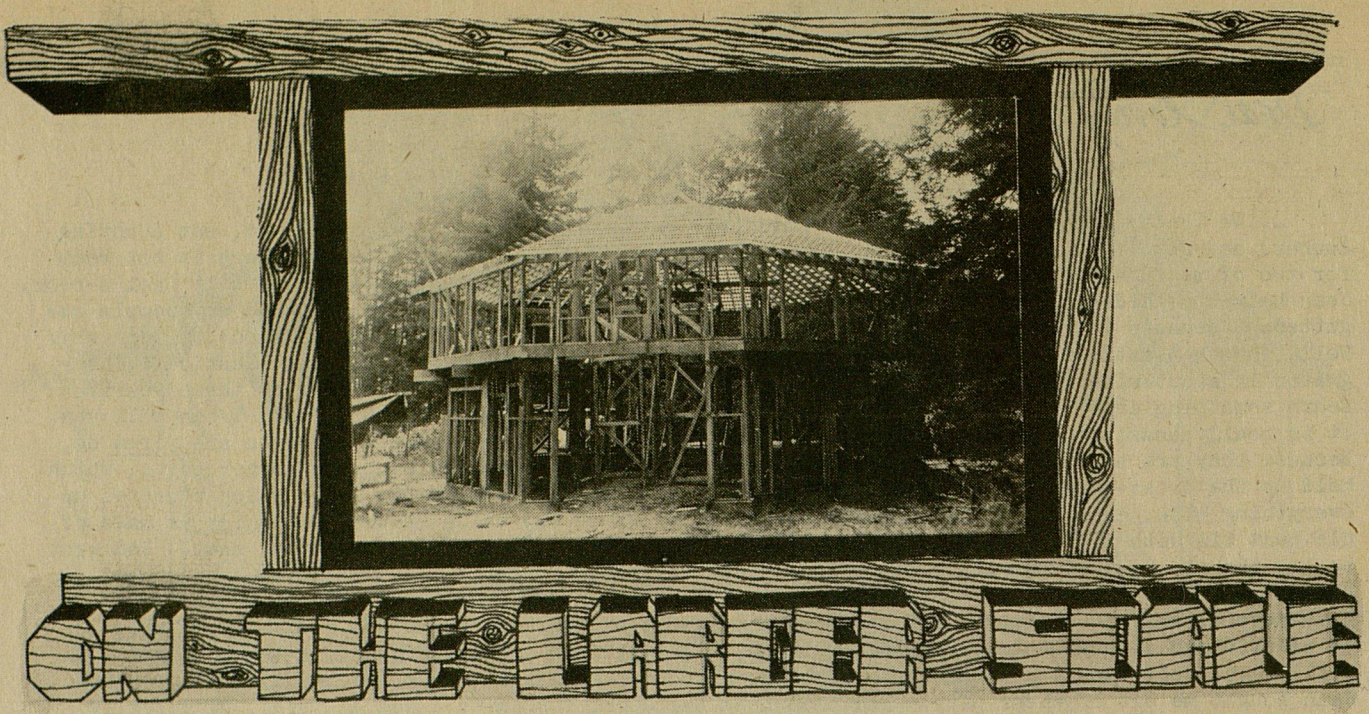
But then, I spent Thanksgiving Day in Sacramento and saw a kitchen with electric dishwasher, electric disposal, electric toaster, electric canopener, etc. and it horrified me! I'll admit to electric light, because when you read twelve hours a day, as I tend to do, it beats kerosene all to hell. I find blindness a basic bummer. Also, a small TV to avoid child murder on long, wet, cold afternoons. I love him, but I have no intention of entertaining him all winter.

Other than that, I can cook on my heater, get water at Bitney's springs, and shit next door. Also bathe - a BIG plus. We both have beds three feet off the floor for warmth and less crud in the bed. Don't seem to need much else. We're warm and dry and well-fed, and have several libraries handy. (That is a must.)...

Blessings on the country women
long may we wave
long may we love each other

love and kisses
to my sisters,
Julia





It was hard to know how to tell the story of the barn in so short an article. Finally we settled on the idea of skipping over much of the building process and concentrating on a few topics which seemed to be the more unusual and monumental parts of the construction. These are the areas, which although taken from a two story octagonal barn 42' in diameter, might be applicable to smaller and less elaborate building projects: estimating and planning a job; the use of the transit level; the foundation pour; and scaffolding. One area - use of block and tackle in lifting heavy beams - will be run as a separate article in a future issue of Country Women. We weren't by any means exhaustive in talking about these topics. For example, the story of our foundation concentrates on one climactic day - and makes no attempt to cover the previous four weeks preparing for the pour.

PLANNING: The saga of the octagonal barn really had its beginning over a year ago when a crew of women carpenters from the Bay Area came to the farm for the first planning session to meet the two women and their goats (whose home we were hoping to build). The original plan was to build two structures. One was a milkhouse which was rather small but had some very elaborate concrete work. This was to be used as a Grade A dairy. The octagon was planned as a keeping barn for the forty to sixty goats, with loft storage for twenty five tons of hay.

Arrangements were made to hire architects for the design of the octagon. At first we were talking of building both structures in one summer. Hearing this now makes me blush at our innocence, for it has been almost seven months already of steady work, through every conceivable type of weather: broiling hot sun forcing us to shed almost all our clothes, fog so thick you can barely see to hit the nail, pouring rain, and lately even snow and frost. Building this barn has been an endurance marathon.

After our first meeting, arrangements were made for our crew to return at the beginning of the summer to start work. We were to live on the barn site. The next two months were spent in preparation. None of us had ever planned such a big job so we had to really seek out resource persons. It was especially difficult to prepare for this job for we didn't get our plans until about a week before moving to the farm. Our questions had to be very general. We began to study madly. All of us went to a local college to brush up on our roof framing skills and we pestered our poor teacher continuously. He was really quite patient with us and generous with his time - for none of us were officially enrolled in his class. Three times a week we would tromp into his classroom, filled with men trying to grasp the basics of carpentry, and demand answers to our long lists of questions. Mr. G. was a genius when it came to concrete work and he was one of our major resources for information about constructing the foundation. The other main way we learned about concrete work was to visit almost every day a construction site where condiminiums were being built in Berkeley. We came so often that the foreman grew to know us and eventually spent his lunch hour talking with us about how his crew builds forms. This became invaluable later when we had our own pour to direct.

Our preparation work also included going on field trips to Davis to talk to people in the agricultural college and going to see various barns and dairies.

ESTIMATING: One of the major aspects of planning a job, any job, is to determine what will be the costs of the materials and labor. It is impossible to do this without a set of plans. Once you have them, you can begin from the ground up, counting every beam, etc., and

making sure to note in which lengths you need certain-sized pieces of wood. You should include extra for waste. You should get ahold of an estimating book (such as Simplified Carpentry Estimating, J. Douglas Wilson and Clell M. Rogers, Simmons-Boardman Publishing Corporation,N.Y. 1962) which will contain check-off lists and some formulas to help you determine in a thorough and fast manner exactly what the materials need to be. It is helpful to make these lists in the order of construction. This is an example of how useful a book like this can be: siding comes in many different widths and is also milled to overlap in different ways to make the exterior of your building watertight. When ordering your siding, you know from your plans what the square footage of your building is. But what you don't know is how much actual coverage a piece of 1 X 6 will give you which is shiplapped on both edges. The book has charts which allow you to figure it out very quickly. Another real advantage is that the book lists every aspect of the construction of a building. If you have never built anything large before, you can use this information as a check-off list to make sure you have included everything. Some other hints about ordering materials: buy as much wood as you can from lumber mills. They will give you a much lower price if you submit to them a complete list and allow them to make you an estimate. This estimate will hold the lumber mill to the same price they have quoted you, even if the price of wood has gone up. Also, you can submit your wood list to several mills to see who will give you the lowest bid. Buy your 2 X 4's by the unit. A unit is 1000 board feet. There is usually a special price when you buy wood in quantities that large. Sometimes the difference is as much as 1/2 off. If a unit seems more than you think you need, DON'T WORRY. You most probably will use more 2 X 4's than you have planned, and they always come in handy later.

You can get a discount on the metal you may need for the job two ways. Lumber companies which carry hardware will often give you a bid on the whole job if you submit them a complete list. Or, if you can find a contractor who will let you use his or her license, you can order it directly from a wholesale dealer. You can get many of the tools you may need there also, and it all comes 40% off of the retail price. Make sure you know you want what you are buying because they won't allow you to return anything.

The labor estimate is one of the hardest estimates to do correctly. If you are doing this job to support yourself, as we did in building this barn, the labor estimate will make or break you. There is nothing worse than under-estimating a job and having to work for nothing at the end, using up whatever money you managed to save. You end up having slaved for weeks with nothing to show for it. There isn't any simple formula to tell you how to do it either. Partly, you need to know how fast you think you can work. The way you go about making the labor estimate is similar to the way you make the wood estimate. Verbally build the building from the ground up, listing every conceivable process involved. If this is your first big job, the estimating book will help you again. Ask any friends you know who have built before how long it took them to complete a particular part. Start with the foundation and list,next to the job, the number of labor hours you estimate. You should realize from the beginning that you have forgotten dozens of tasks you will have to do. To compensate for this, do the following:

Add up all of the hours you have listed. Then multiply this times the hourly wage you are paying yourselves. We paid ourselves $4 an hour. Now take this figure and add 10% to cover tool-up and preparation. Included in this are all the tools you will have to buy for the job, all the time you have had to spend already planning the job and all the hours in the future. This also covers any preparation building you may have to do. We had to build work tables (2), sawhorses (8), a large toolshed to protect our tools from the dampness and rain, toolboxes to keep each of our own tools organized, and ladders. We are so thankful that we took the time in the beginning of the job to make a good workspace for ourselves. It cut down immensely on frustrating time spent looking for a place to cut wood or measure or assemble something.

Next, add 10% to cover materials handling. This includes loading and unloading wood, stacking the wood into well-supported piles to eliminate warping, organizing the metal (i.e. nailboxes, places for bolts, etc.), cleaning up the worksite after every workday (for us it meant wiping the tools dry, putting them away and re-covering the lumber with plastic). Time must be spent making piles of waste lumber. We also used this money to cover repairs and gas for our truck, and for sharpening our sawblades, hand saws, chisels,etc.

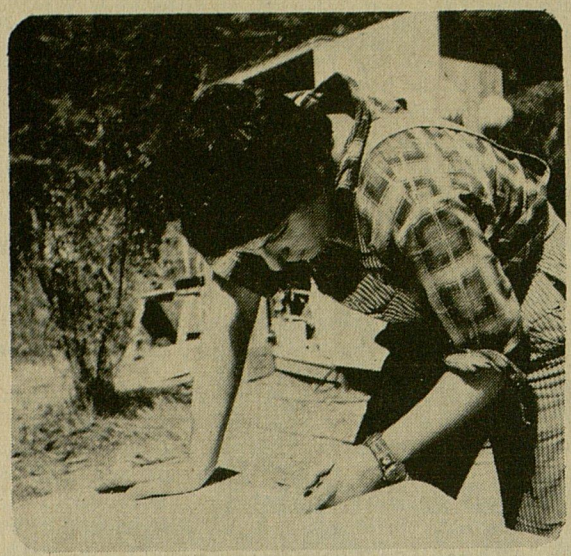
Now add another 10% which is called a labor contingency. Since construction almost always takes longer than expected, this contingency is the allowable extra money which can be used for paying for labor if it is needed. It is a protection for both the carpenter and the employer, for it sets the maximum to be spent on labor for the job.

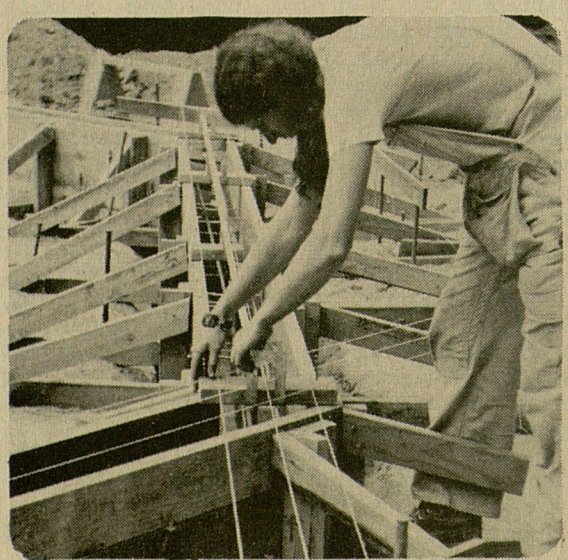
Only contractors can actually contract for a job, so we work for time and materials.

Now that you have an idea of the total cost you are ready to present it to your would-be employer and wait to hear an acceptance or refusal. That wait was particularly tense for us. This is an excerpt from our journal describing that day:

"Susan and I stayed up really late last night designing beautiful platforms to be built in private little spots near the construction site. Everything was going well for us, we made long lists of everything to be built, bought and studied etc...and our energy level was very high... until yesterday morn-

cont





cont.

ing when Mia and I went to talk to them about some business details and we were told that they only had $10,000 to spend on building the barn. This may sound like a lot of money, but it barely covers the materials for a structure such as the one they had designed. Oh, god, yesterday became such a freak-out! We spent hours at the lumber company, using their adding machine, finding that our total estimate is near $17,000. Today we are having a meeting with them and we are presenting them with this figure. They may reject it and then we will have to load up the tools, lumber, bedding and dishes and rumble back to Oakland and try to reclaim our rooms and find new jobs. I can hardly believe that it is July 18th, we have spent all our savings on living without being paid and on new tools for the job, and actually have moved up here to the woods, only to be developing an ulcer waiting to hear if our estimate is rejected or not. What a lesson. Never assume people have the money to spend or that they know how much something will cost."

Luckily, we had the meeting and the bid was accepted. So, our first day at work was spent laying out the building on the site. I am not going to try to describe the process of layout because it sounds complicated when you verbalize it, and because each building presents a separate situation and procedure. But there is a very important tool you should know about which is used to lay out the building and then used over and over again throughout the construction. This is the:

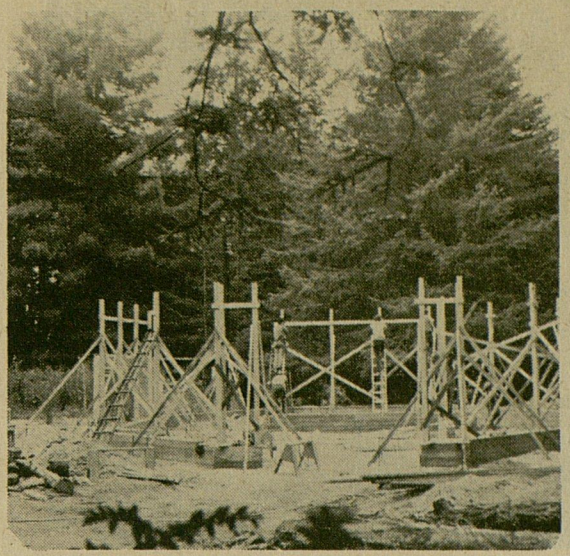
TRANSIT LEVEL: It is the tool which is really responsible for the high degree of accuracy and low margin of error in the barn construction. A transit is an expensive tool. There are builder's levels which can be rented or bought which are much cheaper and can also be used quite well.

When you are attempting to level parts of a building which are 40' apart, a transit is the tool which will give you the greatest degree of accuracy. A 6' hand level won't even do the job right. I once tried to level a deck I was building with strings and line levels. It was a nightmare. It took about 8 times as long and the deck was really never level to itself.

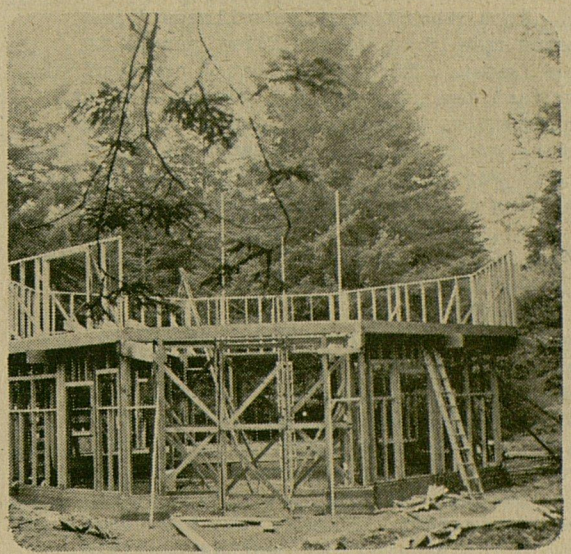
The transit has a telescopic lens which allows you to sight a rod being held as much as 50' away. (This distance will vary with the type of instrument.) This rod has measurements written on it which can be seen clearly through the crosshairs of the telescopic lens when it is focused. We made our rod from a 2 X 4 with a piece of broken tape measure nailed to it. We always referred to it in a joking manner as "the precision instrument" because it looked like a piece of junk, yet it gave us measurements precise to the 32nd of an inch.

The telescope of the transit rotates 360° although the base is stationary. To take a reading with the transit, one person

holds the rod plumb on top of one of the beams being levelled. The person looking through the lens calls out the number in the crosshairs. Then the rod-holder moves to place the rod on another beam. The transit swings around to this new position and registers another number between the crosshairs. The important information is what the difference is between the readings. This will tell you which beam is the lowest or the highest. When levelling the deck, for example, we wanted all of the beams to read within an eighth of an inch of each other so that the decking nailed to it would all be level. This meant that some of the beams might have to be shimmed up, or some planed down. When trying to find the difference in height of several posts, or any object which is very high, hang your measuring tape down from the top of the post, instead of using the rod.



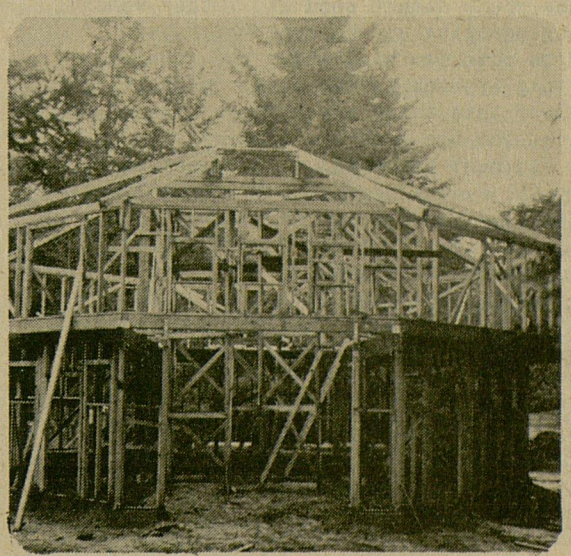
We used the transit constantly throughout the entire construction. First it was used to determine where the building should be placed. Then we used it to build our concrete forms, checking to be sure all the form walls were the same height. We needed it to know where to cut off the 30 4" X 4" posts, to make sure they all were even. After we placed the 4" X 12" beams across the posts, we used it to double-check to be sure our deck would turn out level. We used it to determine how tall each of our 8" X 8" posts should be, and again for part of the roof support system.



Usually, when you are building, if you make a slight error on the first floor and there is another whole floor above it, the mistake will grow. But if you use a transit level, you can constantly recheck and compensate for your mistakes.

THE POUR: One of the most exciting and dramatic days in the barn construction took place the day our exterior foundation forms were poured (to be poured means to be filled with concrete).

It was just our luck that the member of our crew who had had the most experience with concrete came down with the flu the night before and was barely able to lift a trowel (the tool used to smooth the concrete) the morning the concrete trucks arrived. The rest of us were nervously waiting in the foggy morning. We had just finished watering the forms (this is what you do to keep the ground and wood from absorbing too much of the moisture in the concrete and also to keep the form boards from sticking to the concrete) when we heard a very loud clanking bell and engine roar. The first of three huge concrete trucks arrived carrying 6 or 7 yards of concrete. The driver had a very hard time concealing his amazement at seeing a crew made up completely of women. We had a short conversation coordinating our hand signals and then he revved up his big motor and concrete began pouring down the chute.



A concrete pour is exhausting work. There is no time to rest, even for a short breath of

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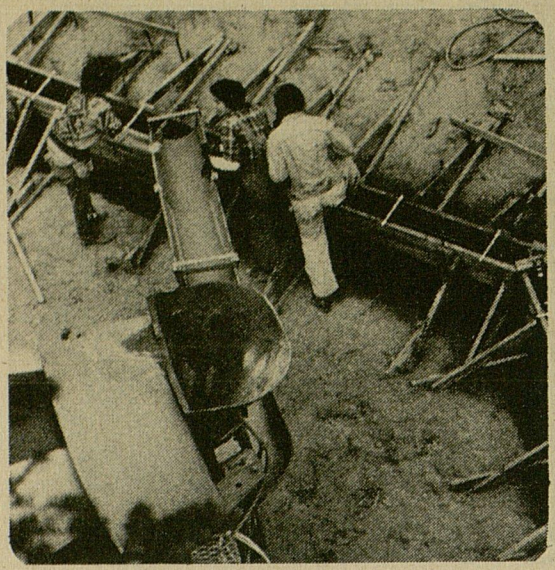


air, until it is completely over, and ours lasted 5 hours. In a moment of daredevilness I had volunteered myself to be the first person to guide the chute. This means that I had control over how fast the concrete was coming out, and most importantly, where all those tons of wet cement were going to land. Because it pours out so fast, it was only a matter of minutes before I was guiding the concrete into the footings of the 2nd wall, leaving my partners behind on the 1st. Then it was just me and all that concrete. It was a wild feeling- like being on a horse when it gets spooked.

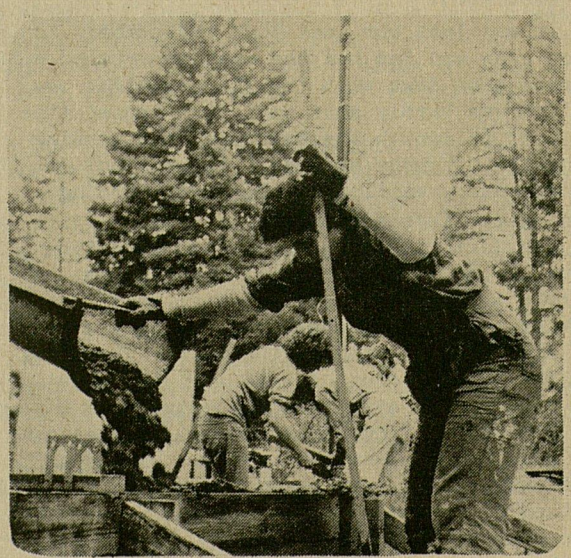
The other crew members had long sticks in hand which were plunged over and over again along the sides of the forms to do what is known as vibrating the concrete. This brings the fluid part of the mixture to the sides of the form boards and later gives a smooth finished look to the form work. It also eliminates air pockets. Some of the crew were responsible for pushing, as best as possible, the concrete into the parts of the forms where the chute didn't send it. Other women were busy scooping up concrete which had started to ooze too high above the footing and putting it back inside the form walls.

All of this takes place at an insanely fast pace, for the concrete hardens very quickly and must be worked with immediately. There wasn't even a break between truckloads; one would come right after another. After the forms on one of the walls were filled, the tops would have to be smoothed with the edge of a short 2x4 and the concrete on the ground cleaned up or smoothed. Also there were metal stakes buried in the wet cement that had to be removed within the 1st half hour or else they wouldn't ever come up. Luckily for us there was a large group of women at the farm the day of the pour. It took at least 8 or 9 of us to do all that was needed before the concrete became too hard to manipulate.

This was the first of many instances when the crew grew larger to meet the demand of the task. When extra help was hired from among local women, our crew grew to 9 or 10 and brought with it a construction site atmosphere of busyness - voices, hammers, jokes, power tools, orders, requests - all going at once. When we were a bare minimum of 2 or 3, the barn-site would be quieter. Then sometimes we had less energy; sometimes it was easier to concentrate. It was not only the construction process which caused the work team to shrink or expand. The composition of our original crew changed along with the weather and our personal lives and spirits.

