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## **The Mud and Wood House “Fridge”**

or ***Thoughts on Granny Wisdom***

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Recently I was involved in a debate about the ongoing integration of technology into construction. In reality this has been happening since the beginning of time – moving fires indoors, inventing a hole in the roof and then inventing the chimney; using glass in our openings, using double-glazing, using triple-glazing. Nowadays we take it for granted that every house built will have electricity, running water and some sort of heating system.

The debate revolved around the issue of mechanical ventilation versus passive ventilation, i.e. whether we can maintain good indoor air quality through hole-in-the-wall vents and opening windows or whether air needs to be mechanically pulled into and out of our homes in order to achieve a healthy environment. The discussion fired the imaginations of all involved and became quite heated at times. I will write an article about it in the near future.

To lay my cards on the table, I am for simplicity. When certain technology is necessary, then I am happy to employ it, but in the simplest form possible for the circumstances. Sometimes I feel that we are very quick to rely on technology to “solve” our problems. We are almost programmed to believe that if the solution does not involve some kind of techie gadget, then it must not be a very good solution.

This is where my idea about Granny Wisdom comes in. I am not nostalgic for the good old days when people were wholesome, hale and hearty (and working fulltime at the age of twelve and dying of consumption). I am not for abandoning all of our modern

creature comforts and reverting back to the lifestyle of 100 years ago. I am perfectly happy to use the washing machine and the dishwasher and enjoy my telly. I am writing this article on my computer after all.

However, looking back I see that my grandparents were very resourceful people. They did not have much to work with and so harnessed the environment around them. This is what Granny Wisdom is all about. It should not mean accepting a lower standard. It means achieving that same standard in a simpler way by understanding what the surrounding environment has to offer.

During the debate, someone commented that I was happy to use my electric fridge. I explained (with a tiny edge of wicked glee) that I did not, in fact, have an electric fridge. My milk does not go sour. My food stays fresh. Is it a miracle? What is this wonderful technological breakthrough? It is Granny Wisdom. It is a well-ventilated (un-mechanically), well-located cupboard built from materials which store the cold.

When people visit the house, the fridge is one of the things that really impresses them. When we explain how it works and