Throughout the whole construction 16 different women worked on the barn. This meant that the hiring of extra help became another one of our responsibilities. None of us had ever had experience being a job forewoman and our own crew was made up of four bosses or no bosses depending on how you looked at it. It was confusing for the extra workers, because there was no one person they could turn to for instructions. Later we tried to rotate the duties of supervision between us. Eventually the new workers became so familiar with the barn and our work patterns that we functioned quite smoothly together as a crew.

SCAFFOLDS: When there was a question of climbing up above the ground or above then existing solid surfaces of the barn, we often asked ourselves whether it would be quickest and most efficient to use a ladder, or whether the task at hand required scaffolding. Scaffolds are bulkier than ladders and take time to construct. But if you have to move around a lot to get to your work - a ladder means you spend your time getting down, moving the ladder, and crawling back up again, dragging your tools with you. Often scaffolds are safer than ladders. They are more stable and roomy to work from. They can be temporarily nailed in place and are reassuringly more sturdy when you have to hold a heavy timber. The crosspieces and diagonals of the scaffold provide rails to grab onto when



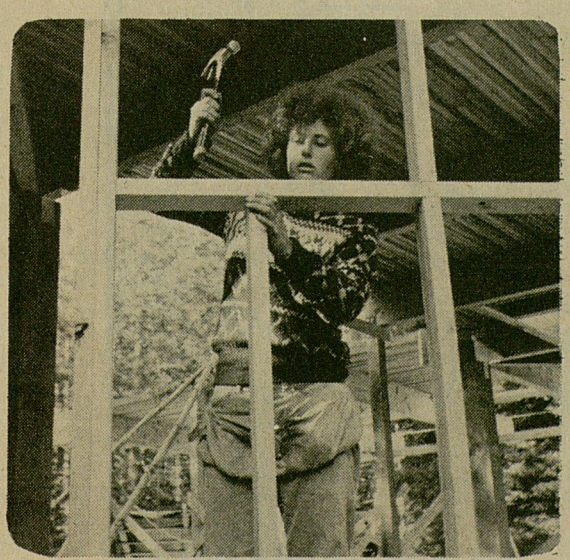
you're working up high. The scaffold itself is a kind of jungle jim on which you can climb, stand, sit or lean, in a variety of situations. You can build them to desired widths and heights. Some of ours were so small and lightweight as to compare with ladders in mobility. All of our scaffolds were made of wood.

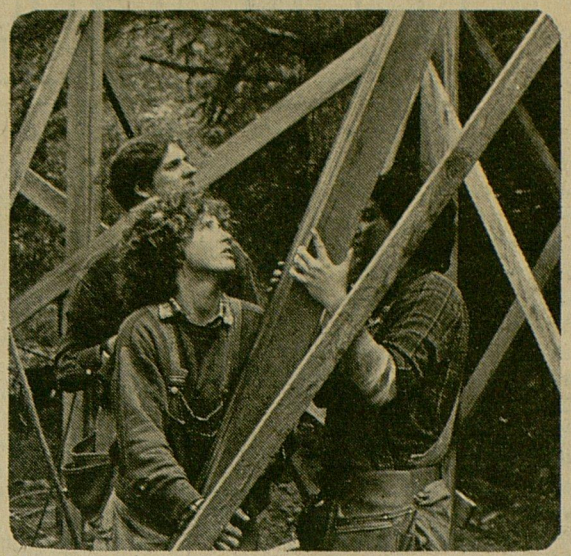
The first scaffolds, 12' high, were built on the 8th side of the octagon in the empty space we had noted when we 1st looked at the plans. From these we placed a 4x10 and a wall over the space, thereby joining our previously 7-sided octagon.

From then on we had occasion to use other variations of the scaffold. Next came our mini-scaffolds, so-called because they were only 6' high. These had the advantages of being lightweight and movable. Later we needed to work up a bit higher, and remodeled these scaffolds into ten-footers. Still later we needed scaffolds which would reach from the ground up to the highest part of the roof. With some adding on, the 12' scaffold soon grew into maxi-scaffolds 20 to 22' high. These were used during the erection of rafters and portions of the roof system.

One of the most chilling of our scaffold experiences had to do with the last heavy beam we put into place. It was another of those days when our work crew numbered 3. We had been lifting up the 15' 4x12's (200-250lbs each) which formed the basis of the roof system. We would lift each beam from deck to 2 mini-scaffolds, then from the mini-scaffolds to its notches atop the 8x8's - a total of 11', lifted in 2 stages.

This system worked fine throughout the lifting of the 1st 3 beams. The fourth, however, was a different story. This last beam had to go up over a 20' drop to the ground. Because of the nature of the deck design, there wasn't much space for the scaffolds. Each scaffold was on the edge of the deck. The beam was exactly as long as the space across this 20' drop. This meant that, standing on scaffolds, we had to lean out over, or rather into, a beckoning void.





At one point I remember looking across the gap to my partner - each of us holding an end of the 250lb beam. The look on her face matched my own mixture of concentrated effort and controlled panic. At a certain point neither of us felt we could lift an ounce more. Nor could we manage to change footing so as to allow our third partner room to help - without stepping off the scaffold and taking the beam with us. However, at this moment our third partner came to the rescue. With all of her 5'2" body of strength, she ducked under my partner's arms and gave an extra push. One end of the beam up! Meanwhile, this maneuver caused most of the beam's weight to be transferred to me at the other end. Down came Susan from the other scaffold, around the deck, and up on my scaffold. Just as I was about to give out she gave another boost and the last beam went into place.

It's hard to describe the drama of what we felt. After the beams were in place we would sometimes look up and half wonder how they got there - even though we had done each part of putting them there ourselves. After a while, however, we grew to be more comfortable with heights. Even those of us who had been most height-wary found ourselves enjoying that part of the work. It felt good to be familiar with each part of a structure which grew higher every day.

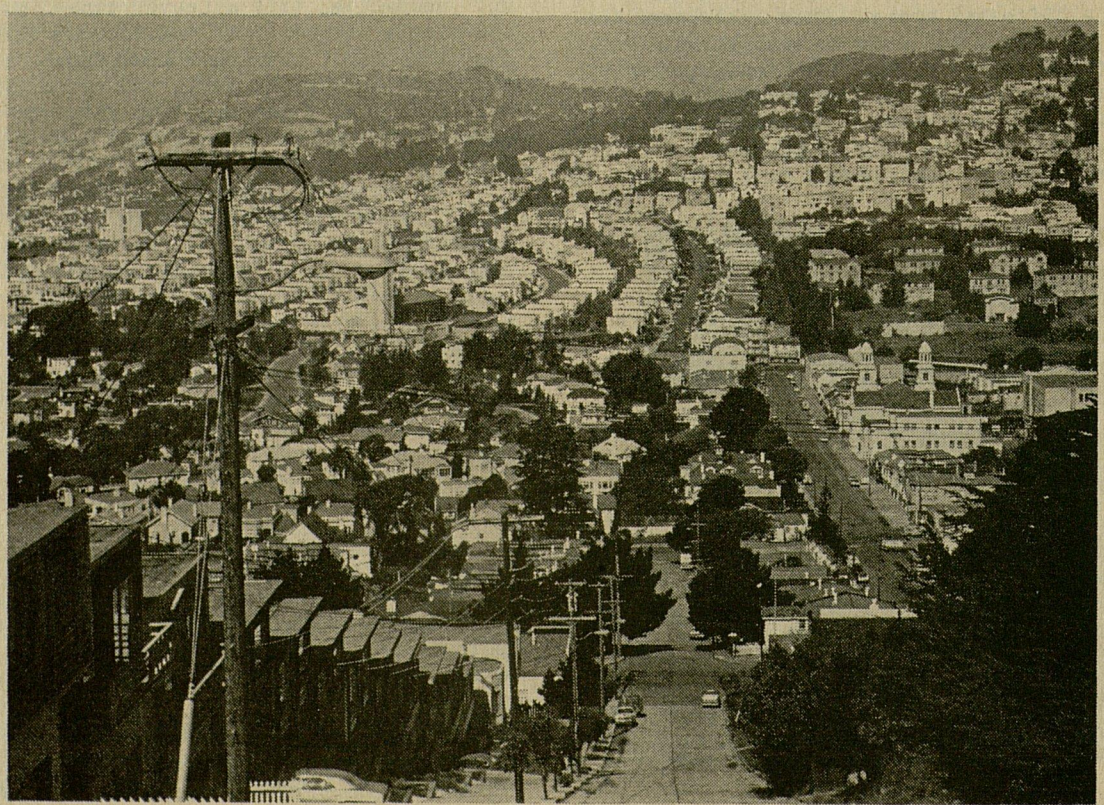
We're interested in building other structures from the ground up, especially in building for women. We seem to have become a sort of roving construction crew and intend to follow where our work will lead us. We are also curious about other women builders; we'd like to know if any other women carpenters are/have been involved in large-scale projects such as this. We can be contacted through Country Women. Address letters to Carpenteria. ♀

AN UNSTRUCTURED LOOK AT STRUCTURES

Generally, our house, its contents and the land it sits on are the most substantial pieces of property we acquire and manifest. Hence they are a basic yardstick of our material status. Men usually control the levels reached on this yardstick, especially in the field of housing. In the traditional family, it's the man's job to acquire the house. He may either build it himself or, more likely, buy one built by male builders following men's plans. The woman's job is to turn this house into a home, to adorn it, personalize it, make it presentable. For she is after all the "homemaker". And she will probably spend more time there and put more effort into making it a pleasant place to live in than anyone else involved.

The most drastic change in this pattern I've seen has not come about through the influence of feminism but instead through the simple act of moving to the country. The country is, almost by definition, land that is not already covered with buildings. So, unless a woman moving to the country buys an old homestead, she will have both the space to build and the need if she wishes to live on her land. An equally freeing influence of the country is the opportunity (with a little discretion) to escape the building codes and building inspectors. This decreases the power of the bureaucratic structure to come between a woman and her efforts to make her living structure as she wants it. Building codes may have been designed to protect buyers from unscrupulous builders, but that's sure not the way they get used when you're committing the victimless crime of creating your own non-code dwelling. However, codes can often be ignored in rural areas, so that for less than $500.00, many homes have been created that have much in common with the poshest of residences. They are unique and custom built, contain priceless materials such as stained glass windows, hand cut redwood shakes, slabs and burls, beautiful weathered boards, antique stoves, and handcrafted furniture. They have alcoves, bay windows, split levels and bizarre shapes, not to mention extensive grounds, sweeping views and unqualified privacy. I have never built such a home myself, though I've helped others do so and have lived exclusively in homemade homes since moving to the country. I live now in such a house. It has some of the priceless features mentioned above. And it has much of myself and my energy invested in it. But it is humble.

Many people would not live in my house. It has only one room with a total floor space of less than 200 square feet. It's not insulated and has no built-in storage space. It has no sidewalk or driveway or other access that doesn't require either effective rainboots or a high tolerance for wet feet. It has no oven. It has only cold running water and no



bathroom or other indoor plumbing. It has no electricity, hence no television, refrigerator, electric lights, phonograph, dishwasher. Furthermore, the paint has run on the walls. It has a corrugated plastic roof (such as is usually used for greenhouses and patios) which means it overheats in the summer and would leak in the winter except for the big sheet of clear plastic I put over it which flaps thunderously in the wind. It's heated by a wood burning stove which takes more effort than the flick of a thermostat. It's a rectangle (a shape considered by many to be quite dull). And it's isolated enough that if you were scared of being alone in the dark, you'd sure enough be scared here.

But I love this house more than anywhere I've ever lived, though I once lived in a $50,000 architect's award-winning home in the hills. It fills most of my wants and needs. I have not asked for status, security and permanence but simply for quiet, space, beauty, and of course, warmth and dryness.

The sounds I hear in my house are the cat, the distant ocean's waves, the fire crackling, tea boiling, a welcome visitor's murmurs, an almost subliminal thumping as my nearest neighbor splits another log to put on her fire. The only soundwaves I wish would break upon another shore are the howl and patter of too incessant wind and rain. Mostly, the silence is so pervasive that it drifts like fog into the corners of my past and softens the memory of my long subjection to apartments and communal houses where there was no room for silence or room to be, which is abundant in my small cabin.

In this simple space, I can forgive and forget all the ugly rooms I have lived in and let go of the unconscious energy I spent trying to block out what I saw and felt when they enveloped me. Here, there is no cracked linoleum floor with faded red roses, peeling plasterboard or checkered wallpaper. It's all wood and glass. The mostly empty floor space in which I can dance and move (my doing) and the light and height that guided the design of the building (not my doing) make this cabin feel wide open. The high opaque roof, south wall made entirely of glass, and the lightweight structural materials all combine to disguise the actual dimensions of the building. Even the fiberglass roof, laid as it is, over long, straight eucalyptus poles, has a more Oriental than detrimental effect, especially when shafts of moonlight enter in intervals marked by the beams. In daylight I can dwell upon, as I dwell within, the north wall made of thick redwood slabs cut on an Alaskan mill. Or I can look through the windows to where I see only grass and blueblossom and trees. In this simple beauty I have no need to wax my floors, tend to my lawn, polish my silver or scrub out the toilet bowl before women friends come to visit.

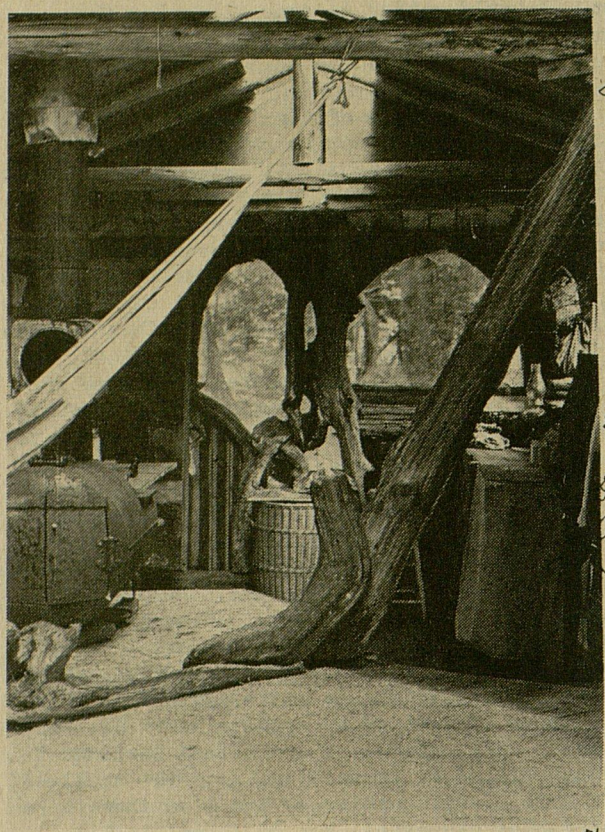
Warmth and dryness are the primary reasons that probably every person I know lives, or at least sleeps in some kind of structure, from a tent to a mansion. Basically, structures "protect us from the elements", though just as in the case of clothing, this basic need has long since been obscured by the other needs we ask these extensions of ourselves to fulfill. My own need to be protected has lessened considerably as I've explored my tolerance for cold and wet. I would rather do some shivering than become accustomed to the level of comfort that has come to be considered an absolute necessity in standard American structures. There seems to be no limit to how much of our lives and our earth's resources we're willing to expend in trying to avoid even brief discomfort. Witness electronic garage doors or the Winnebego's that exact a year's salary and have to be hauled for hours over torturously curved roads for a weekend of getting in touch with nature. Thus do we guarantee increasing ignorance of our own capacities and human resilience, of the choice that is ours if we will only make it, to live with less.

Less comfort can mean more; more time and energy to put in other directions. The optimum level of comfort for you may not be whatever is just beyond your reach. You might find, if you could experiment, that you do not really need hot and cold running water available from nine faucets, 26 electrical appliances and 18 outlets to plug them into, central heating, 8 to 12 rooms, 2 toilets and a 5 ton structure. And you might not be happy living in a tipi. "The less the better" strikes me as no more universal a philosophy than the more the better or the bigger the better. My structure is quite lavish compared with those of some of my sisters more intensely in touch with nature. I don't feel inclined to arrange all of my possessions into the smallest structure I can conceive of and live there like a submarine crewmate. Nor do I feel inclined to cut down on my few possessions. I never mastered the Zen of hauling my own water, so after a year of doing so, I didn't hesitate to hook up running water when I moved into this house. The desirability of electricity is still an open question. At a recent party, I heard the rumour that households in the L.A. vicinity might be cut to four hours of electricity per day. The bearer of these black tidings turned to me and asked "Can you imagine living with just four hours of electricity per day?" I feel a touch of irony as I wonder if I'd want that much, if there is sufficient reason to have it.

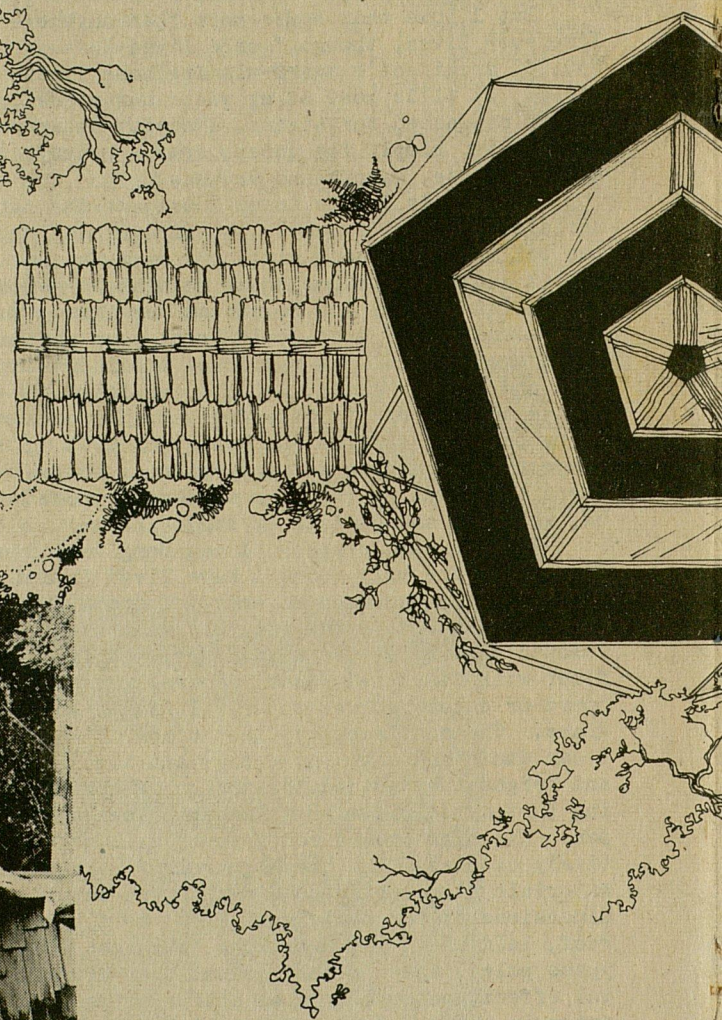
For many of us living in the country, our choices and decisions in building and using our structures are governed by an effort not to violate nature any more than we deem necessary to keep her from violating us. But we need not feel self-righteous. We are, after all, the ones putting up structures on virgin land. We are the ones building one room, one person structures that each demand separate heating and scatter the dwellings of just a few people over many acres. We are the ones who have the option of deciding what we want in our dwellings and which luxuries are mere luxuries. With such privilege some thoughtfulness, caution and self-limitation can hardly be considered an excess of virtue. ♀

mandala

I knew I wanted arches, and I walked through the woods thinking about how to make those arches. We even tried taking the centers out of logs for circles! Then we figured out that we could just put pieces of naturally curved branches together.



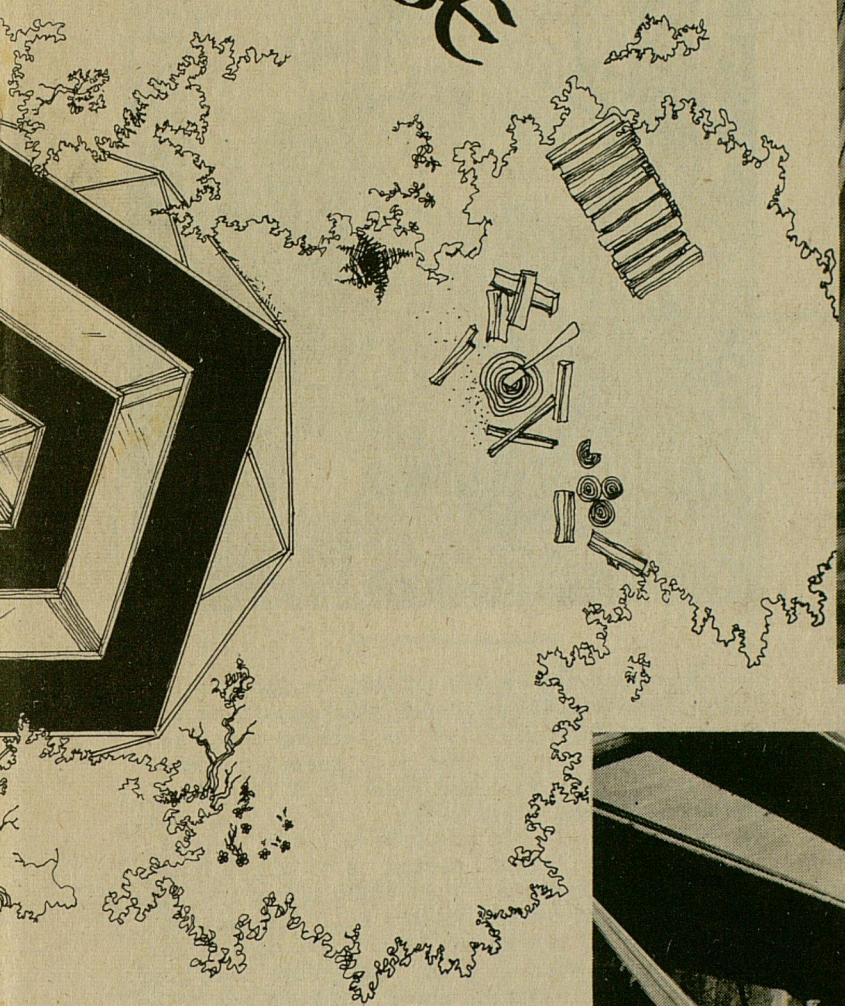
This house really does work like a mandala. Creating that feeling is what we put most of our energy into. The house as mandala tunes me in to structure beneath the everchanging structure of moments - the ever birth and death. More and more, inside, it works on me.



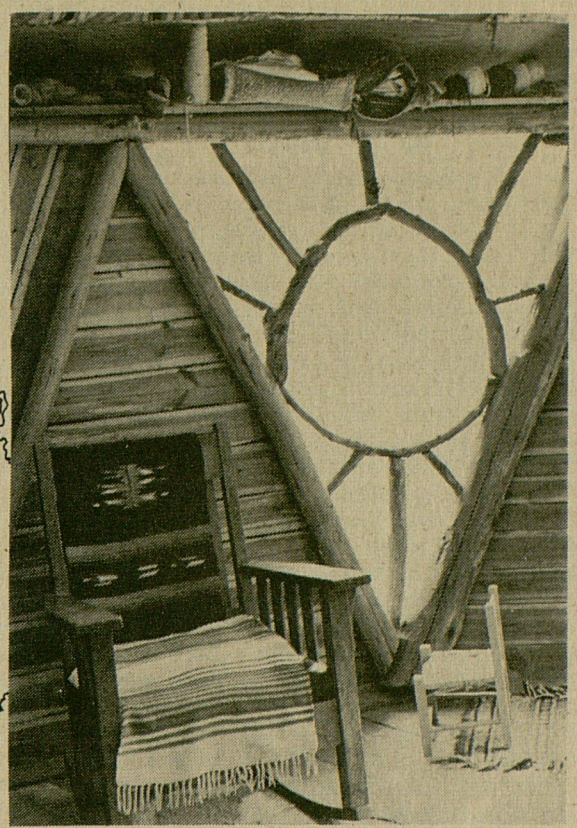
There are lots of ways to make a house, but there's no question about that. This partic the repeated circle that is open to the ligh that I was going to build round. I knew of from that. I think the igloo is beautiful; circle. It invites you in; it helps you ou

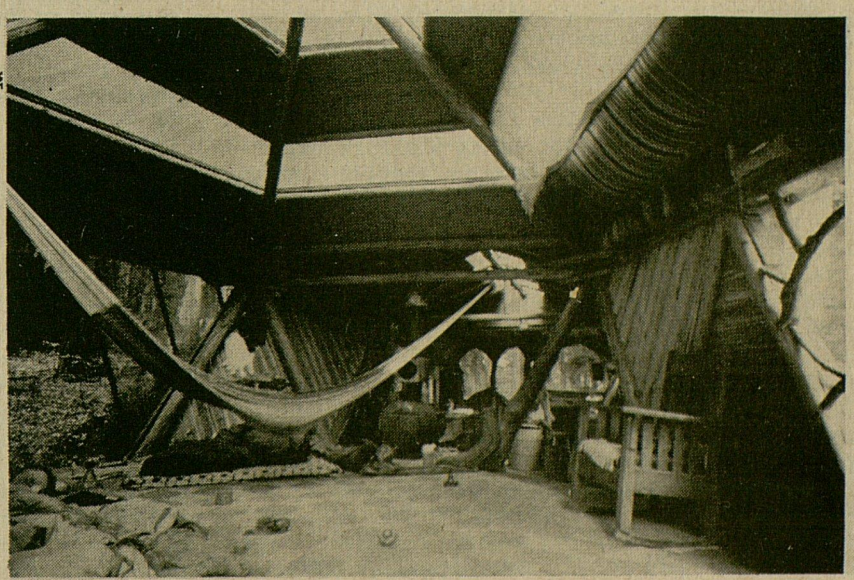
My daughter, Mountain Pony, called this hous the spiral shell and the entryway/kitchen i the loft in, it will be the head sticking u Living in the open tipi confirmed what I al the outreach.

house



I liked working with wood; I did some adzing and a lot of fitting. When we started putting it all together, each one of the walls was made by selecting from a pile of adzed wood that was ready. We picked every piece for how it looked with every other piece, and it took a long time. We spent a huge amount of that time collecting partially rotten logs, scraping the rot off, and making the good wood into boards using the hand adze.





the circle! The circle is good,
cular roof is important for that matter;
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the igloo. This shape comes partly
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se a snail house. The main room is
s the extended head. When we put
p a little, like snails sometimes do.
ready knew...the circle, and then

We started very slowly. I lived in a tipi and got a lot of feeling for that space; I wanted the house to work like that. The first time I came in here and realized that it really worked, I was so pleased! It was a good place to come into. It worked from the inside, and from the outside.

♀

a rose by any other name

Weather-silvered redwood walls with a hint of green moss, colorful postcard prints of Renaissance tapestry art, a panoramic view of the Pacific ocean...my own tailored modern house ? No, our shitter. And it never smells like a summer camp latrine.

Thoughtfulness and creativity can be applied anywhere, and a good place to start is an alternative to the white porcelain and tile bathroom. A toilet uses an average of four gallons of water for each flushing, water that needlessly becomes polluted by the sewage it carries. Whether you've just moved onto your land and need a temporary shitter, or you don't have or want to put $500-1000 into a septic tank (or about $2500 into a common American bathroom), a pleasant outhouse is easy to build.

To begin with, it can be a very simple structure, or even almost no structure. Basically, you have a hole in the ground X feet deep, and you need to cover it to keep it sanitary. Our structure is three sided, 4 feet by 4 feet, with a roof sloped from 7 down to 5 1/2 feet. It's 1" by 6" redwood plank and batten construction over a frame of 2 by 4's. Half of the inside is a box built against the back wall with a hole for a seat, and open underneath. We live in California where the weather is relatively mild, so we dug the hole on the edge of a thick grove of trees, and faced the open side of the outhouse towards the direction of least wind and rain. An adjacent sapling redwood gives some privacy but leaves a spectacular view of the coast. I really prefer this open design to the dark box of a four sided, sealed with a door, outhouse.

The simplest structure I know belongs to a friend who has a plywood or plank platform built over the hole, with a trap door on leather hinges, that you squat to use. Another neighbor's old family homestead had a two-seater outhouse, although I'm not sure how practical that was....

When you go to build the outhouse, there are several basic things to consider. First, be sure to locate it <u>below</u> your water source to avoid any contamination. Try to pick an area with good drainage. Next, the hole you dig <u>will</u> fill up, so think of the outhouse as an occasionally moveable structure, and build light. Make your design simple and then use the lightest materials that will work. For the outhouse to sit sturdily through the seasons, it may take two or three people to move it, but do consider relocation when you build. For instance, don't make sunken posts your main corner pieces. The building doesn't have to be completely watertight (especially if it's only three-sided), so it shouldn't be too intimidating for new carpenters. It's nice not to have puddles on the seat or snow coming through the walls, but it's not like a bedroom, either.

The seat can be any height, or non-existent. There is convincing evidence that squatting is the most healthy position, or barring that, to have your seat so low that your knees come above your waist. I have a bad knee, so I like the conventional arm chair height, but set your seat to suit yourself. If you have a lot of people in your family, a good design is to dig a long trench for your hole. Then build a box over the trench for your seat. As you fill one section of the trench, pry up the next board on the box and move your seat on down. Make sure that your seat has a well-fitting cover, to keep out flies or bees that carry germs.

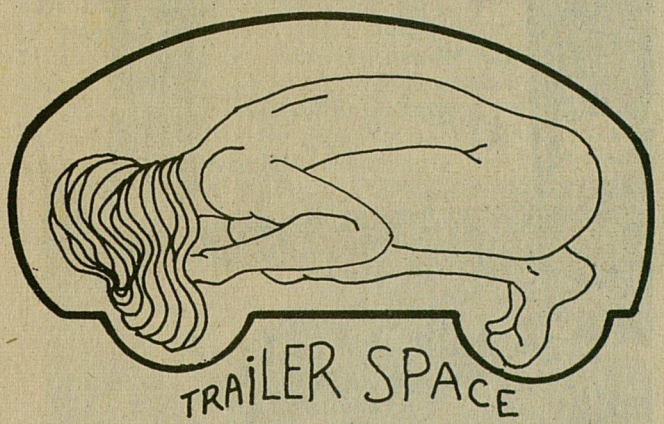
If an outhouse is working properly, the shit will be decomposing and won't smell at all. Decomposition works best in an alkaline environment. To develop that you should dump wood ashes (from your stove) down the hole periodically. Urine is very acidic and tends to neutralize the alkali, so whenever possible, don't piss in the outhouse. Our general rule is Piss Anywhere, as long as you're at least 15 feet from the house and not in the flower bed. We keep a roll of toilet paper by the front door. Paper, even toilet paper, fills the hole more quickly and slows down decomposition, so use as little as possible, or better yet keep a can in the outhouse to collect used toilet paper and then burn it in your stove. Tampons and sanitary napkins will also burn in a good fire, so don't put them in the

shitter either. I think it's a good idea to question some of our fetishes against bowels, but at the same time keep your outhouse sanitary. You may want to keep some disinfectant there for rinsing hands. Decomposing shit gives off heat, and all last winter we had a racoon who made a neat nest on the outhouse seat every night.

When your hole gets full (don't wait until it runneth over), pick a new location, move the structure and fill in the rest of the hole with dirt, covering completely. A 3 x 2 x 3 foot hole lasted a year for two people.

There is a more complex design for a bathroom or outhouse which takes advantage of all the nutrients in our manure and returns it as fertilizer. Ken Kern's The Owner Built Home has a good detailed plan for a compost privy. Directly under the toilet seat you build a chamber to collect the sewage, with ventilation pipes to carry off the gases. The decomposition produces enough heat that, combined with air-borne bacterial flora and protozoa, destroys disease bacteria. Powdered soybean or other enzymes can be used to speed up and deoderize the process. The resulting humus is removed by a lower access door, and provides high nitrogen fertilizer for your garden. Check Kern's book for more information and plans. Using human sewage may be illegal in your area, so check local codes before doing anything blatant.

Lastly, try thinking of your shitter as a real structure in your life, and build or decorate it to please you. We really do have Renaissance tapestry art on the walls of our outhouse, and we buy new art postcards to change the decor whenever our whim or mildew moves us. Next to my present one, my favorite outhouse was a seat with a roof set up on poles, no walls, in the woods on the edge of a basin overlooking the Cascade mountains. One commune built theirs into the center of a huge old burnt redwood stump--high charcoaled walls with a circle of sky above. Another friend bent thin sapling trunks with plastic to form a domed hut. Be as fancy or as plain functional as you want, just remember that it's pretty easy and inexpensive to take care of this basic need in the country.



The most important part of my life is my environment outside my structure. I realize this as I sit on the beach listening to the waves and leaning against the rocks, feeling almost as if I belong to this spot in nature which has endured centuries of wind and waves crashing. It's hard, while sitting here, to think about structures, walls, a ceiling and floor. All the openness is lost to a box, four walls, yet my room was always my sanctuary, a place I could hide and be myself. A place where my order gave me peace of mind, and my possessions gave me security. I left that world of large suburban houses and apartments and moved to the country. I've turned down more money, and in some eyes more security, to stay here because this is where I find a security and peace I've never found before in my life. This stronghold called nature has outlasted women and men for centuries. I marvel at the fact that most people come to this beach and stay inside their busses, campers or trailers. They find security inside their mobile structures. They have walled themselves in against nature and the unknown. Perhaps they are truly afraid to feel a part of the beach or woods because a love of nature means a lessening desire for material possessions.

It is easy for me to say this now as I enjoy the cold wind across my face, yet the reality is that I too have a structure, a place I retreat to when nature takes command of my environment, and it freezes or rains. My body then seeks a place of warmth and dryness. I have an aluminum shell, a trailer. The exterior is green and white. Only when our meadow was covered with snow did my trailer's shiny whiteness blend with the environment. Nature seems to try and cover all its wounds. It weathers wood and covers things with grass or snow. My structure is a shiny metal intruder amongst the woods. A more organic structure would be my ideal home. The cost of building was too prohibitive for that and the trailer affords us a warm, dry, instant home. It was also the only logical structure for us because we are only renters and if we move to another piece of land we will have an instant home to take with us. On our thin economic level a mobile shelter is almost a necessity for survival.

Although the outside of my structure is not organic, the inside has blonde wood walls and large windows which give me a feeling of being outside amongst the trees. I feel as if I am only a creature who has taken shelter inside a tree in the forest, and yet so few years ago I was inside a cold, private cell. White walls, windows looking onto or into neighbors houses, even watching an airport, all this was my haven and escape from the outside man's world. I know I will never live in a structure like that again, because it was a prison. Now I know my structure, however small or large, must feel organic. I must be able to walk from this shell into nature. There I am almost untouched by the world's destruction of life. I may live inside a metal structure, but my surroundings are so beautiful that I've found a peace in the structure of my life. Nature is my structure and holds me tightly.

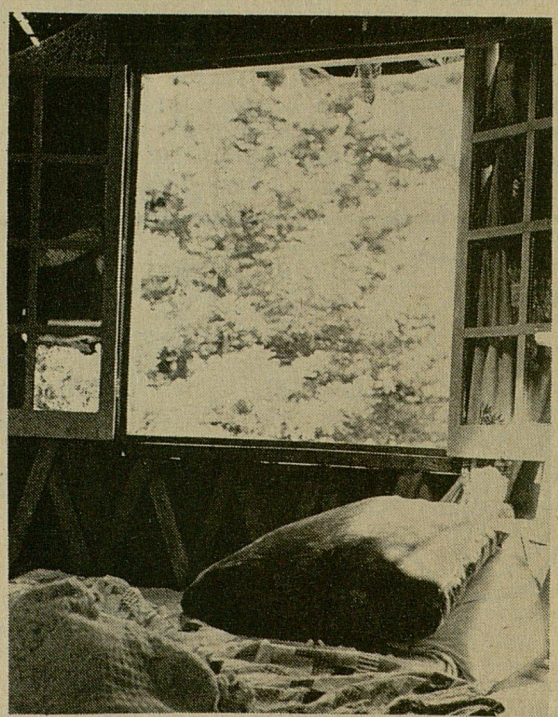
circling the sun

a yurt is a circle, boundless,
constant, changing, shining magic,
energy alive and flowing around
and around, spiraling high to the
skyhole where it becomes the sun,
the center, with light rays surging
around and down, all becoming one,
no beginning, no end.

I had always lived in cornered spaces, never realizing that I didn't fit until the yurt. A yurt is a very flowing and centered space. The energy lives in its natural form, constant motion swirling, no dead ends. I find my thoughts and spirit following the openness, continuing on and on, flying high, not being caught in the darkened silence of corners. A yurt has an ongoing life of its own. I am often surprised at its new face as I come down my path - sometimes comical and amused as though it has been playing, other times quite serious and solemn; or its absolute loneliness when I have been too long gone, and yet always the rushing of its magic to meet and hold me.

My yurt sits within a clear area on the top of a mountain; I look out my window to the coast 20 miles away. (It's best to place a yurt high up rather than down low as the walls lean out and make the windows face down.) I think that any other structure (besides the tipi) would look awkward here, out of place, out of touch with the life around it. The yurt is settled in easy, a giant toadstool grown out of the hillside. The simplicity of its structure are the laws of nature. The conflict I so often feel between the land and the buildings upon it, I do not feel about yurts and tipis - they are one with life's cycle, not apart.

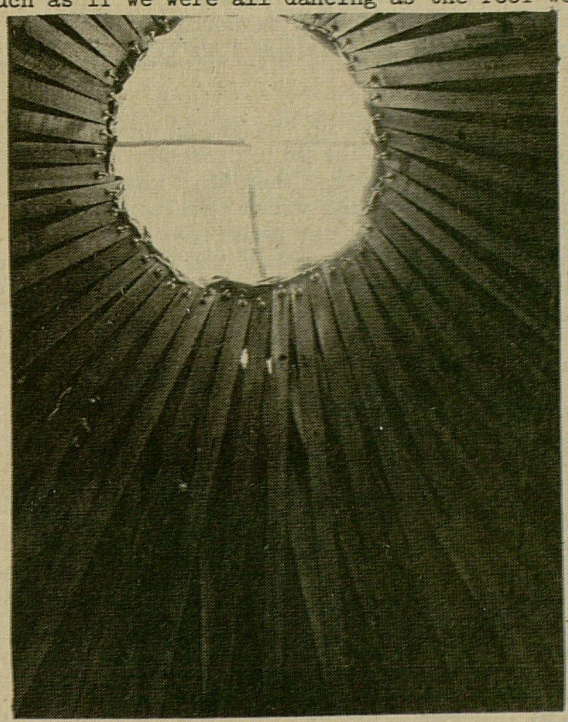
Because my yurt is built with only one-half inch of board between myself and the outside, and includes several windows, I feel a part of what surrounds me: the weather's many faces and the lives of plants and animals. What is without is also within. On sunny days, the yurt also shines; in stormy weather the rain thunders down and sometimes in. The wind roars through (hanging cloths and blankets stop this, as well as stuffing cracks with burlap). And in the spring I wake to the chatter of the birds who have built their nests under the eaves. It feels good to be so in touch, rather than shut away in comfort. It would be very easy to insulate and double-wall a yurt - I toy with the idea when beginning to



feel insane and cold with this choice of "being in touch". Yet I do not choose to turn away from the beauty of experiencing what I have been kept from for so long. (A good wood stove will keep you toasty and dry; it's when there is no fire that cold and dampness reign.)

I know of two types of yurts for which plans are available: the Coperthwaite (write Bucks Harbor, Maine) and the Dawes Hill yurt (Dawes Hill Commune, Box 53, West Danby, N.Y. 14896). I am a bit put off by the Coperthwaite yurt because I feel he has changed a basically very simple and pure structure into a professionally complex showpiece. The Dawes Hill yurt plans (mine) arrive in the mail in the form of nine mimeographed pages with basic information and steps to follow. It seems very much like a puzzle to be played with - it is very easily related to, taken in hand and rearranged; missing information left for you to figure out. (We spent many days sitting before the yurt trying to figure out how to cut and lay the plywood.) Your mind is opened and challenged rather than given specific directions to follow.

A yurt can be any size - mine is 14' in diameter; seemingly perfect for one person. I've heard of six foot ones and 40' ones; whatever you want, a yurt is basically created (it is created and not built) out of stickers which are 1" X 2" that you can get, cheap, at lath mills; knot holes are ok but don't use cracked or holey ones. You will also need 1/2" bolts and a 1/4" steel cable. The wall stickers are six feet long, the roof stickers, ten feet. The length of these varies depending on what you want. At each end of each sticker, a 1/2" hole is drilled for the bolts - this takes time as you drill hundreds of holes, but it can be very meditative work if you get into it. When this is done, the wall stickers are laid in a row and crossed over and bolted together, then walked around to form its circle and closed (the resulting pattern is beautiful). The cable goes around the top of these stickers and is actually what holds the yurt together. The roof stickers go up in pairs - at the top where they form the skyhole, they rest on one another, at the bottom they lie on the cable and are crossed until they all connect. I've heard that often when putting the roof stickers up, they fall; that it takes three or four tries. This did not happen with mine. It did start to go once, but we were able to pop it back into place (in the pamphlet they give you tips on how to save a crashing roof). This is basically the yurt. It felt and looked very much as if we were all dancing as the roof went



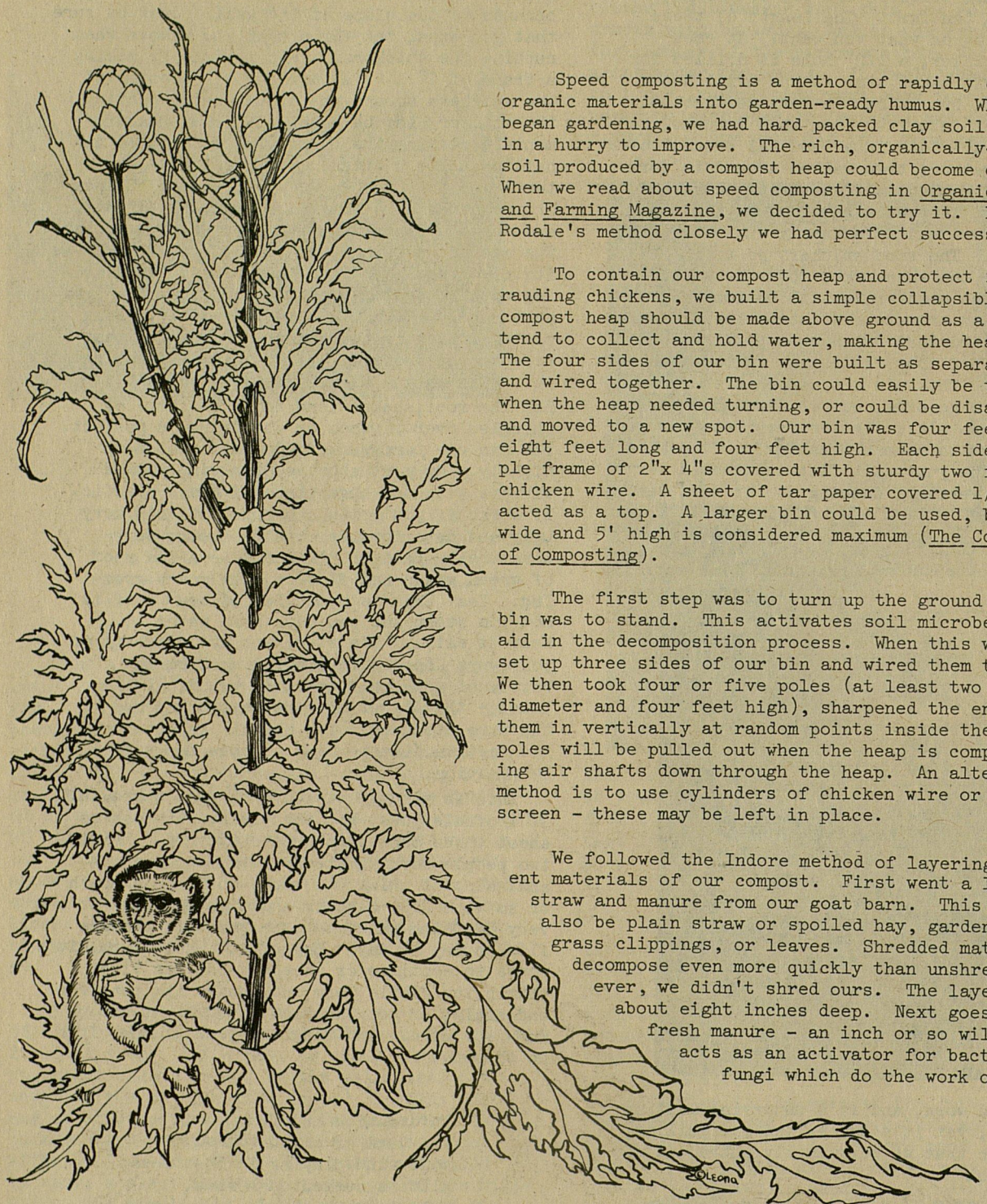
up. It's hard work, and it's unnerving waiting for the crash, yet it's so new and so familiar, real and basic that we were mostly entranced and we smiled a lot.

The other parts of a yurt are the foundation, windows and door, and its covering. My yurt's foundation is octagonal (that's if you want a floor; the first yurts were nomadic shelters upon the ground). It seems so fitting for a circle to rest upon an octagon, another magical shape. The frame and joists are 2" X 6"'s, resting on concrete piers or creosoted posts buried deep in the ground. This is relatively simple to put together; all cuts are 45° angles, and lengths of the frame are equal. Windows and doors can be as many as you want, and they can be square or rectangular. Again, its best to place windows high because of the slope of the wall. Just be sure that you equal the force that you remove when cutting the stickers. This is done by making a frame of 2" X 4"'s, nailing all crosses of the stickers around the future hole, cutting the stickers (do be exact with your measurements), placing the frame within the hole and nailing all cut stickers to the frame. I was terrified that the entire yurt would collapse around me as I made my first cut. It didn't, and won't - it is much stronger than it appears. The most perplexing part of the yurt for me was its covering. We did put up boards (used siding with battening) and it works, but the yurt rebels. Ideally, some incredibly strong cloth or hide is the answer. Something that accepts the slow turning instead of fighting it. (The Asians used yak hides and felt.) For the roof, shakes (see Women and Art) or shingles over plywood or sheathing is perfect. You can use tarpaper, folded and sealed up tightly. My yurt survived two wind-rained winters with one huge piece of black plastic. It works if you're in a hurry, but it's very ugly and deteriorates, besides being very unnatural. Best of all would be a sod roof of green grass and flowers with goats grazing. Yes! This is possible, if your roof is not too steep and you have some water to keep it alive. The steepness and overhang of your yurt depends on how far up from the bottom of your roof-stickers you drill the holes - the higher up, the less steep and the more overhang. The skyhole is about two feet in diameter and is open for your imagination.

This is a rough sketch of a yurt's growth. If it feels good, get the plans. It took us about three months to create my yurt. Mainly two people working steady but slow in snow and rain. I think you could do it in a month or so with good weather and high energy. It's a very exciting process to be part of; changes flow on day to day. Beyond its basic form, it's yours to continue or accept. You can live within its simple form and ponder its patterns endlessly, or you can seal it up tight and know the circle and total comfort as one. It's up to you.

information ends,
the dark of night surrounds
soft wind playing in the trees,
kittens curled up beside,
full moon overhead,
through the skyhole it glows and sings,
the yurt answers
with silver magic dancing ♀

SPEED COMPOSTING



Speed composting is a method of rapidly converting organic materials into garden-ready humus. When we first began gardening, we had hard packed clay soil that we were in a hurry to improve. The rich, organically-balanced soil produced by a compost heap could become our topsoil. When we read about speed composting in Organic Gardening and Farming Magazine, we decided to try it. By following Rodale's method closely we had perfect success!

To contain our compost heap and protect it from marauding chickens, we built a simple collapsible bin. A compost heap should be made above ground as a pit will tend to collect and hold water, making the heap too wet. The four sides of our bin were built as separate units and wired together. The bin could easily be taken apart when the heap needed turning, or could be disassembled and moved to a new spot. Our bin was four feet wide, eight feet long and four feet high. Each side was a simple frame of 2"x 4"s covered with sturdy two inch mesh chicken wire. A sheet of tar paper covered 1/2" plywood acted as a top. A larger bin could be used, but 10'- 12' wide and 5' high is considered maximum (The Complete Book of Composting).

The first step was to turn up the ground where the bin was to stand. This activates soil microbes which will aid in the decomposition process. When this was done we set up three sides of our bin and wired them together. We then took four or five poles (at least two inches in diameter and four feet high), sharpened the ends and drove them in vertically at random points inside the bin. These poles will be pulled out when the heap is completed, making air shafts down through the heap. An alternative method is to use cylinders of chicken wire or other fine screen - these may be left in place.

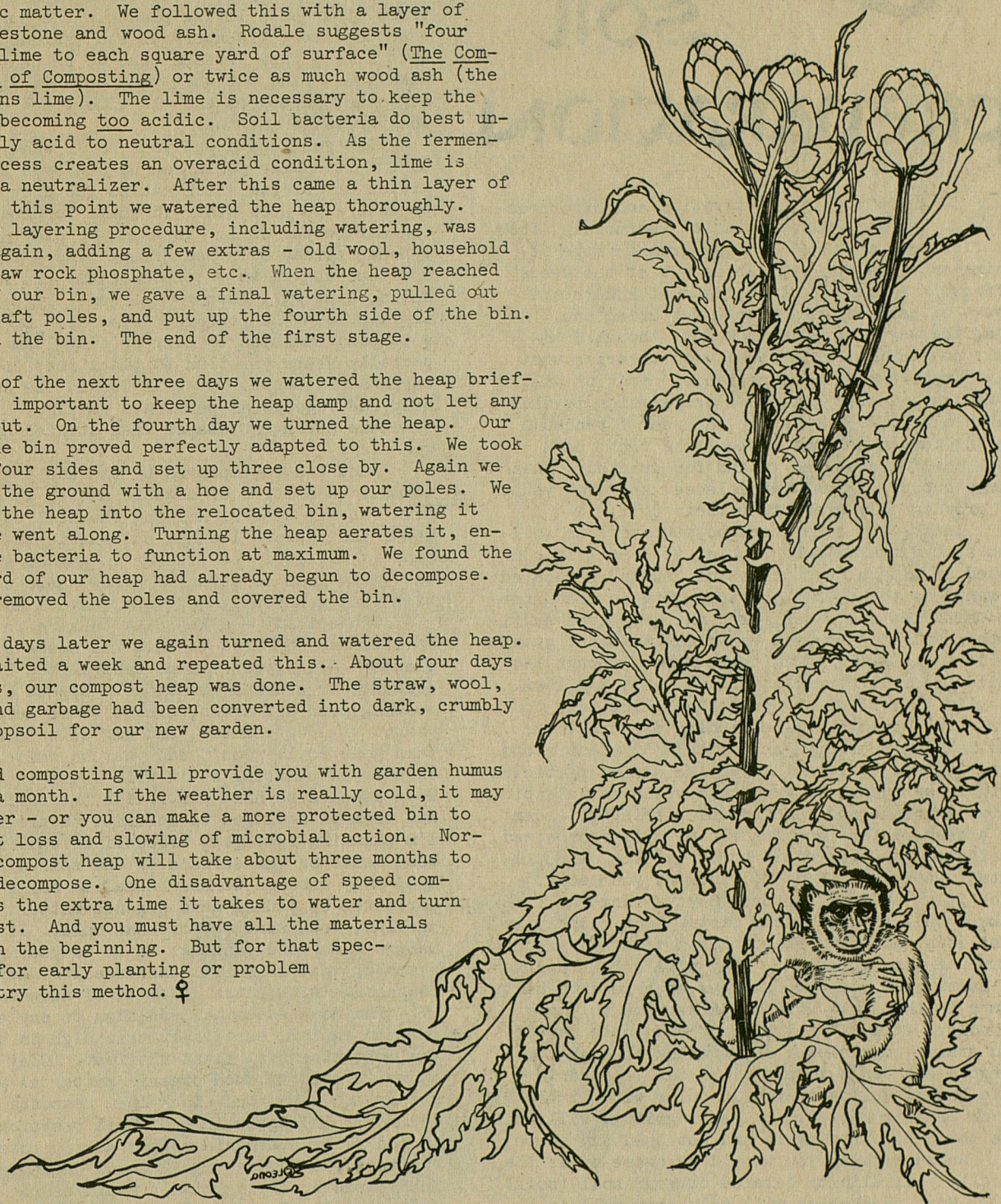
We followed the Indore method of layering the different materials of our compost. First went a layer of straw and manure from our goat barn. This layer could also be plain straw or spoiled hay, garden rubbish, grass clippings, or leaves. Shredded material will decompose even more quickly than unshredded. However, we didn't shred ours. The layer should be about eight inches deep. Next goes a layer of fresh manure - an inch or so will do. This acts as an activator for bacteria and fungi which do the work of decomposing

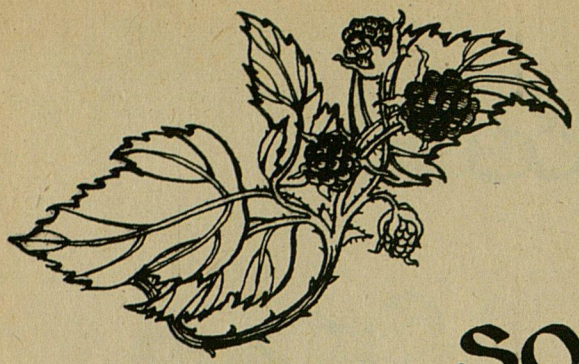
the organic matter. We followed this with a layer of ground limestone and wood ash. Rodale suggests "four ounces of lime to each square yard of surface" (The Complete Book of Composting) or twice as much wood ash (the ash contains lime). The lime is necessary to keep the heap from becoming too acidic. Soil bacteria do best under slightly acid to neutral conditions. As the fermentation process creates an overacid condition, lime is needed as a neutralizer. After this came a thin layer of earth. At this point we watered the heap thoroughly. The entire layering procedure, including watering, was repeated again, adding a few extras - old wool, household garbage, raw rock phosphate, etc. When the heap reached the top of our bin, we gave a final watering, pulled out the air-shaft poles, and put up the fourth side of the bin. We covered the bin. The end of the first stage.

Each of the next three days we watered the heap briefly. It is important to keep the heap damp and not let any part dry out. On the fourth day we turned the heap. Our collapsible bin proved perfectly adapted to this. We took down the four sides and set up three close by. Again we turned up the ground with a hoe and set up our poles. We shovelled the heap into the relocated bin, watering it well as we went along. Turning the heap aerates it, enabling the bacteria to function at maximum. We found the lower third of our heap had already begun to decompose. Again we removed the poles and covered the bin.

Four days later we again turned and watered the heap. Then we waited a week and repeated this. About four days after this, our compost heap was done. The straw, wool, manure, and garbage had been converted into dark, crumbly earth - topsoil for our new garden.

Speed composting will provide you with garden humus in about a month. If the weather is really cold, it may take longer - or you can make a more protected bin to avoid heat loss and slowing of microbial action. Normally, a compost heap will take about three months to properly decompose. One disadvantage of speed composting is the extra time it takes to water and turn it at first. And you must have all the materials on hand in the beginning. But for that special soil for early planting or problem gardens, try this method. ♀





soil preparation

I garden mostly by vibration and experimentation. My gardens have varied enormously, from my first 'put the seeds in the ground - hope it rains-and-fish the vegetables out of the weeds' effort to my last '17 truckloads of manure and hours of hard work and happy puttering' one. Along the way I've learned a lot, though I am only now beginning to label with theories what has come from actual experience. Most of all, I've learned that good soil preparation is what makes a garden. Not since the year I tended a meager garden in what looked like rich, dark soil have I taken the ground for granted. What comes out of it must be replaced, and even years of growing only grass take their toll.

Before you even start to prepare your soil you should take a good look at it. Soil is composed of mineral particles and "humus" - decayed organic matter. In the spaces between the mineral particles are water, air, and dissolved nutrients - all of which are essential to plant growth. Soils are classified in three types, though few soils are truly typical: clay, sand, and loam. Clay is made of minute particles which tend to bind tightly together, excluding air and water and keeping nutrients unavailable to plant roots. Sand is made of large, irregular shaped particles with large spaces between them which cause rapid water drainage and leaching of nutrients. Loam is a near perfect combination of different sized particles able to retain humus (source of nutrients), water and air. So, look at your soil. Pick it up and rub it through your fingers. Make a ball of it in your fist. Look closely at what it's made of. Clay soils are usually reddish brown or gray in color. They will stick together in lumps when you squeeze them or bake into hard lumps in the sun. Loam is dark brown to black in color, full of tiny bits of vegetable matter and grainy particles. It crumbles through your fingers and won't form a tight ball. Sand is pale brown, yellow or red in color with little or no organic matter. It feels gritty, will dribble through your fingers and not hold any shape.

Another thing you should be aware of is the acidity - alkalinity balance of your soil (soil PH). Most vegetables will only grow well in a neutral to slightly acid soil. Some (tomatoes) only grow well in a really acid soil and others (the cabbage family) only grow well in a slightly alkaline soil. You can buy soil testing kits to check for PH (the cheapest is $6.00 from Sudbury Laboratory, Sudbury, Ma. 01776). Or you can get soil litmus tape which will give you a general idea of your acid-alkaline range (from Perfect Garden Co., 14 E. 46th St, NYC, 10017). I've never used either but have relied on general local information. Soils that come from leaf (or pine needle) mold are acid in nature. (Leaves are acid in nature.) Acid soils also tend to attract other acid loving plants, like huckleberries, rhododendrans, blackberries and azaleas. Soils that derive from grasses tend to be neutral to alkaline. Find out what your soil is like by asking other gardeners and old timers and by noticing what grows in and near it.

Now you know about your soil, what can you do for it? Clay soils can be improved by the addition of calcium which causes the clay particles to adhere to each other in small "crumbs", helping aerate the soil. In alkaline clay soils, add gypsum, spread over the ground like a light snow and then dug in to obtain calcium. In acid clay soils, lime will furnish calcium. It's most readily available as powdered dolomite. Sand is also a helpful addition to clay or clay-loam soil, especially where you plan to plant root crops like carrots and beets. It will loosen the soil and help the vegetables penetrate easily. Carrots take the strangest shapes when stunted by hard pan clay!

Sand can be improved by the addition of enormous quantities of organic matter which will fill the air spaces, helping the soil to retain water and replace leached out nutrients. Pure sand is difficult to improve to garden standards. But sandy loam is actually a desirable combination when generously fed with compost and manure.

The acidity - alkalinity balance in any type soil can be adjusted to suit the needs of your plants. Acid soils can be neutralized by adding dolomite or crushed limestone. Spread a thin coating over all areas, except where acid-loving plants will be planted, and dig this in when you turn your soil. Don't add your dolomite far in advance of planting as it will leach in the rain. Wood ashes also help neutralize the soil and I add them in addition to dolomite to areas where I'm planting cabbages, broccoli or cauliflower. Wood ashes on the surface of the soil also help keep away cabbage worms. Alkaline soils can be corrected by adding acid organic matter: pine needles, wood shavings or leaf mold. If you add manure with wood shavings in it to your garden, remember that this will increase its acidity and compensate with extra dolomite if necessary.

The most essential addition to any soil is organic matter, especially that high in nitrogen, the most essential plant nutrient. Clay and sandy soils need as much organic matter as you can gather and even good black loam responds to nourishment. The basic rule of soil preparation is to add as much organic matter as you possibly can. Visitors who admired my 22 pound cabbages and 6 inch diameter beets, didn't realize that the real magic was in 17 truck loads of manure and not a green thumb. All your efforts before planting will be returned to you ten-fold by midsummer.

About the only way you can go wrong is by putting too much unrotted vegetable matter directly into your soil. It takes nitrogen to decompose anything; in this case, the nitrogen comes from the soil, robbing the plants. Green vegetable matter should either be composted first or worked into the soil several months before planting.

There are many fine sources of organic matter around you wherever you live. In addition to compost, you can add well rotted grass clippings and leaf mold, seaweed (an excellent source of trace minerals too), hulls and shells of peanuts, buckwheat and oats, stalks of any legume (very high in nitrogen), peat moss, and cottonseed meal. Many of these are available as by-products in agricultural areas. If you live near the coast, fish scraps and heads from the packing plants are wonderful fertilizer, buried treasure beneath your rows. Blood meal and bone meal are also excellent sources of nitrogen and other minerals, but they are fairly expensive to buy if you don't live in a meat packing area.

I am myself a manure fanatic. I think of my goats affectionately as speed composters. The corn stalks from the garden fed to them on Monday return to the garden as manure on Friday, a perfect symbiotic arrangement. Manure is high in nitrogen and is a good soil conditioner, but my love of it comes mostly from its ready availability. It takes a lot of collecting and effort to produce enough compost for a large garden. It takes time and energy to haul and dig in manure, but then you're done: rich, productive soil and "all" you've got to do is water and fend off predators. If you don't have animals of your own, you can often get manure from farms and stables in return for cleaning it out of their barns. Last year, three women friends and I cleaned a sheep rancher's main barn, hauling over thirty pick-up loads to our two gardens. It was hard, sweaty, satisfying work.

Manures are classified as either hot or cold. Hot manures literally give off heat as they decompose. They are also generally higher in nitrogen than cold manures. Hot manure shouldn't be put straight into the garden while still fresh as the heat can actually burn the roots of plants. Hot manure can be stacked in compost-like heaps with a hole down the center to let air in, or it can be worked into the soil several weeks before planting. Hot manures are (in order): chicken, horse, rabbit, sheep (this is borderline). Cold manures (goat and cow) can go straight into your planting areas. Once you're aware of the rules, you can always hedge a bit. I dug huge quanitities of sheep manure into my garden and planted ten days later with no problems. I've also added horse manure that was pretty fresh (heating up the pick-up bed) two weeks before planting and had the plants do fine.

Manure almost always comes mixed with straw or wood chips. This is nothing to worry about. In fact, they will enhance the soil and help break up clay particles. At first, I worried that the decomposing straw would rob the soil of nitrogen, but the manure seems to provide plenty for straw and plants too. I do try to make sure I use mostly manure with some straw mixed through. The

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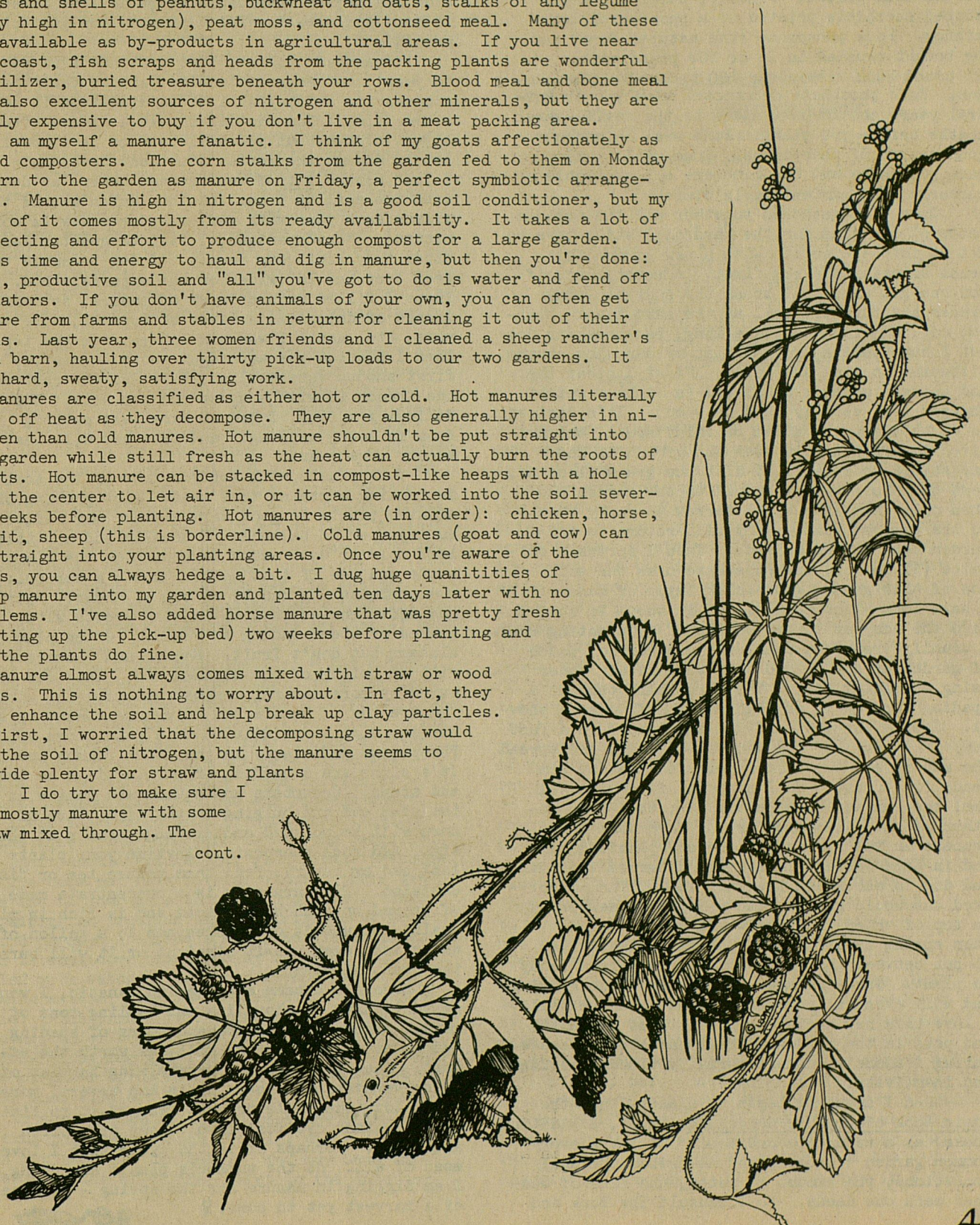

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parts of the barn that are mostly straw with manure mixed through, I save and use as mulch between the rows. That way, it has time to decompose slowly and will fertilize next year's plants

The other principal nutrient your garden needs is phosphorus. I was unaware of this and wondered why my vegetables grew so slowly in virgin soil garden. Finally, bulging tumor-tipped zucchinis pointed to a phosphorus deficiency. Rock phosphate (the natural form) can be bought crushed in 25 or 100 pound sacks. A 25 pound sack will cover 100 square feet of garden. Rock phosphate decomposes slowly over several years and is best added to the soil several months before you plant. Bone meal is another good source of phosphorus. Bone meal, gypsum, rock phosphate and dolomite are all available at nurseries and garden supply stores.

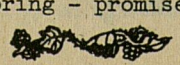
Once I've gathered together all the organic matter I can find for the garden, I still have to get it into the soil. With a new garden this means breaking the sod first. A rototiller, if you can get one, will break the sod into tiny pieces and turn the soil at the same time. Without one, clearing sod is a long, backbreaking job but I have learned to do it at my own slow rhythm, listening to wind and birds. First I clear the sod using a mattock or an adz (a lighter weight, sharper tool usually used on wood). It's easiest to do this after a moist or rainy spell, but not directly after a rain when the ground is heavy and sticks to itself. I lift the grass clods up, beat them to return the soil to the garden and then pile them in a wheel barrow to carry them to the compost heap. They will return to the garden next spring as soil. Then I sprinkle dolomite (if needed) and phosphate over the soil. On top of this goes a good thick layer of manure. If I have lots of compost, I add it too. If not, I save the compost to put on top of my planting rows. I usually prepare a small (8' x 6' or so) patch of garden at a time and then turn it all under using a spading fork. The dirt falls through a spading fork so it is lighter to lift than a shovel. I turn the soil and dig the manure in a foot deep if I can. By the time I've hauled and spread the manure and turned the soil in a patch, I'm ready for a rest. So I stop for five minutes, feel the sun and breathe the air; then I do another patch. Always before, I have done this process in the spring just before planting time and in some haste. This year, I turned the soil and dug in manure in the late fall. Then I covered the whole garden with a layer of newspaper on top of which is a straw and manure mulch. When spring comes I will push the mulch aside, to put between the rows, and have a garden ready to plant. The newspaper keeps weeds from growing and will eventually decompose and join the soil. I love this new cycle because it lets me putter and poke in the garden without haste or pressure during seasons which are normally times of dying and inactivity.

When I actually begin to plant, I use the Basic Book of Organic Gardening ($1.25, Ballantine Books) as a reference and tool. It lists every common garden vegetable and describes the soil conditions, the amount of water, the kind of weather each one needs. So I consult The Book and then adjust my soil to suit the particular tastes of each plant. For nitrogen lovers, I dig in extra manure. For root crops, a little sand. For alkaline fanciers, an extra dusting of my woodstove gleaning. For deep rooting tomatoes, a little encouragement: postholes two feet deep with fish heads and manure in the bottom. This book has proved invaluable to me as I've tried to more and more carefully provide for good plant growth.

Perennials (plants that continue from year to year) need extra attention paid to their soil preparation as they will be feeding from it for a long time. You can dig in extra manure after a year or two, but you will have to be careful not to damage the roots. For most perennials, I just work a lot of well rotted manure as deeply into the soil as I can and then mulch around the plants each year with very manurey straw (a cold manure). For asparagus, I went to greater lengths since they root very deeply. I dug trenches two feet deep and 18" wide for the asparagus bed. These I filled with a layer of manure, several inches of dolomite, a layer of topsoil, more manure, etc. until I was six inches from the top. Then I planted the asparagus roots. When the first shoots were well up, I filled the rest of the trench in with compost and top soil. The following spring, I had an excellent cutting from my young asparagus and this bed will last twenty more years.

Your plants will let you know if the soil is lacking anything they need. Slow growing or stunted plants in good warm weather may reflect an improper PH balance. I usually add a little leaf mold or wood ashes depending on the plant's taste and see if that helps. But I'm careful; overcompensating can be as bad as under. Nitrogen deficiencies show up in slow growth with leaves or stems fading to yellow. Often plants blossom but don't fruit. Squash and cucumbers will be pointy on the blossom end. This can be cured by more manure, compost and watering with "manure tea". Manure tea is manure soaked in water overnight then diluted to a pale brown color. Phosphorus deficiency is the other common one. It's signs are a reddish or purple tinge to leaves and stems. Cucumbers and squash are narrow at the stem end and bulging at the tip. Ears of corn will be pointed and missing kernels at the tip. Add rock phosphate. Anytime your plants look sad or hungry, feed them manure tea or fish emulsion. Fish emulsion is a concentrate made of ground up fish by-products and is rich in minerals. Dilute it one tablespoon to a gallon of water and never use it straight or it will burn the roots of plants.

Before I became a gardening fanatic, I wondered if days of shoveling and hauling tons of mucky, sloppy, wet manure and hours of spading and turning heavy spring soil was worth the effort. Then I reaped an overwhelming harvest of every vegetable I'd ever eaten and several more. Now I love the whole process from start to finish, this constant cyclical involvement with birth and death. Perhaps it is the cycle that I love most of all. As the summer's plants are dying, I am digging in manure for the spring - promise of a harvest yet to come. ♀



Pump Repair

The first time I ever lived with a pump, I lived with one that broke down often. I had only the vaguest conception of what a pump was, and no idea of how one worked, so each time it broke down I would haul it into a pump dealer to get it fixed. This meant hauling an 80 lb. pump up a steep canyon slope in one piece, as I was afraid that touching a single bolt might do irreparable harm. After one such trip, my (by now) friend the repairman said "You know, you really could do this yourself." And with that I began to learn how really simple a centrifugal pump is. Looking back now, it's hard to remember that state of being afraid to touch, but then for most people a pump is more alien than a car engine - something you've never seen before and have no understanding of.

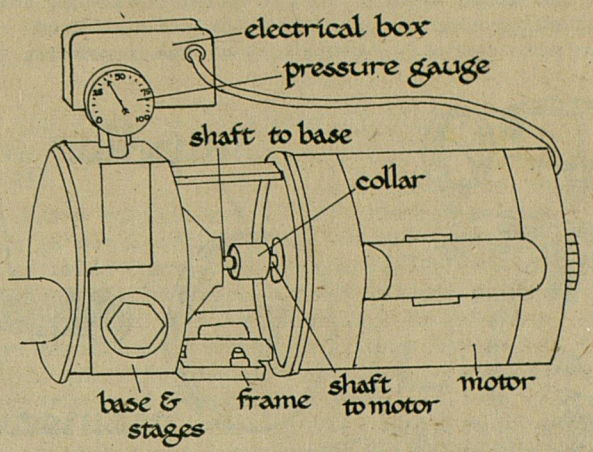
As with any other curative process, there are two stages to pump repair: learning all the parts and how they fit together and learning how to diagnose the trouble. I am still caught out sometimes tearing a pump apart only to find I had a vapor lock in the waterlines. It's not a tragedy to do so, pumps come apart and fit back together easily. But its a lot of trouble for no reason.

All my experience has been with Jacuzzi pumps so what I will describe is based on their design. Centrifugal pumps are basically the same, though, so you should be able to figure yours out if it's a different brand. Try if you can, to get an owner's manual from the manufactuer - that will a at least give you a diagram of the insides of your specific pump.

A pump has three main sections - the motor, the mounting frame, and the base. The motor is a simple electrical one composed of a large coil of copper wire. Out of it comes a steel shaft which drives the impellors. This shaft joins another shaft which comes through the base. They are joined in the center of the frame section by a "collar" which fits over the end of each shaft. The lower shaft goes down through each impellor in the base. When the pump is working properly, the shaft should spin easily with finger pressure.

The base may have several stages (there are from one to four on a normal house pump), each containing an impellor which whirls the water around through a narrow opening to create pressure. This is what does the "pumping". A pump must be filled with water to create a syphon (a natural sucking action); the motor then turns the impellor(s) which pushes the water out through a small opening, under pressure. The vacuum that would be created by the water being pushed out, is filled by more water being sucked in. Pumps are just about that simple.

To take a pump apart you begin by disconnecting the incoming and outgoing water lines; then you take off the motor. You may have to disconnect the electrical wires to the motor or



you may not, depending if you have a place to set the motor next to the base. I usually disconnect them since it's only a matter of turning 3 screws and then there is no danger of breaking the wires by dangling the motor from them. To do this, you follow the electrical cable from the motor to the electrical box on the pump. Snap the cover off the box and trace the wires that go to the motor. There should be 3: a white, a black and a ground wire. Before you touch anything, be sure you have unplugged the pump or turned off the fuse. Loosen the screws and remove the wires, then pull them free of the box. If you also have to disconnect your incoming electrical wires (if they are on a long line instead of a short one with a plug), make sure you remember which wires go where. Draw a diagram if you need to. Rewiring incorrectly can short out your motor.

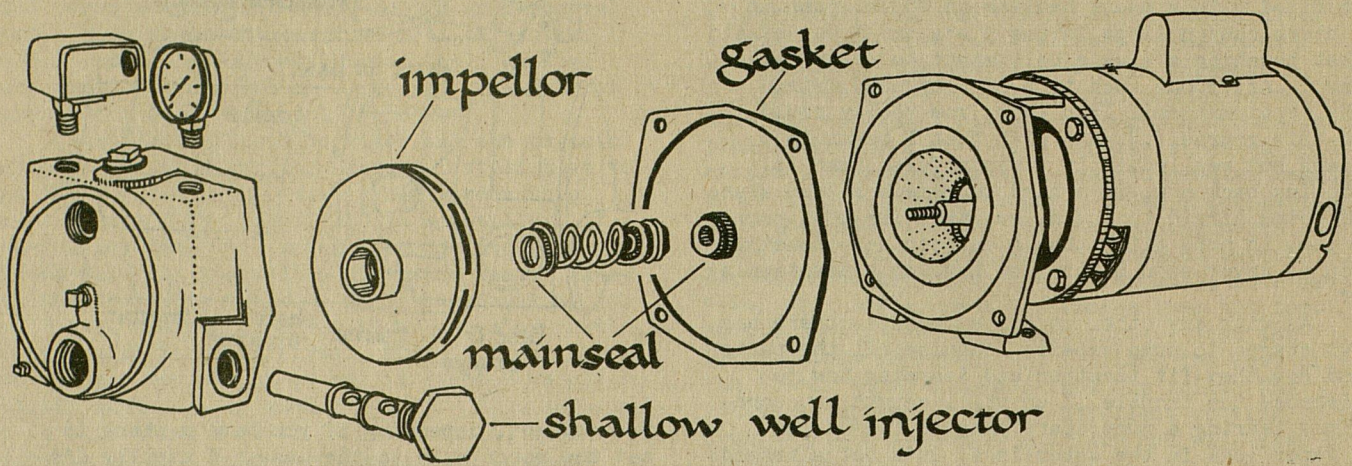
Next, loosen the four bolts that go through the frame into the motor. This should be done with an ordinary open-end wrench or a socket set. If you have to use a crescent (adjustable) wrench, do so very carefully. They don't fit perfectly on a bolt and tend to round the corners. Once these bolts are removed the motor will spin around but still won't pull free, since it is still attached by the collar at the end of its shaft. Set screws have concave heads and are loosened by hexagonal allen wrenches which fit down into them. Allen wrenches can often be found in those 99¢ each tool bins in hardware stores and it's nice to have a set on hand since nothing else will do their job. Turn the screws counterclockwise with the wrench until they come out, then slide the motor free from the collar and set it aside. (Be careful not to lose the set screws-they are small. Either put them in a tin

can with the bolts and main seal, or better yet, screw them back into the collar for safekeeping.

The next step in disassembling the pump is to remove the collar from the other shaft, again using allen wrenches. You may have to hold the collar with a pair of vice grips (it's round- a wrench won't work) to keep it from spinning while you turn the allen wrench. If your pump has been sitting a long time, these set screws may be rusted in place. If so spray them repeatedly with WD 40 or liquid wrench and work them gently with the allen wrench. To get added leverage, you may need to clamp another smaller pair of vice grips onto the allen wrench. Once the screw has broken free (started to turn), use the allen alone. Remove the collar when the screws are loose and set it and the screws in a safe place. (I should have mentioned before this that experience has taught me to disassemble the pump in some handy place like on a sheet of plywood or the living room floor. Hunting for set screws in 2 ft. of grass is not fun.)

Next, use your open-end wrench again to remove the four bolts which hold the frame to the base. These are actually studs - long bolts threaded only at the very end - which run clear through the stages and thread into the bottom of the base. Pull out the studs when they turn freely (don't force them, they'll slide out when they're completely unthreaded). Again, these may be rusted in place. You can spray WD 40 around the head but not on the threads, so all you can do is slide a pipe over your wrench for more leverage and try some more. If by bad luck the head of the bolt shears off, you should still be able to slide off the stages and then remove the stud using vice grips. Anyway, once the studs are out, the frame section will slide right off. Try to hold it and control it as there is a gasket between it and the first stage which you want to remove intact if possible. So, pull the frame loose gently, trying to either bring all the gasket with you or leave it all behind. Whichever side the gasket sticks to, you can then remove it by carefully using a knife. Try not to tear the gasket - they're replaceable and inexpensive, but sometimes hard to find.

Once the frame is off, the inside workings of the pump will be exposed to view. In fact the main seal may literally pop up at you. It is held in place against the bottom of the frame by a compressed spring which is released when the frame is removed. The main seal has two rubber rings on its upper (motor side)edge and the seal itself, a rubber and hard plastic ring. The rubber edge goes up against the bottom of the frame; the carbon and rubber end of the spring presses against the plastic. The repair man warned me to be careful with the seal as the carbon can crack, but the only time I've ever had trouble with a seal was when I put it in upside down (plastic first). This was a week after I taught a class in pump repair and my pump shot off like old faithful four times a day. I waited to fix it until I had a new seal, but when I took the pump apart again, I found the old seal in fine shape despite it's ordeal. So be careful with main seals, but don't be intimidated by them.



On general principle, I keep several gaskets and a new main seal in the house as a standby kit. These are the things most likely to need replacing when you take your pump apart. It's handy to have them around when the nearest store is 20 miles away and there's often a 3 day wait for parts on a new model pump. Gaskets cost about 60¢ each. If you ever get stuck, you can cut your own out of a sheet of cork gasket material (from an auto supply store). Just be sure to buy the same thickness. I've never yet needed a new seal for this pump, but my old one blew seals regularly (we ran it at too high a pressure). I guess I just keep one around as a good luck omen (they cost $3-5.00).

Below the seal, you'll see the impellor threaded on the shaft. This is a round thin (3/8" aprox.) disc of plastic (most likely). It's not very impressive. I kept looking for airplane propellors. The impellor threads onto the shaft with a nut that is cast into its center. A socket wrench is the best tool to loosen the impellor with, since you have to get down in at the nut. Hold the shaft with vice grips so it won't turn. If your impellor is plastic, this nut will begin to round at the edges after several times of being taken off and put on. Be as gentle as you can. Plastic impellors also get chewed up really easily by sand or dirt. If for some reason you have to work on your pump often (twice or more a year) or your well or spring tends to silt in, you may want to replace the plastic with brass impellors. They last a lifetime.

Once the impellor is off, you can lift off

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that stage of the pump to expose the next impellor. Between every stage is a gasket, so follow the same precautions as above. When you have removed the last impellor (if you have a one stage pump, the impellor; there is nothing to lift off), the pump is apart. The only other thing you may want to loosen is the shallow-well injector (if you have one) which is usually plastic and threads into the side of the base section,near the bottom. It has a rubber gasket, is made of plastic and also gets easily chewed up or clogged by dirt. It, too,can be replaced with brass. The rubber gasket occasionally wears out. They cost about 20¢

The pump goes back together the same way it came apart, in reverse order. The shaft is the only tricky part. First the impellor goes back on. Tighten it down with the socket under easy hand pressure; don't strong arm it, you'll crack the plastic. Then put the gasket onto the edges of that stage using non-hardening gasket sealer. Get the right stuff; Permatex in a tube says it's non-hardening but it works like cement. Line the holes in the gasket up with the bolt holes in the stage and make sure there are no tears or wrinkles. Repeat until you have put on the last impellor. Slide the main seal onto the shaft (right way, please!) and then set the frame and the last gasket into place. Some pumps are reassembled the other way; main seal, impellor, first stage, impellor etc. until the last stage goes on the shaft. Follow your owners manual or look to see how yours fits together. It will be obvious.Slide the studs into position, start them turning by hand (always do that with a bolt to make sure it's threaded straight). They should turn easily. Tighten with a wrench, using a good strong turn but no super efforts. Gaskets are made to be snug but not smashed and loosening that too tight bolt will take four times the effort putting it there did.

Now, the shafts. The set screws go through the collar into a notch that runs the length of each shaft. They tighten up against this notch but don't thread into it. You need to have them lined up right so you don't damage the threads. Either do this by eye (peering through the holes in the collar) or by setting the screws part way, sliding the collar around the shaft until the screws slip into the notch, then tightening them down. To make it easier to take apart next time, I always smear a little grease on the notch and on each set screw. The collar should sit as far down (towards the base) on the lower shaft as it will easily; don't push. Next, set the upper set screws part way into the collar. The impellors and main seal work by being suspended in the pump by the upward pull of the shaft. To do this you have to pry up on the collar until you get the shaft from the motor fastened; after that, the motor will hold it up. This is best done with two people. One takes two large screw drivers and pries up on the collar (about 3/4"). The other turns the motor shaft until its notch lines up with the set screws, slides it into place and tightens down. Make sure the collar spins easily beneath your fingers when all is tight and you don't hear the impellors scraping. If you have a leak in the main seal or hear an impellor rubbing when you have the pump back together, you can usually fix it by raising or lowering the position of the lower shaft.

Before tightening down the bolts for the motor, notice which direction the frame is facing. One side of the frame is flat for the pump to rest on. Make sure neither the air vents nor any protrusions from the motor are towards this flat side. The shaft will spin so you can turn the motor to any position. Tighten the bolts to the motor, reconnect the electrical wires and the pump is back together. Reconnect the water lines, prime the pump by unscrewing the priming plug and it is ready to run.

NOW - HOW DO YOU FIGURE OUT WHAT'S GONE WRONG AND IF YOU REALLY DO NEED TO TEAR IT ALL APART?

First of all, get to know your pump when it's in good working order. Know at what pressure it normally turns off and on. You can tell if it is within the normal range by looking. Know how it sounds when it's running. Know what a free moving shaft feels like. Know how warm (cool) the motor feels. Make friends with your pump and it will serve you well.

Pump problems come in two types - sudden catastrophies and chronic problems. Chronic problems (too low a water pressure, gravelly noises in the pump everytime it runs, not pumping enough water etc.) happen when you don't connect the pump up properly in the first place. In general, make sure you have enough electrical current to the pump, you are not sucking over 25' in depth, your pipes are the right diameter for the pump. Country Women #8 describes in detail how to set up a pump. This article restricts itself to sudden catastrophies.

Decreasing water pressure is usually your first warning of a pump breakdown. There are others. You walk outside and see a geyser shooting up from your water line; (the horse stepped on it). You turn on your faucet and get no water at all. You hear your pump running constantly. You do a routine check on your pump and notice the motor is over heating. And there must be more - the kinds of things that can happen to pumps (or any other machine) defy imagination. Anyway, as soon as you notice trouble, do something about it. If you have the slightest suspicion that the pressure is low, check it out.You know what pressure turns your pump on; if the gauge is below that something is wrong. The first thing to do once you think something is wrong is to close the valve from your pressure tank to your water lines. That way you can't drain all the water out of your tank if you have a leak. If there's a valve between your tank and your pump, shut it too. Then turn off the electricity to the pump. Now, you can calmly proceed to isolate the problem.

If your pressure is dropping or you have no pressure at all, check for two subconditions:

A The motor runs but there is low or no pressure.

This means the motor and the pump sound normal but you're not getting pressure in your lines. This is most likely a leak in

the system some where. If it is at the pump, you will probably have found it already. The main seal or a gasket may be spraying water. This usually happens if you are running the pump under too high a pressure. Whatever is leaking will have to be replaced. (The main seal sprays around the shaft, a gasket out the sides). Or you may have a leak in the pump itself. This is caused by ice inside the pump cracking it. If you're lucky it will be just the frame section which is relatively cheap; if not, you may have to replace one or more cracked stages and impellors. You can buy new parts from a dealer. An unusual freeze caught most of N. Calif. unprepared last year and there was a month backlog for parts from the factory. My frame cracked then and I tried welding it together but it never really sealed properly. When parts were available again, I had to replace it. To prevent a cracked pump: insulate your pump house or box, keep a light bulb or other heat source near the pump during a freeze, leave a faucet runing at night and change the pressure setting so the pump runs more frequently and can't freeze. If you can't find a water leak on or near the pump, start tracing the lines. If they are buried underground this will take some time. You may have to leave the pump running so enough water will flow out the leak to soak the ground above it.

Most other causes of <u>low</u> pressure are chronic ones. If the motor has loose connections or isn't getting enough voltage, it won't be up to speed, and pressure will be low. If air is getting into the suction (intake) pipe, pressure may also drop. Check for cracks in the pipe and to make sure the bottom of the pipe is completely submerged in water. If the impellor is partly clogged with dirt or other foreign objects (leaves, twigs, tadpoles etc), pressure may drop but usually it's so clogged the pump isn't working at all. Try to eliminate all other possibilities before you take the pump apart for a supposedly <u>partially</u> clogged impellor. (One good but not foolproof check is to open up the priming plug and look at the water: is it muddy or cloudy? and to take out the shallow well injector - is it dirty or clogged? This will help you to decide whether to take it apart or not). A fine film of rust is normal on interior pump parts; don't be confused by it.

B <u>The motor tries to run and can't or is hot and not running and there is low or no pressure.</u>

Usually this subcategory means you can hear the motor whirring and shutting off immediately or clicking off and on. The hot motor situation is included here because it's usually a variation on a clogged pump, not a broken motor.

If the pump is trying to run and can't, something is stopping it. If the temperature is below freezing and your pump is inadequately insulated, suspect frozen impellors and hope you caught it before it cracked. Turn everything off and expose your pump to sunlight or other heat. When the pump and lines have thawed, turn it back on and see if your problem is solved. If you can't thaw the pump, open the priming plug so the ice has an undestructive passage, keep the pump as warm as possible and turned off.

If the weather is above freezing you have most likely clogged your pump or run it dry. First check your well or spring for signs of either. If the bottom of your pipe is suspended in mid-air the pump is dry and you must wait for the well to recover; reprime the pump (making sure to get all the air out--see below). If the bottom of the pipe is resting on the bottom of the well <u>or</u> if you can feel that it is in watery sand or silt, the pump is probably clogged. You can also check the priming hole and the injector as mentioned before. If the pump is clogged, take it apart and clean each impellor, each stage and the injector. If any are chipped or damaged, replace them. Remove the suction pipe and clean it out. Then either shorten its length or dig out the spring or well or both. Usually with both these problems, the motor will be trying to run. However sometimes it has overheated so badly, the safety mechanism is keeping it from running. If it is hot <u>and</u> not running, you usually have a clogging or air lock problem. Hot and running motor or a motor that is not running and cold are different problems.

Unfortunately, diagnosing the problem isn't always easy. You may have checked and found no sign of clogging and a low but not dry water level and still the pump won't run. It is possible that the well has run dry without your noticing (while you were at work or because of the stored water in the pressure tank), had time to refill it - self before you realize something is wrong, and left the pump or water line air bound. Last summer I had a pump that wasn't running and no sign of a dry well. I decided it must be a clogged pump, tore the pump apart and found nothing was wrong. I put the pump back together but put the seal in upside down. Then I had a geyser so I tore the pump apart again and put the seal in properly. It still ran real erractically until I realized there was air blocking the suction line! And I never should have taken it apart in the first place. (From such experiences do we learn!) If your well is low enough that it may have gone dry, check this out <u>before</u> you take the pump apart. Open up the priming plug and pour water into the pump, keep doing this with the plug open to try to let air bubbles escape. Then close the plug, open the pressure tank valve (s) and turn the pump back on. Leave the nearest faucet wide open. Manipulate manually so it goes on and off (pause one minute), on (two minutes), off. This works air bubbles into and through the pump to clear the line. To operate the switch, open and close the points with a small screwdriver. The points (located in the electrical box, below the contact

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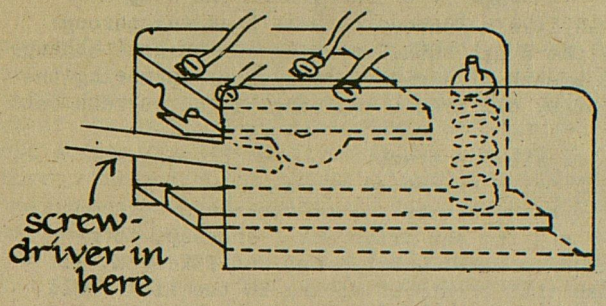


plate for wires) are at the end of a thin strip of metal resting on a spring. You will hear them click open and shut and the motor will start and stop. If water sputters out your faucet, that's a good sign. It may take a long time to clear the line. Continue until the pump will pump in one long, normal quiet run. If this doesn't help you'll probably have to take the pump apart to look for other problems, but don't forget the possibility that there is still air in the lines when you have it all back together.

C The motor won't run at all and is cold.

Usually this is a simple electrical problem. Check first to see if a fuse has been blown or if there are any loose or dirty connections in the electrical box (turn off power before you touch the wires). Then check the points. Make sure they are clicking open and shut, look to see if they are dirty or blocked (a friend once found an earwig between her points). Your points may need to be replaced; on some pumps this means a whole new electrical box.

Check to see if the spring is exerting pressure on the points. It is rare except on old pumps, but occasionally the pressure switch goes out and the points can't close. The switch consists of a rubber diaphram which expands and contracts with the water pressure in the pump. When the pressure gets high the diaphram expands, compressing the air above it which pushes the spring up and opens the points (stopping the motor). When the diaphram contracts, the spring drops closing the points and starting the motor. If the spring breaks or the diaphram has a hole, the switch quits working and the pump either won't run at all or runs until it blows a gasket from excess pressure. It is easy to check a broken spring - look at it. To get at the diaphram, you unscrew the pipe which holds the pressure switch. But try not to do that unless you have eliminated all other possibilities.

The other reason for the motor not running is a problem inside the motor itself. Turn the power off and then remove the top of the motor (it screws or bolts on). Check to see if the wires to the electrical box are securely connected. Look at the large coil of copper wire inside the motor. It should be shiny and metallic. If it is black or burnt, you may have shorted out the motor. Don't be confused by paint sprayed over the whole pump at the factory. At this point, you've either found the problem or need someone who understands electrical motors.

D The Motor and Pump Run but the Motor Overheats.

Again the problem is most likely electrical. Are you running at the right volts (110 or 220) for your pump? Are there enough amps available for the pump on that circuit? Most pumps need 20 or 30 amps depending on the motor size; a pump should be on its own circuit. Is your electric line heavy enough to carry the current? Volts are lost over distance if the wire is too small (12 gauge copper for 50-100 feet, 10 gauge for 100 to200 ft if you have 110 volts, 14 gauge for 220v. up to 200 ft). Are all your electrical connections tight and clean?

Also check to make sure the air vents in the motor aren't blocked by insulation, or clogged. If you have mounted the motor wrong, the vents may be blocked. Take the lid off the motor, if necessary, to make sure they are clean - I once had a family of field mice build a home in my air vents.

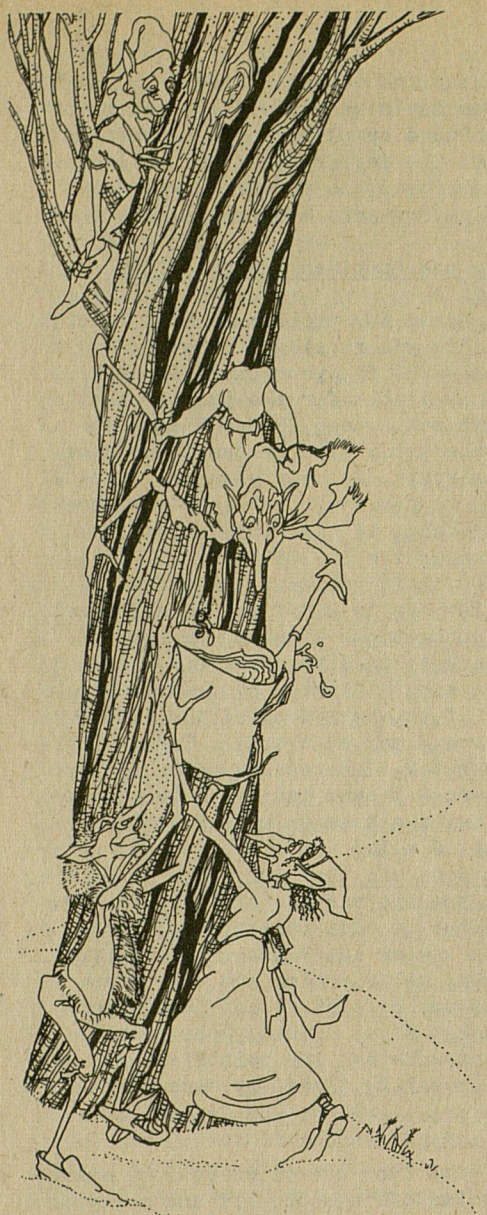
And last of all:

E The Pump Runs all the Time

If it's running and the pressure is low, or never enough to shut it off, you have a break in the system some where. If the pump literally runs all the time and pressure continues to build, shut it off immediately before a gasket blows. Either your pressure switch is not working, the points are stuck shut (possibly jammed by some foreign object), or you wired the pump wrong. Check the points and the wiring first.

If your pump runs everytime you use water or keeps turning off and on, off and on, your pressure tank is water logged. This means the air cushion inside it has been dissolved into the water and run out of the tank. To restore pressure, you have to drain the tank completely, pump more air into it with a bicycle pump and then refill it. (For a permanent solution, see Country Women #8. This situation is very hard on your pump and will lead to other problems, so fix it.

These are all the things that can happen to a centrifugal pump. Of course there are variations (what can you get between your points?) but the basic problems are simple. Mostly requiring logic and common sense to trace. Repairing any part of the pump is also very simple, though it helps to be prepared: have basic wrenches and gaskets on hand, check you pump regularly and watch your water level. Don't take your water system for granted. Some sunny day when you're feeling good and have some extra gaskets, take your pump apart. Get comfortable with it so fear won't stop you when you are trying to cope with a water crisis. And who knows, after a few minor catastrophies you too may be the neighborhood pump repairwoman! ♀



maple

Maple-sugaring was like a fantasy to me: trudging through the deep snow, out to the sugar bush, carrying our buckets and our spouts. The faintest breath of spring in the air. Hammering the tiny spouts into the huge, old trees, and hanging the buckets onto them.

Who ever thought of milking trees?

I felt like an elf in an enchanted woods.

How could anything be so simple? Just tap a tiny bit into the flesh of the trees and the sap drips out. The sap, to my great surprise, looked like water - not brown and sticky at all - and it tasted just like that breath of spring in the air: cold and clear with a hint of sweetness. So that's how those trees do it - grow so tall and clean and strong. On this I could live for hundreds of years.

Then as the sap dripped and the buckets filled, we hitched up our horse to the sleigh, collected the sap into a huge tank, and hauled it down to the sugar house.

Making the syrup took great patience. Learn from the trees.

And it took great amounts of sap - from tree to bucket to sleigh to sugarhouse to vat - to make a small amount of syrup.

Keep boiling and boiling to distill that hint of sweetness.

Stoke the fire, pour in more sap, watch the clouds and days go by.

The facts are fuzzy, the impressions strong to me. (It was a few years ago that I sugared.) But with some careful thought and some help from other New England veterans, I can give you the basics. If you live in maple-sugaring country (NE United States and SE Canada) and have time and energy come early spring, go get some tips from people around you who have done it, and try it yourself. It's really a fine experience, and the maple syrup you'll make is, needless to say, delicious.

The Trees

The tree used for sugaring is the sugar maple. Logical. You can tap both hard and soft maples, but the hard will give you more and better syrup. The sap is the life-blood of the tree. Taking some of that sap won't hurt the tree, but take great care not to overtap (more on that later).

In the early fall the leaves turn color as the sap withdraws from the extremities of the tree to the trunk and roots. In the winter the life process slows way down. As the spring approaches, the sap gets moving again and rushes back upwards to the extremities to produce leaves and new growth. There are a few special weeks in the early spring when the weather is balanced just right for maple-sugaring: when the nights are below freezing, but the days are above. The sap runs only when the temperature is between 32° and 50°, and it is dependent on thaws - both the general thawing that is spring, and the daily thawing caused by the temperature hovering back and forth around 32°. This is it. Tune yourself to the weather. Feel for that hit of freshness, that surge of energy within the trees.

The first run of sap is the finest; it makes syrup that is light and sweet. As the days grow warmer the leaf buds begin to expand, and the sap becomes "buddy". It is slightly tinted, tastes a little bitter, boils heavier. The syrup from this sap will be less delicate, funkier. The sap in the buckets will ferment faster. As the leaves begin to form, the sap will stop running.

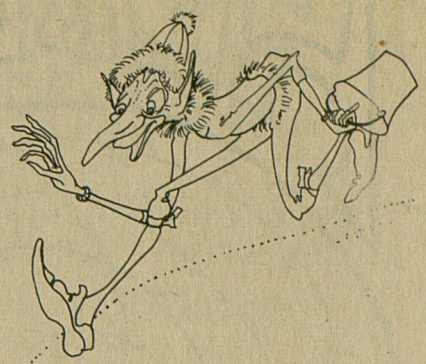
The Sugar House

Before sugaring season begins, your procedure for collecting and boiling the sap has to be worked out. Hopefully you have a sugar bush, or grove, available to you. If your maples are scattered here and there, far away from each other, the process of collecting the sap and transporting it to where you are going to boil it down will be more difficult.

The sugar house is basically a shack containing all the necessary apparatus for making maple syrup. It should be located within easy access of the trees to be tapped. We had our sugar house a distance from the sugar bush, but downhill from it so that our horse could easily pull the sled, carrying the tanks of sap, down to it.

To make maple syrup you have to boil and boil the sap until most of the water evaporates from it. It takes approximately 35 quarts of sap to make 1 quart of syrup, but the ratio can vary greatly from year to year and tree to tree. The simplest method (as well as the most inefficient and time-consuming) for making syrup is to boil the sap in a big kettle over an open fire. The

SUGARING



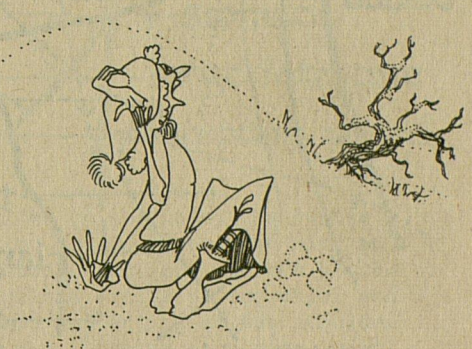
more efficient method is to use what's called an evaporator. An evaporator is essentially a rectangular fire box, or "arch", open in the front for stoking and with a stove pipe or chimney rising out of the back. The top is open, but the low flat sap pans fit down across the top to close it off, making a very simple wood stove. There are all levels of sophistication in evaporators, from funky home-made (like ours) to huge manufactured jobs used for commercial production.

Our evaporator was relatively small, about 3' x 6', with two flat 2'x 3' pans. The "arch" was made out of cinder blocks, with a smoke stack out the back. The pans sat on the blocks, and had spouts at one of the bottom corners for draining off the finished syrup. Consult local sugar-makers for how to get pans and other useful sugaring equipment, and any tips on making a good evaporator.

Cut a lot of wood! It takes a lot of boiling to get that sap down to any worthwhile amount of syrup. Make sure to have enough holding tanks for the sap you expect to get, and storage cans for the syrup you expect to produce.

The sugar house is for housing the holding tanks, the evaporator, and you. Make room for you to sit comfortably, protected from the weather, while you boil and tend the fire. It's going to be a long process.

Tapping The Trees



The actual tapping of the trees is simple. Bore a 1/2" hole in the tree, anywhere within easy reach, with a 3/8 or 7/16 drill bit. Then drive in the spout. The spouts are metal, 3" long, tapering towards the end that goes into the tree. On the other end is a hook for hanging the sap bucket onto. The spouts should fit tightly into the hole to exclude air and so as to remain secure even when holding a full bucket of sap. If the bark of the tree is dense, chip some of it away so that the spout can get a good grip in solid wood. Hang a bucket on each spout. Put a lid on each bucket to keep out snow, rain, and excess dirt.

Don't put a spout into an old tap hole: the old hole, in healing itself, forms harder, less sappy wood around it, so the sap won't run as well from there. Look at each tree to make sure it is alive and old enough to be tapped. Don't tap trees under 12" - 15" in diameter; they are young and need their sap to grow. You should put only one spout in a tree 12'- 18" in diameter, two spouts in a tree 18"- 24", three spouts in a tree 24"- 32", and four spouts in trees larger than that. If you take care not to overtap any tree, they shouldn't suffer in health or growth from your use of them.

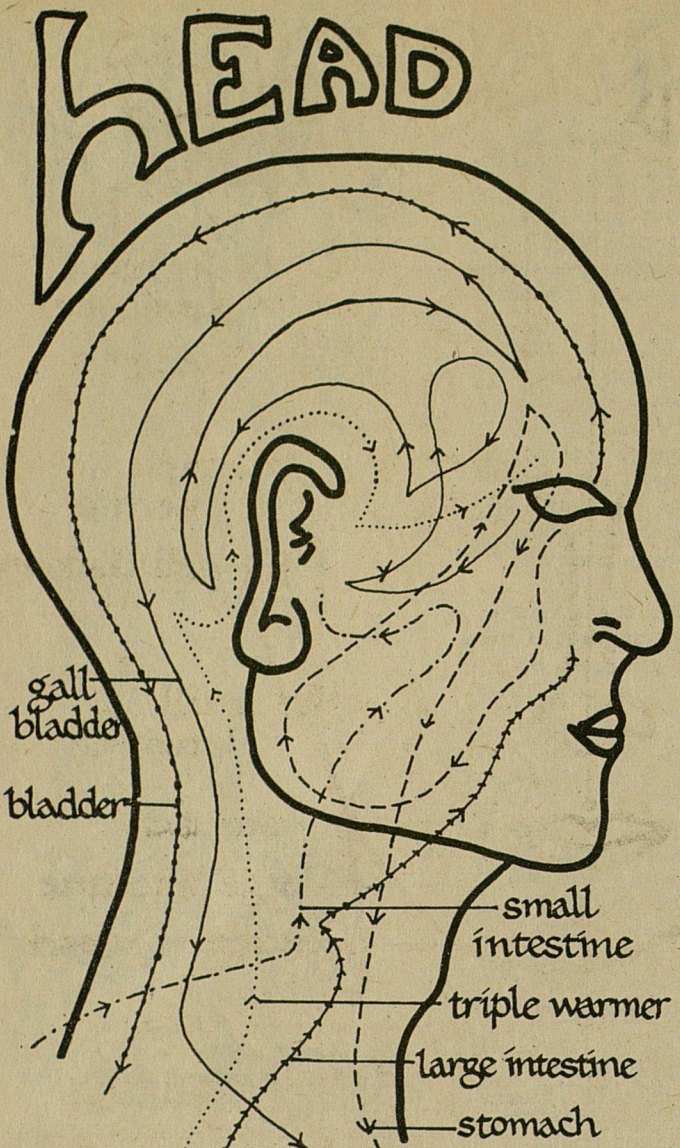
The sap drip-drips out of the trees. You may get anywhere from 1 to 15 quarts a day from a tree when the sap is running.

Making Syrup

Boiling begins when you have enough sap stored to produce a quantity of syrup. Start up the fire. Fill the pans with an inch of sap. Keep the fire steady: too hot a fire will scorch the syrup and make it boil over (Very Messy); too slow a fire will darken the syrup and affect the flavor, as well as lengthen the whole process. Add more sap as it starts to thicken in the pan. If everything goes right, the first batch will be ready to be drained off in about an hour after it has started boiling. It will be thick and brownish. As you are draining, pour more sap into the pan. Watch when the syrup that is draining gets thinner and shut the valve. Filter the syrup through a piece of flannel, and either pour it directly into its permanent containers hot, or wait and store at your convenience. Syrup stores well, but nonetheless tastes best when it's fresh. If mold forms on the top of stored syrup, just take it off. It doesn't affect the syrup at all.

If the syrup is cooked too long it will tend to crystallize; if taken off too early it may ferment. There are testing devices you can buy to tell you when it's ready, or again - ask an experienced neighbor how they tell. Clean the sides of the pans periodically with a wet cloth. Foamy scum that will form on the surface when boiling the sap should be skimmed off.

Depending on how much syrup you want to make and how good a year it is, you may spend a few days or a few weeks intensely involved in the process of sugaring. It's a great process - in its sense of immediacy and excitement, in its hearkening of spring and new growth, and in its production of a delicious natural food. ♀



Instinctively, we give ourselves massages all the time. It's our bodies' way of self-protection and self-healing. For instance, we rub our eyes when we're tired or when we've first awakened. This stimulates the bladder, the brain and the reproductive organs. Brushing your hair stimulates your digestive system, your brain and your circulatory system. I'm sure that the old "brush your hair 100 strokes" practice had more to do with massaging and stimulating the scalp than with shiny hair--although a healthier head of hair and a brighter, more alive day are beneficial results. People also tend to scratch, rub, or even pull on their hair when they are tired, angry or deep in thought. Often we rub our nose when puzzling something through, or scratch behind the ears. Watch yourself and see how often you massage yourself, from the simplest yawn to a more aggressive head shaking. Jot down where it was and look at a chart to see what you've stimulated.

Self-massage is our way of stimulating different meridians in the body.

To give a head massage you'll need 1) a quiet, warm space 2) a pad or padded table for your friend to lie down on (for self-massage you should sit comfortably) 3) a blanket to keep the recipient warm and 4) some massage oil--a few drops of oil go a long way on most faces, with perhaps a few drops added when you get to the neck and ears.

Before the massage try to relax. Empty your mind of all thought. Concentrate on your breathing pattern, slowing it down to a nice relaxed cadence. Imagine all tension leaving your body with every exhalation, and love and happiness replacing it with every inhalation.

Have your friend lie down on the pad or on the padded table. Cover her with a blanket leaving her head exposed. Stand or sit so that you are facing the top of her head. Hold it with your palms on her forehead, letting your fingers extend down the temples. Close your eyes and think of white light entering the top of your head, and flowing out your hands and surrounding her body. You may not see or feel this light at first, but with practice, you may find it easier to visualize. Pause for a few moments and break by stroking the forehead with the palms away from the center, towards the temples, as if stroking away all surface tension. Then stroke lightly over her eyes, cheeks and chin. Return to her forehead and, applying pressure with the thumbs, massage away from the center in either direction along the hairline to the temples. End there with a small circular motion. ↺ to calm, ↻ to stimulate. Return to center but slightly lower, and repeat this pattern until you reach the eyebrows. Bring your palms back to the center of her forehead and stroke down the sides of her face with your thumbs, stroking downward on the nose, under the nose. and ending at the chin. Shake out your hands.

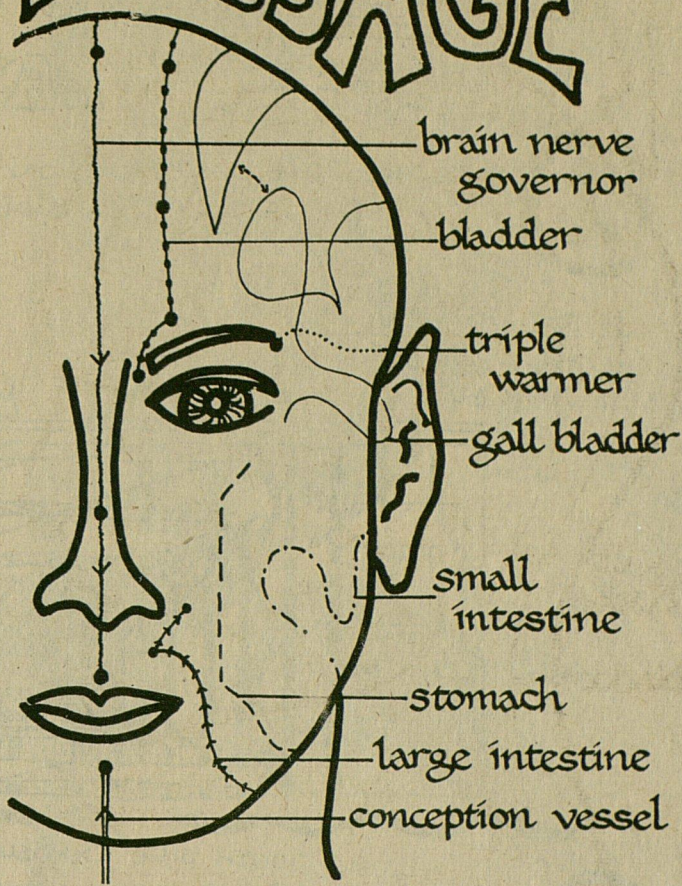
Next, run your thumbs over both eyebrows and lightly over both eyes moving away from the nose. Continue this soothing stroke two or three times lightly, shaking out your hands at the end. Shake one hand at a time, so you don't lose contact with your friend.

With the tip of your thumb or your forefinger (careful of fingernails), press on the inside rim of the eye socket where it connects with the nose. If this causes her pain, gently ask her to inhale deeply and apply pressure on the exhale. Ask her to imagine the pain leaving with the exhalation. Continue this pattern, moving along the upper rim, then returning to the nose and continuing along the lower rim. This helps clear sinuses and digestion, which are heavily interrelated. After finishing the eye sockets, repeat the eye soothing and face soothing stroke.

Now, start to massage the cheeks with your thumbs, starting under the eyes near the nose and continuing out towards the ears and down along the jaw. Repeat the pattern, going lower each time until you reach the upper lip.

Next, place the fingertips of each hand along the lower edge of the cheekbone. Have your friend inhale, and press or pull up deeply on the exhale. Repeat 2 or 3 times. then run

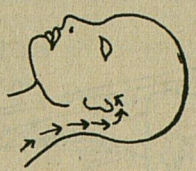
MASSAGE



your thumb along the cheekbone line. Shake out your hands after a few strokes.

Massage the lips with a gentle lifting/pinching stroke, moving away from the center. Massage the area around the lips with a small circular motion, applying pressure with your fingertips, and moving around the lips and down towards the chin.

Next, massage the chin with your thumbs, pressing first downwards and then up along the jawline towards her ears. Then hook your fingers under the jawline and have your friend inhale. Pull up, pressing deeply on her exhale. Repeat 2 or 3 times. Then run your fingers up along this line, moving from the chin towards the ears, and press gently 2 or 3 times. Shake out your hands.



Now lift her head gently and turn it to one side. Run your hands in a slightly pulling motion up the neck and around the ear. Repeat several times. Next, begin to massage the ear and around the ear with your thumbs and fingertips, starting at the top and working towards the lobe. Pull up on the top of the ear, out on the side, and pull down on the ear lobe. To create happiness and serenity, trace the spirals of the ear with your index finger, ending by pressing on the inside. Shake out your hands. Then run your hands up the neck and around the ear again, this time moving down the face with a light stroke. Repeat, but change direction, going up the face, around the ear, and down the neck.

Start a neck massage by stroking your hands in a pulling motion from the shoulder, up the neck, towards the ears. As one hand is ending the stroke the other hand should be starting the next stroke, so there is a continuous motion. Repeat 4 or 5 times. With the head still tilted, move your fingers in slow circles from the back of the neck to the hairline. Then, pressing more gently, do circles down the side of the neck, from just below the ear lobe to the collarbone. Repeat this several times.

Now go again over the neck in a light pulling, soothing stroke, going around the ear and down the face. Repeat.

Next massage the scalp, rubbing with your fingertips. Press hard, moving your hands in tiny circles. Cover the entire side of the scalp, then run your fingers through the hair, close to the scalp, and pull on the hair. This shouldn't hurt, but usually does; it's good for indigestion and hangovers. Pull hair in this fashion along the entire side of the head. Shake out your hands. Lift your friend's head and turn it gently. Massage the other side of the face and head.

When you have finished, lift her head and turn it gently face upwards. Using the fingertips of both hands, lightly tap the face, working from the center of the forehead to the chin and covering the whole surface of the face. Now, with a limp wrist, lightly slap the neck and scalp. When you have covered the entire surface, repeat the gentle pulling stroke, moving from the shoulder up the neck, around the ear, over the scalp, and down the face with an open hand. Alternate directions between starting at the shoulder and ending at the chin, and starting at the chin and ending at the shoulder. Do this over and over, lighter each time, until you break contact. Shake out your hands, then place them palm downwards on the forehead, and lightly stroke down toward the temples, then over the eyes, cheeks, nose and lips, ending at the chin, as if stroking away any remaining surface tension.

When you have finished, hold your friend's head in your hands. Close your eyes and again think of white light entering the top of your head, going out your hands, and surrounding her whole body. Break contact, and go wash your hands in cold water. This helps dissolve any accumulated negative energy.

After a head massage it's a good idea to hold your friend's feet in your hands and do the same white light channeling. If you have the time and energy, do a foot massage. If not, a few minutes of holding and perhaps rubbing helps polarize the energy flow in the body by drawing some of the energy back to the feet.

Touch is one of our basic ways of communicating. Massage is one way of touching. It can be used to help soothe and calm one another, to heal by transmitting love. Talk to your friends about starting a massage collective that meets once every week or two, where you can share this trust and love through touch. ♀

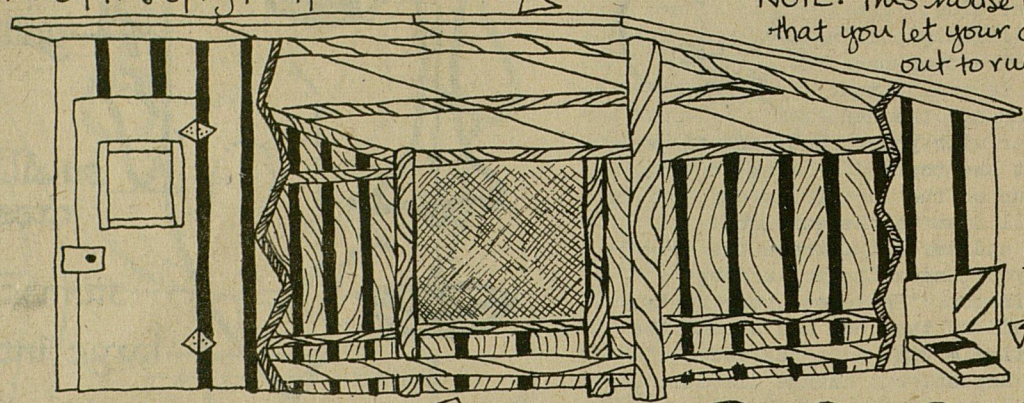
THE VERY BASIC CHICKEN HOUSE FOR 25 LAYING HENS

1 SHOWING POLE CONSTRUCTION AND BOARD & BATTEN SIDING

ROOF: 3 sheets of plywood (4'x8') covered with roll roofing

OVERALL DIMENSIONS
FLOOR AREA: 10ft. x 7ft.
HEIGHT: 6 ft. sloping to 4ft.

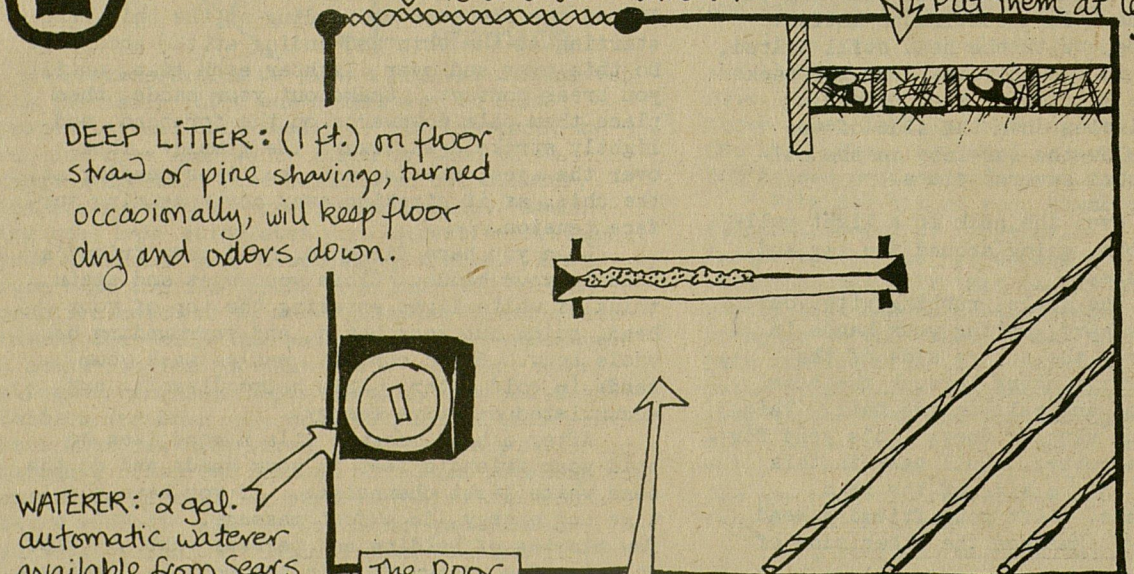
NOTE: This house presupposes that you let your chickens out to run for part of the day.



The chicken's door

SOUTH SIDE EXPOSURE is very important for light and ventilation. This is a chicken wire window.

2 A BIRD'S EYE VIEW



RAISING BABY CHICKS

No puzzle at our farm: the chickens came before the eggs. One of our first orders from our new Sears Farm Catalog was for twenty-five Plymouth Rock chicks (steady layers of good size brown eggs). They arrived lively and healthy in a cardboard carton at our post office - tiny, fluffy yellow Easter card specials. The beginnings of our chicken flock. Raising those chicks was another learning-by-doing experience. Five years and hundreds of chicks later, we're still learning, but we know some basics:

Buying Chicks: We fancied our farm incomplete without a few solid, sensible hens scratching around the barnyard and a rooster to crow us awake. Most people won't part with good laying hens and we didn't want to buy commercially raised pullets - so we decided on day old chicks. These can be ordered from Sears or Montgomery Ward, bought at a local feed-store, or ordered from hatcheries. You have your choice of buying "straight run" or 95% pullets. Straight run chicks are unsexed, and will usually be about 50% hens (pullets) and 50% roosters (cockerels). If you eat meat, this is a good way to simultaneously start a laying flock and raise some healthy meat. If you just want a flock of laying hens, buy 95% pullets. You will probably end up with one or two roosters out of every twenty-five chicks and if you want fertile eggs you'll have to keep one rooster for every twenty or so hens.

Some places sell only debeaked chicks - others will debeak your chicks if you request it. The end of each chick's beak is clipped short, supposedly to keep it from pecking at and harming its companions. We have never bought or raised debeaked chicks and have never had any problems with pecking, so the practice seems unnecessary and ugly. Debeaking also makes it difficult for the chickens to peck and pick up grains.

There are many breeds of chickens and each breed has certain characteristic coloring, body type, egg type and production, and so forth. There are dual purpose breeds such as Rhode Island Reds and Barred Plymouth Rocks. These are heavy enough birds to be good meat sources and are also good layers (their eggs are large and brown). White Leghorns are a lighter body type and more suitable as strictly layers (their eggs are large and white and they are prolific). Bantams are small, hardy birds that lay small eggs. They are excellent at hatching and raising chicks (many of the heavier types of chickens have been bred so intensely for egg production they've lost their chick-raising abilities). There are innumerable "fancy" breeds of chickens with distinctive feathering-mops and flounces and beautiful coloring.

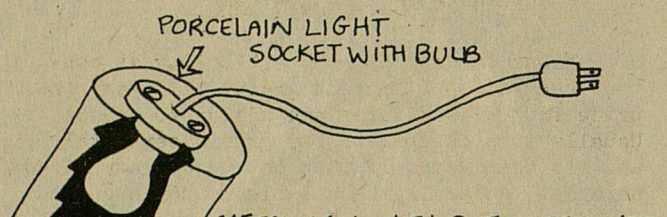
How many chicks to start with? Her first laying season a hen will usually lay an egg a day in good weather and drop to one every other day in winter. In winter she will also take a month or two off to moult (lose one set of feathers and grow another). As a hen gets older, her egg production will drop off some or become erratic. But unlike the commercially kept "egg machine" chicken who is kept at top production with medicated feed and total confinement (and burns out in about a year), a healthy farm hen will lay well for three years. You can either buy enough chicks for your own needs or buy enough to produce surplus eggs to sell. If you keep twice as many hens as you need, you can usually sell half your eggs (even at below store prices) and make enough to pay for all of your chicken feed. Don't buy more chicks than you can adequately house-overcrowding will encourage disease in your flock.

If you're buying chicks at a hatchery or feed store, make sure they look alert and healthy. Pick up each chick gently and check its rear end-it should be clean and fluffy. If the rear around the vent is wet, sticky or soiled, don't buy that chick. It is sick, either from being chilled or improperly fed, or with a disease. You should think twice about buying any chicks from that batch. Diseases in baby chicks (and

even older poultry) are usually highly contagious and often fatal.

House of Brooding A mother hen is the ablest baby chick raiser. She will keep them warm under her feathers, protect them from predators, and teach them to forage for food and drink water. When they're old enough, she'll teach them to fly or hop up to roost. And finally she'll let them fend for themselves. If your chicks were hatched from Sears, you'll have to fill in on all these matters.

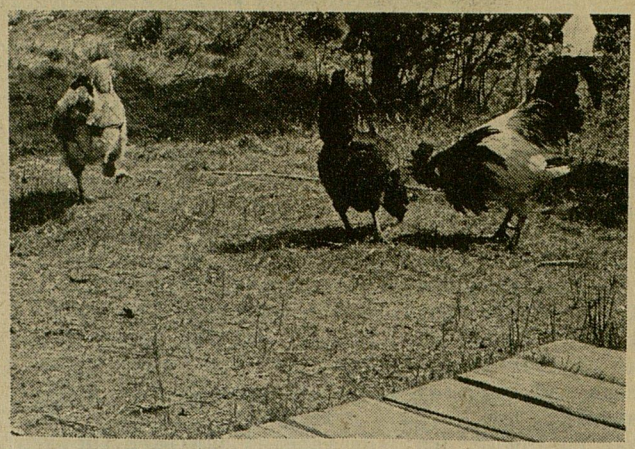
One common brooder is a metal canopy with curtained edges and a heating element inside. The chicks can go under it whenever they get cold and should probably be confined under it their first few days. If you have electricity to your outbuildings, a brooder can go in the corner of your chicken house or in any protected room. Brooders are about $30 (more for larger ones)-or you could look at the design and build one yourself. Kerosene-run brooders are also available. You can also buy brooder bulbs of various types ($5 to $13 in price) and build your own brooder.



If you want your house alive with chirps and feathers and want to really see your chicks grow--raise them inside! A simple cardboard box with wire top is perfect for little chicks. The wire top will keep cats out and chicks in. The box can be easily replaced as the chicks grow--and a new box for each batch of chicks will help prevent disease. Line the bottom of the box with newspaper and change it daily. Wood shavings or shredded straw can also be put in as litter. For warmth you can use a small reflector lamp over the box. These are inexpensive-- or can be handmade.

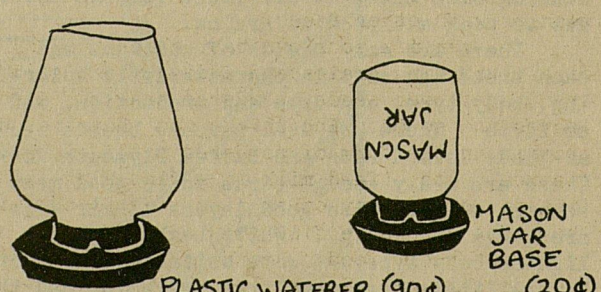
Choose the wattage of the bulb according to the room temperature, size of the reflector, size of the box, and number and age of chicks. Very young chicks kept in a fairly small box usually need 75-100 w. bulbs. As they grow their feathers and can keep warmer, you can cut them down to a 50 or 25 w. bulb or move them to a larger box. Chicks that are too cold will huddle together in a corner and crush or suffocate one another. This piling up is noticeably different from their normal sleeping close to one another.

If you don't have electricity, you can keep the chicks warm by placing them near the woodstove, or put a large jar full of very hot water and wrapped in a towel in the center of the box. This will have to be replaced in the middle of very cold nights. A double-walled box insulated with straw (stuffed between the walls) will also help to keep them warm.



As the chicks grow, their downy fluff is replaced with feathers and they are hardier and more chill resistant. When they are about a month old (wait longer if the weather is cold) you can begin hardening them off. This means gradually reducing the heat of their lamp or brooder and introducing them to the outdoor temperatures. At first leave their lamp off during the day and put it back on at night. After a week or so of this, they will no longer need the lamp at night. Begin putting them outside during the day until they are used to this. They can then be moved outdoors permanently to a pen with a small shelter or to a chicken house.

Feed And Water Newly-hatched chicks usually must be taught to drink water. A flat jar lid or dish will do at first. Take one or two of the chicks and gently dip their beaks into the water. Once they learn to drink, others will learn by imitating them. You can buy a simple plastic waterer or a mason jar base for less than a dollar. This type of waterer provides a flow of fresh water as the chicks drink.



It must be cleaned and refilled at least once daily. Trough-type or automatic dome waterers are available for large numbers of chicks (they cost from $5-$13). It's important that chicks have clean, fresh water daily.

A ready-to-hatch chick must peck its way out of the shell. This pecking motion is like the food finding peck once the chick is hatched,

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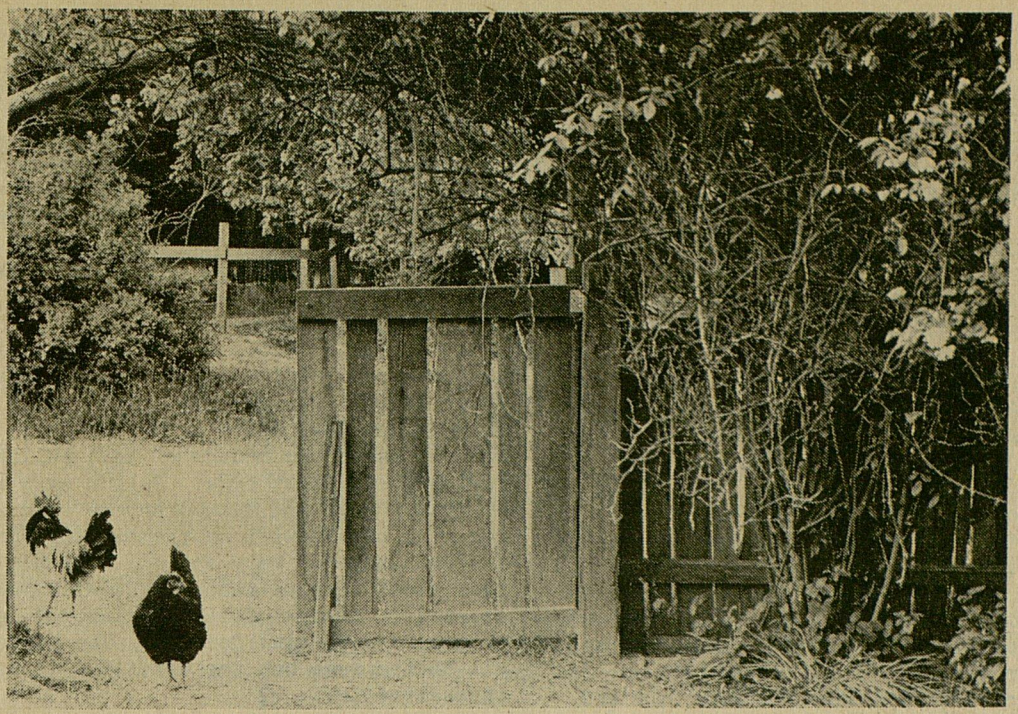

cont.

mobile and hungry. Scratching uncovers insects, grains and such, and though the mother hen carefully teaches her chicks to scratch and search, unmothered chicks seem to do this instinctively. Scattering their feed on the floor of their box is a good way to encourage the chicks' natural instincts. You can provide your chicks with special feeders (circular or rectangular tin, hopper or trough types) but they will usually scratch the feed out.

Commercially made baby chick mash is a fully balanced diet containing all necessary ingredients. It may, however, be made with unhealthy meat scraps (diseased parts of animals considered "unfit for human consumption"). It may also be medicated with penicillin and/or contain preservatives. Chick mash made with soybean meal as a protein source and containing neither penicillin or preservatives is available and probably healthier. Baby chick scratch is finely ground grains (corn, wheat, milo, etc.). It is not a complete feed but can be given with the mash or with other feeds.

You can mix your own baby chick feed by finely grinding grains and adding wheat germ, bran, sunflower seeds, powdered seaweed, alfalfa leaves and so on. The chicks must have adequate protein in the form of powdered or liquid milk, fishmeal, etc. (feed milk in a flat dish--add linseed meal or any other fine meal to the milk). They must also have fine grit or sand to be able to digest their food. Ground oyster shell will provide calcium. Green food - comfrey, lettuce, chard, clover and so on - should also be fed. Feed the chicks a little at a time as often as possible, or give them free-choice with automatic or trough feeders. They won't overeat but will waste too much food.

As the chicks grow, they can handle coarser grains and are gradually switched over to laying mash and hen scratch. Compare ingredients of various commercial mashes, looking at content analysis. Different grains will vary in price from area to area and season to season. Usually it's cheaper to buy grains separately and mix them yourself than to buy already mixed scratch. According to a table found in an old poultry book it takes about 28 pounds of feed to raise a Rhode Island Red chick to age six months. A lighter breed chick (White Leghorn) will consume about 24 pounds.

Health A healthy baby chick is bright, energetic and active. If a chick doesn't rush to eat with the others, or holds its feathers fluffed out or its wings away from its body and slightly down, it's sick. Most of these signs indicate a chill- sometimes just more warmth will bring the chick around. An insufficient diet (particularly not enough protein) may make the chicks droopy or slow to grow. Correcting the diet should have a noticeable effect fairly quickly. A single baby chick that is ailing should be separated from the others or it may be trampled by its stronger companions. It may also have a communicable disease. Keep it extra warm. The Herbal Handbook For Farm and Stable (Juliette de Baraclay Leny - newly republished) suggests a few drops of warmed honey as an "immediate restorative for all poultry." You can give this with an eye dropper - forcing the chick's beak open by gently pressing at the sides. We've had good results treating our chicks herbally, following the Handbook. A simple mixture of garlic, ginger and water, for example, cured our chicks of coccidiosis (a commonly fatal disease in poultry - characterized by bloody droppings and general weakness). The Handbook gives good, sensible advice about raising and keeping healthy poultry without medicated feed or water (medication is common to many commercial chicken feeds and routine doses in water are suggested by most other poultry books).

Buttermilk is supposed to inhibit parasitic worms in chicks and garlic is a natural vermifuge. You can feed buttermilk in a flat dish or waterer - the chicks will usually drink it readily. Powdered or crushed garlic can be mixed with milk or buttermilk and fed the same way. Feeding either buttermilk or garlic or both once or twice a week will probably keep your chicks healthy, and certainly won't harm them. You can continue this practice with older poultry. There are commercial preparations available for worming too. If you use them, worming once every four to six weeks is recommended.

Older chicks may get lice or mites - if they begin losing feathers, scratching a lot and looking unhealthy, you should treat them and their house. Derris or Rotenone is a natural insecticide that can be bought in powder form. Dust each chicken thoroughly and dust their house, roosts and nests. Repeat once a month. You can also paint the inside walls, floor and roosts of your chicken house with used motor oil to prevent lice and mites. Do this twice a year. There are also chemical sprays and disinfectants available commercially.

Once your chicks have been hardened off and moved outdoors, they require a little less care. All chickens have to be protected from predators especially at night when they are roosting. Racoons, foxes and weasels are nighttime predators, dogs, cats and chicken hawks prey by day. A tightly built house and sturdy screened run that can be shut (and locked, if racoons are a problem) at night is necessary. Make a periodic check for holes being dug in under the wire (weasels will do this). When the chicks are a few months old, they can be let out of their house or pen during the day and will forage for a lot of their food. At sunset they'll go back into the pen they're accustomed to. Be sure to close them in every night or a fox may come through the open door!

At about six months of age, pullets begin laying their first eggs. Pullet eggs are smaller than normal and should not be used for hatching (the chicks will be predominantly roosters and probably not very strong). By the end of your flock's first season, you will probably be started on another flock of your own hatching, or some new special fancies. The basics will all be the same but the details will have filled themselves in... ♀

Some Favorite Feminist Fiction

A SPY IN THE HOUSE OF LOVE - ANAIS NIN

explores the complex feelings, interactions, and relationships of a woman with several different lovers, in the webbed subtlety of Ms. Nin's style. She draws bits of characterization from figures in her real life, so the fiction is especially interesting to anyone who has read her Diaries. Also: Ladders to Fire, The Four Chambered Heart.

NERVES - BLANCHE BOYD

is the dual study of the breakdown of one southern woman within her marriage and family, clarified by the struggles of her best friend who does leave her husband and son in an attempt to find herself. Well written, it's one of the best of the new feminist novels.

MEMOIRS OF AN EX-PROM QUEEN - ALIX KATES SHULMAN

is a wonderful, painful, funny novel of my-your-her adolescence and adjustment to wifehood. Many of the early scenes took me back into my own barbaric initiation into sexuality. The descriptions of life with two young children are so sharp they cut like a knife. It is unfortunately, however, another feminist novel which leaves ambiguous the question of whether compromise and acceptance are the only futures possible for wives and mothers.

THE GRASS IS SINGING - DORIS LESSING

the transition of a woman from the monotonous, yet independent life of a secretary in a South African town to the captive life of a farmer's wife alone on the veld. Ms. Lessing slowly envelopes the reader in this woman's growing insanity until you can barely breathe.

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The Unlit Lamp - Radclyffe Hall

another book by the author of the famous lesbian novel, The Well of Loneliness. The unlit lamp is metaphorically the passion of the heroine for her woman friend and tutor which remains unkindled because of her feelings of guilt and responsibility to her mother. A frightening testimony to the strength of societal conditioning in overpowering lesbian love.

The Dark Island - Victoria Sackville-West

the story of a woman who falls in love with an island off the coast of England and marries its owner to fulfill her dream of living there. She is totally removed from emotions and other people until another woman comes to the island and they fall in love. The contrast of her cold, socially acceptable marriage and her true awakening to another woman is one rarely seen in older novels.

Small Changes - Marge Piercy

the new novel of Ms. Piercy documents the lives of two women living in and around Boston in the late 1960's. It also documents the effect of the women's movement on one and the resistances to it on the other. There are many excellent consciousness-raising scenes of men and women relating or trying to. Unfortunately, the parts about sisterhood and women's strength seem too close to the author and become rhetorical at times.

The Dollmaker - Harriet Simpson Arnow

a novel about the uprooting of a woman from a backwoods Appalachian homestead to a working class housing project in Detroit during World War II. I became so deeply involved with Gertie's life that I could hardly bear to turn the last pages and end our relationship.

The Summer Before The Dark - Doris Lessing

the newest and my favorite of Ms. Lessing's novels about a middle aged woman finding and losing herself in her first taste of freedom since motherhood. The book is perceptive and sometimes brilliant about the fears of a woman who has spent her whole adult life doing and being for others.

Daughter of Earth - Agnes Smedley

an autobiographical novel of a woman growing up in the American west in the 1880's to early 1900's. It is the most powerful feminist and political perspective of that period I have ever read, told solely through personal experiences and perceptions. It is never rhetorical and always effective.

The Elizabethan Garden - Pamela Sykes

a low-key, unknown treasure from the bookmobile about a woman in her fifties renouncing her grown children's needs and claims and beginning to live a life she chose. Its insights into marriage and families are really fine, though it ultimately seems to promise happily ever after if you just find the right man.

To The Lighthouse - Virginia Woolf

explores the interior moods and feelings of a "perfect" wife and mother, brilliantly speaking from my unconscious. Rereading it, I wonder what we saw in high school English class.

An Unsuitable Job For A Woman - P. D. James

the closest thing to a feminist murder mystery that's been written yet, for readers of escapist fiction. Also Gaudy Night by Dorothy Sayers.

Ella Price's Journal - Dorothy Bryant

the best way I know of describing this book is to say that I read it fanatically from start to finish, stopping only for some sleep. This journal traces the changes a middle aged woman from middle America goes through when she returns to college and takes an English course from a radical professor who helps her learn to think. In the midst of this rebirth, she becomes sexually involved with the professor and makes some realizations about women's oppression, marriage and her life.

Ruby Fruit Jungle - Rita Mae Brown

is a fabulous, funny, political coming of age novel about Molly Bolt, a strong willed, beautiful Lesbian whose overwhelming desire is to remain herself and excell despite the pitfalls of "illegitimacy", class, sex and sexuality. And excell she does in living, loving women and fighting an oppressive heterosexual establishment. Her years of work bring her "great honors" at graduation and offers of secretarial jobs. C'est la vie. If one believes in such things as great American novels, I think Ruby Fruit Jungle deserves the epithet. ♀

SELF DEFENSE

Teaching self defense at the Mendocino Women's Conference made several things clear to us. First, that women are hungry to learn and given a chance, learn quickly and well. Second, that there is a battle taking place within us, so that even with this hunger we are not taking steps to learn and we are not seeking teachers. We'd like to do two things: to share some basic techniques of self defense and to talk about that battle, the fears we all have, and the growth that takes place as we begin to learn to take care of ourselves.

If we need to learn self defense because we are afraid but we're afraid to learn, what seems clear is that we are afraid. What are we afraid of? Men. So why do we turn to men to protect us? Because we're also afraid we can't do it ourselves. The first fear seems valid. Men are dangerous. They attack. They attack women, other men, fish, elephants, you name it, they'll attack it. As Lenny Bruce says, they'll do it to mud. Women who fear attack are NOT paranoid. One out of every three women in this country is raped or assaulted sometime in her life.

The second fear, that we can't do it ourselves, is true only because that is how we are socialized. We are culturally, not biologically, destined to be victims. We did not do this to ourselves. We were "done to." We were taught to be afraid--and to be afraid of a man (we were never warned about the bogey-woman.) We were taught to be feminine. Webster defines feminine as "having qualities regarded as characteristic of women and girls as gentleness, weakness, delicacy, modesty, etc."; masculine as "having qualities characteritic of men and boys as strength and vigor." Pretty blatant. When we declare "I, a woman, can take care of myself," we're turning our backs not only on our personal history, but world history. It's an important change in attitude.

Instinctively, all people fear falling and loud noises. Self defense not only teaches us to deal with these fears but to use them as weapons. One of our best weapons is a loud directed yell, called in karate a kiyaii. You kiyaii at the point of contact--either when you hit your attacker or when you block a blow. It both concentrates your power and scares your attacker. This yell should come from your diaphragm. Begin by grunting and make it louder; if your throat hurts you're doing it wrong. It is a strong, powerful noise. Don't try to make it a recognizable word such as kiyaiiiii or hai karate. You have to overcome some socialization to do this. It's not nice to yell. Try it chopping wood or on a particularly hard nail. Watch yourself in the mirror. Do you look fierce or vaguely apologetic for yelling in that man's face? The yell is a directed one and should explode right in his face. Men who attack women are usually looking for victims. A good attitude and a good kiyaii <u>may</u> be enough to discourage the attack.

We fear that we physically can't do it, and that might be true now. We have been bred to be weak. We can make ourselves strong. Men do not have a natural sense of push-ups, they've just been practicing ten thousand years. When we started we couldn't do any, after two months we can do ten. Strength, agility, balance and aggressiveness are acquired, not inherent skills. They take work, sweat and commitment but we can all do it. We're not saying you have to be Charlene Atlas to do self defense. The idea of self defense techniques is to give us a tool to use against strength and obviously we don't want to be in situations where we have to pit strength against strength. Where strength <u>does</u> count is in endurance and being strong enough so you're not too tired to think or too tired to run. Each release and response that we describe is followed by RUN. Run to the shit house, run with your kids, chase your dog--how fast can you go? Feel yourself move. It is natural to be tired, you always will be at some point. The idea is to extend the time you can run or walk.

<u>CONSIDER BEFORE YOU START</u>

1. Exercise at least ten minutes before you start--warm and stretch muscles. (If you ache from yesterday work out the pain with more exercise.)

2. When you think you understand the move, practice at least ten times on each side. Then switch partners.

3. It's taken your whole life to train you into passivity; it takes time to learn to be aggressive. Begin by not smiling at your partner, do not apologize because you haven't done it before or because you're not good at it. Work at keeping your expression impassive.

Basic Techniques: Making a Fist

Each time you clench your fist you strengthen the muscles in your hands, forearms and biceps. You can do this almost any time. Be sure you make a tight fist.

The best blow to practice now is a hammer blow (see drawing #4). When you hit with a hammer it is a solid tool; the head does not flop around. The same is true with a hammer blow. Your wrist is firm and your fist doesn't flop all over. Your arm comes down and you hit with the pad on the side of your fist(little finger side.) This pad can take a great deal--try hitting the palm of your other hand to see how it feels. Remember to do everything with both hands; you can't know which side the attack is coming from. When you practice moves, remember that a fist alone can't do much damage, you have to put the strength and momentum of your whole body behind it. This is an effective blow to the temple, nose, cheekbone, ears, sternum, collarbone, solar plexus, or groin. Remember too, don't hit your partner in practice. It is important to be able to control your blows. Your partner should block them. Noses and collarbones break easily--the other blows hurt.

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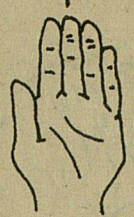		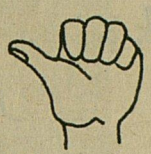		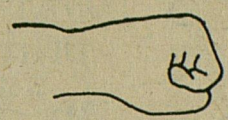
If your fingernails are too long you won't be able to make a tight fist.	Curl fingers tightly to first knuckle.	Curl again to second knuckle.	Fold thumb over: always keep thumb bent over, never inside fist.	Your wrist is straight; you should be able to lay a pencil from knuckles to wrist and it will balance.

CAUTIONS

1. At this point you have NO CONTROL. BE CAREFUL WITH YOUR SISTER.

2. Don't go home from your women's meeting and try these moves with the men you live with or know. It's an invitation for them to show how strong they are and disprove you/ put you down. Remember, we are working with quick encounters and the element of surprise is important. Technique is effective against strength in these situations--the men you know will make it a contest of strength against strength.

3. Always assume your first move is unsuccessful. What can you do next? Consider alternate possibilities for every move.

SUGGESTIONS

1. Talk to the women you know about self defense and karate. You may find someone who knows something and will teach you.

2. Get a good book. We really like Jerry Offstein's Self Defense For Women. It has good basics, good pictures, and very good attitude.

THINGS TO TALK ABOUT

1. How do you feel about hurting people? How do you/ can you reconcile nonviolence and the need to protect yourself?

2. How do you feel about being hurt? Can you take pain? Are you willing to?

3. What are you afraid of?

This is the first of a series of articles on self-defense. Each article will discuss a particular kind of release and an aspect of self-defense. Do you have questions, experiences, or information to add? Write to us: 12585 Jones Bar Rd., Nevada City, California 95959.

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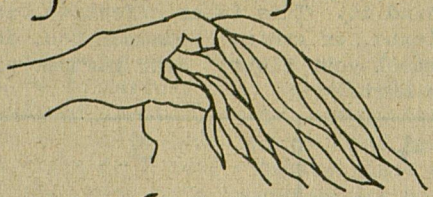
Hair Releases

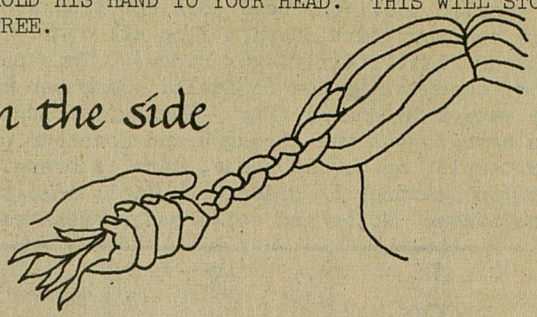
Some kinds of pain seem impossible to deal with. Many of us have this response thinking of feeling someone pulling our hair. Here are some techniques for getting free from hair holds. THE BASIC THING TO LEARN IS WHEN SOMEONE GRABS YOUR HAIR YOU HOLD HIS HAND TO YOUR HEAD. THIS WILL STOP THE PULLING, THUS THE PAIN, THEN YOU CAN WORK ON GETTING FREE.

We are considering four possible attacks:

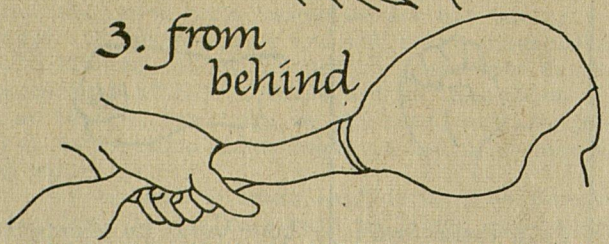
1. from the front



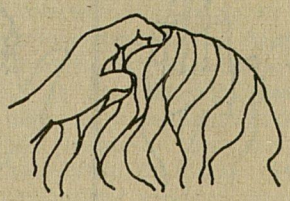
2. from the side



3. from behind



4. behind, top of head



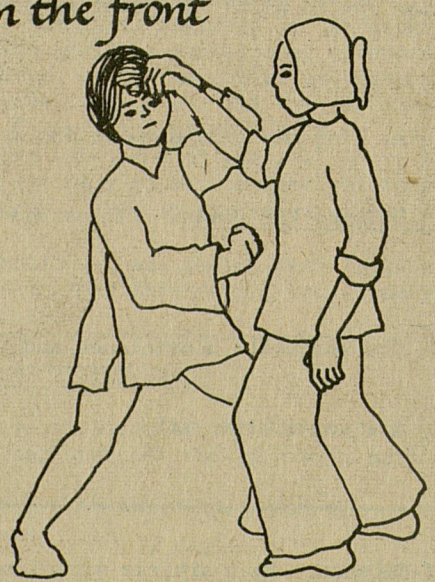
In each case you begin by holding the attacker's hand to your head to stop the pulling. Your release comes from causing him enough pain to let go. Then you have to assess the situation and determine if you have to injure him further to secure your escape. If necessary, you will injure him, then RUN. Don't stop to see how he is.

Most women shrink from the idea of injuring anyone. The reality is this man has assaulted you. He is probably willing to hurt you to any degree he finds either necessary or desirable. Too often, he will even kill you. Broken arms heal, broken knees heal. An injured man cannot run after you when you break loose and if you report him he will be easier to catch. We are NOT advocating killing attackers; we are advocating that you protect yourself first.

Remember, braids can be used against you, to grab you, pull you, or strangle you. Stick them inside your shirt or coat if you wear them when you go out. This also applies to one braid behind or hair clipped at the base of the neck.Stick it in your shirt. A metal clip can pin your hair to your head when you go out. Don't give him a handle.

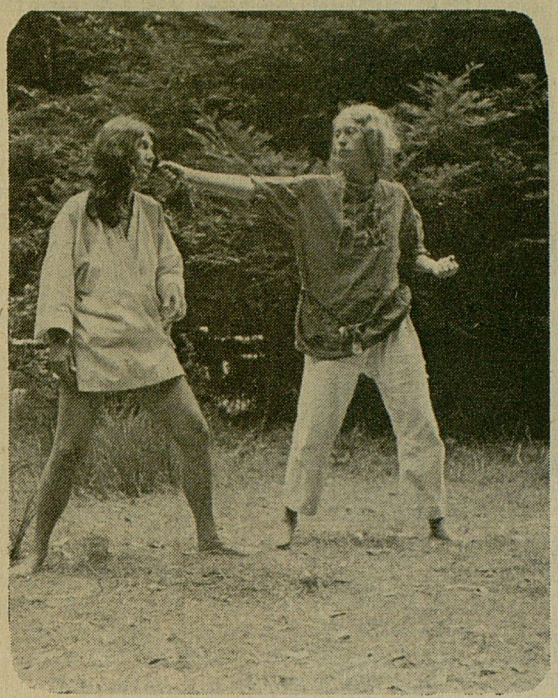
A man who attacks by grabbing your hair is open to attack. He is relying completely on you being in pain. In reality, you still have two free arms and two free legs, while he has one arm busy holding you and his legs involved in pulling you. Remember to kiyaii right in his face when you attack. And always keep your eyes on his face.

1. from the front

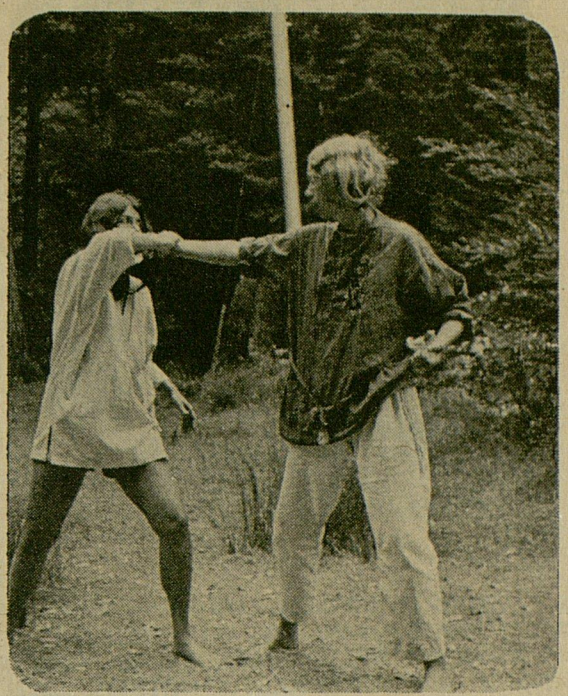


JEAN IS ATTACKING BY GRABBING BETTY BY HAIR FROM FRONT. WITH LEFT HAND HOLD HAND TO HEAD TO STOP PULLING AND MOVING WITH ATTACKER (USING HIS ENERGY) SO YOU ARE NOT PULLING AWAY, MOVE IN TO HIT, JAB, PUNCH, KICK. YOUR ARM AND BOTH LEGS ARE FREE. PRACTICE SO THAT YOU USE STRONGER ARM FOR ATTACK. AS YOU HIT YOU KIYAII--LOUD AND RIGHT IN HIS FACE. BY PUSHING HIM BACKWARDS, YOU WILL MAKE HIM LOSE HIS BALANCE. KEEP YOUR EYES ON HIM.

2. from the side



JEAN IS ATTACKING BY GRABBING BETTY'S HAIR FROM THE SIDE. (A BRAID IS A HANDLE.)



WITH OUTSIDE ARM (HERE THE RIGHT) GRAB HAND AND HOLD TO YOUR HEAD TO STOP THE PULLING.

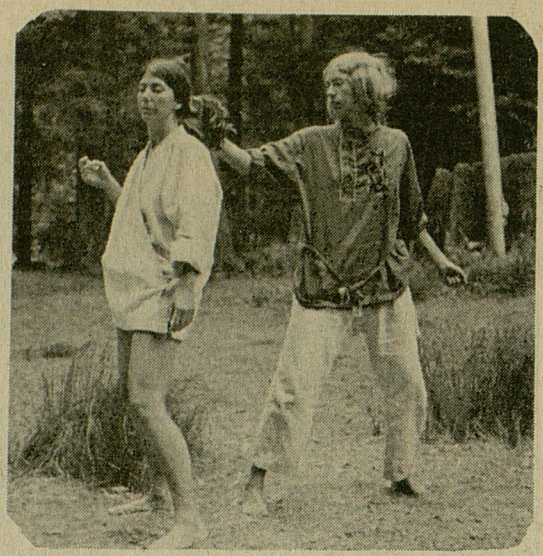
WITH INSIDE ARM (HERE THE LEFT) PUSH HIS ARM ABOVE HIS ELBOW. KIYAII AS YOU PUSH.

PAIN FROM THE PUSHING WILL PUT YOUR ATTACKER ON THE GROUND. AGAIN, BE CAREFUL IN PRACTICE. THIS IS AN EFFICIENT WAY TO BREAK AN ARM.

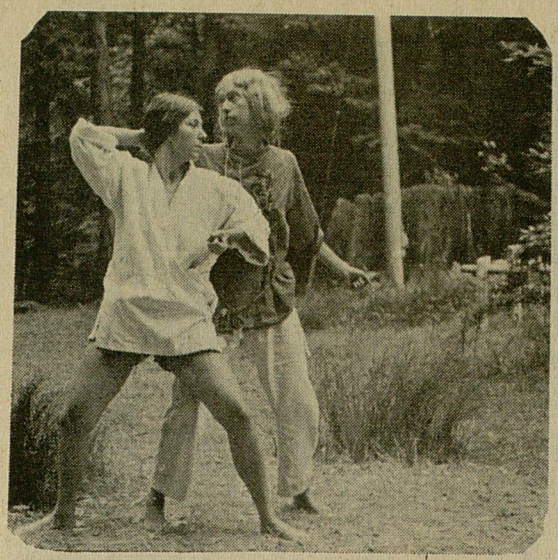
cont.

cont.

3. from behind

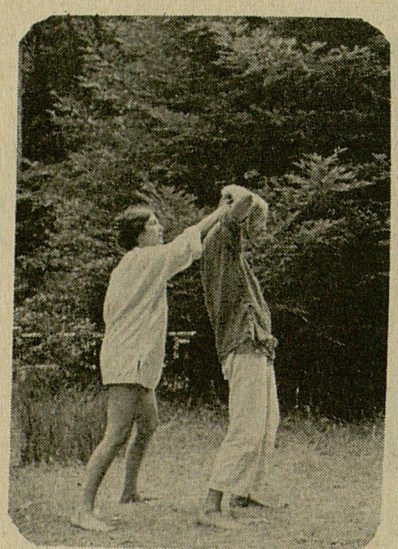


JEAN ATTACKS BY GRABBING HAIR FROM BEHIND AND DRAGGING BETTY TOWARDS HER. (IN THIS CASE IT IS A BRAID OR SOME HAIR HANGING DOWN. HOLDING AT TOP OF HEAD FROM BEHIND IS EXPLAINED SEPARATELY.)

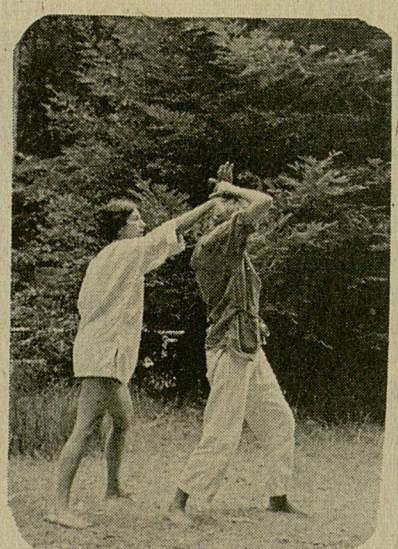


USE OUTSIDE ARM TO HOLD HAND TO YOUR HEAD TO STOP PULLING. MOVE WITH ATTACKER, INTO HIM, USING INSIDE ELBOW TO JAB INTO HIS SOLAR PLEXUS, THEN HIT WITH FIST TO HIS GROIN. KIYAII AS YOU HIT. THE BLOW TO THE SOLAR PLEXUS WILL TAKE HIS BREATH AWAY, CAUSE HIM PAIN, AND PROBABLY MAKE HIM BEND FORWARD. THE GROIN BLOW WILL CAUSE PAIN AND STOOPING WHICH WILL TAKE ALL HIS BALANCE AWAY AND HE'LL PROBABLY FALL. YOU RUN.

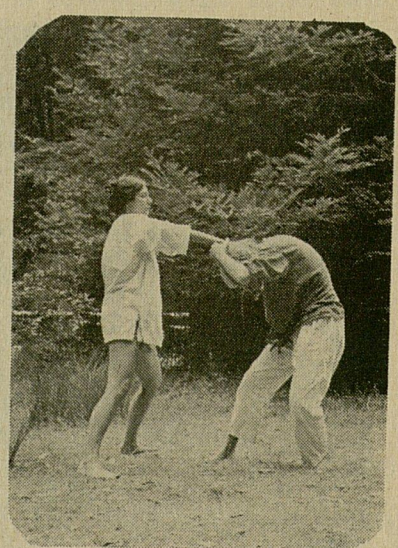
4. behind, top of head



BETTY ATTACKS BY GRABBING JEAN BY HAIR ON BACK OF HEAD.



GRAB HAND AND HOLD TO HEAD TO STOP PULLING. FEEL ATTACKERS HAND - YOU WILL TURN AWAY FROM HIS THUMB (THIS WILL TWIST HIS ARM).



STILL HOLDING ON, TURN AROUND TOWARDS HIM, TWISTING HIS ARM. PUSH UP NOW. THE ARM WILL BE TURNED SO THAT IT CAN BREAK AT THE ELBOW. (BE CAREFUL IN PRACTICE! ARMS ARE EASY TO BREAK.) AT SAME TIME DELIVER A KICK TO HIS KNEE. KIYAII AS YOU RISE AND HIT! ♀

Country Women is all of us

We have had a fine response to our Country Woman Herstory in the last issue, and want to continue periodic sharings of the magazine's growth.

These last few months have brought some fairly extensive changes, as we have tried to cope with the increased work of publishing 64 pages and having a rapidly growing number of subscribers. The central editorial collective has gained three new members, River, Harriet and Sam, and has lost two, Jenny and Arlene. Our issue collectives have taken on more of the actual running of the magazine than ever before - giving us all a more equal share in the process.

We've also reassessed future directions and have come up with two more years of possible themes and good strong energy to contunue. We will in the future try to better balance practical articles with theme articles, instead of relegating them to the leftover back pages. And we will be devoting 4 pages to poetry from now on, giving it some well deserved space.

We still need your help, too:

. we are publishing letters and short pieces, so if you don't feel up to writing an "article", write us a letter - about something you've learned, done, felt. And please give us specific feedback on articles and issues. It helps to know what you liked or didn't.

. we know how hard it is for country women to have time to write at all, and when the p.o. takes three weeks to get an issue to you, you don't have any time left in which to put an article or drawing together before the next issue is underway. So here are the next four themes for Country Women:

Women's Spirituality - any experience you consider spiritual is what this issue will be: experiences from established religions, emerging feminist goddess worship, psychedilics, walks in the woods, meditation. (deadline March 10)

Older Women - how old is an older woman? The age is yet not determined, maybe can't be. We want to hear from other women besides those in their twenties, expecially long-time country residents. (deadline May 10)

Children - we're thinking, here, of an issue largely by children and the adults with whom they live. Interview a child; find out how it feels to live with you. Children speaking out on their experiences of liberation (their own, others') or the lack of it would be valuable. Also, childrens' writing and graphics - photographs, too. (deadline July 10)

Natural Cycles - start now to keep journal notes of your cycles: moods, dreams, astrological, food and color choices, weather, energy. Try to get in the habit of just writing a little each day. (deadline Sept. 10)

..We are also collecting material for an issue on Foremothers: letters, interviews, journals, rememberings about our families and women we have known.

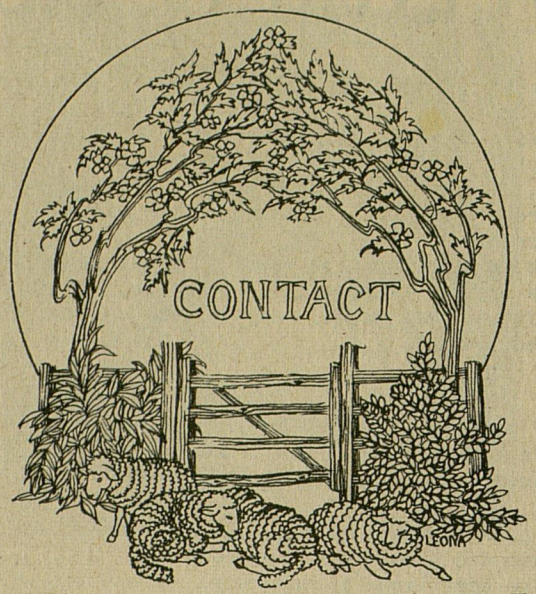
. please help us with distribution. Write and give us the address of stores near you. Encourage stores to sell Country Women. Review Country Women in local publications.

. please write practical articles for us. There are many things we don't know how to do. Regular columns are: tools, gardens, building, books, health, animals, vet. skills, country skills, food.

... we desperately need photographs. Sally, our principal photographer has just bought a fishing boat and won't be photographing for a while. We need: country scenes, women working (gardening, plumbing, building, etc.), country women living their lives. We also have a very thin graphics file - please send us drawings and sketches. Our hope is to receive and print more graphics of varying styles in the future. Wood or linoleum block prints would be nice, as would silk screen prints, sumi brush drawings, etc. Clear, clean reproduceable material is what we need, in black and white. Feel free!

. send us self addressed, stamped envelopes when possible. And please let us know when you change your address.

The magazine is alive and well. With your help, it will continue to grow. Please join us.



Interested in camping trips and learning wilderness skills in remote areas of Northern California? Next women only group is Feb. 22 - March 3. Also groups for familys, etc. For more information and their catalogue of other trips....

Contact: Wilderness Ways
None of the Above Ranch
Star Rt. 1, Box 38
Covelo, Cal. 95428

I'm looking for a summer or maybe permanent job working in the wilderness, such as through Forestry Dept., etc., in some western states. I'd like to get acquainted with other women who have done something like this or who want to -

Contact: Delight Bosworth
2517 1st Ave. S.
Minn., Minnesota 55404

We are a growing feminist commune of five women and three children near Albion, Calif. Some of us are lesbians. We lease 5 acres of land with lots of apple trees and gardens. We have a 4 bedroom house, a cabin and a room in the main house we want to open up to women who want to live separately from men and create a women's culture in the country. Children are welcome.

Contact: Tania Zivkovich
General Delivery
Caspar, Calif. 95420
(707) 964-2928

Want to make Navajo Looms and its variations, write Joanne Mattera, Box 110, Shushan, N.Y. 12873. She just wrote and published a booklet on looms.

Want to form a musical group? Based in Seattle area preferably. I have a piano, bass guitar, acoustic guitar and banjo. I do mainly vocals with guitar playing country music, some rock with classical influence. Want to work 6 hours a day with women to perform in this area by April or so - hoping for lots of original music. Start now.

Write to: Melissa Gustafson
Rt. 1, Box 179
Clinton, Wa. 98236

We take beach junk like driftwood, stones, glass, etc., and end up with jewelry, mobiles, glass, room dividers, etc. - but as yet we're not making much money. We would like to get in touch with other craftswomen for exchange of wares and ideas on distribution (without getting ripped off.) Must be women only.

Write to: Barbara Nordin
Witchcraft
P.O. Box 717
Grover City, Ca.
93433

We are two potterwomen looking for a 3rd to share our studio, home and expenses in Drain, Oregon (about 50 miles south of Eugene). We live in a modern 3 bedroom house on a few acres of beautiful isolated land. Planning on goats and chickens soon. We want to support ourselves soon by doing production pottery.

Contact: Donna Shaman
Rte. 38 - Box 20
Drain, Oregon

We want to establish a feminist, political, spiritual land collective, and are looking for sisters and children to join us. Our vision is to buy land in the Androscoggin country region of Maine and work together to explore ancient feminist religions, develop political outreach projects and live in harmony with nature and each other. Would also appreciate hearing from existing feminist land collectives with ideas and experiences. Interested?

Contact: Nan Stone
57 Quint Ave.
Allston, Mass. 02134

I want to get involved in a consciousness-raising group in my area. I am 24, college graduate in Child-Psych., and working full time. Into everything from goats to yoga and dance. Would like to meet women for friendship and self-awareness. Also interested in meeting man-woman couples as I live in a couple.

Contact: Suzanne Rowley
33030 Oceanview Dr.
Ft. Bragg, Ca. 95437
(964-9012)

Graphics:

Anne: 4
Carmen: 52
Susie Carruthers: 16
Leona: 14, 18, 19, 22, 38. 39. 40. 41. 44, 48, 49
River: 1. 7, 11, 12
Slim: 2, 23, 35, 43, 47

Photographs:

Photographs:

Sally Bailey: 3, 10, 13, 21, 29T, 30, 33, 36B, 37, 53, 54, 55
Ann Banks: 34
Jill Henry: 28T
Lynda Koolish: 20
Priscilla: 26B
Ruth Ikeler: 24
Judith Simon: 61, 62
Jeanne Tetrault: 26T & M, 27, 28B, 29B
Jenny Thiermann: 36T

Calligraphy was done by Arlene, Leona, Judy and Slim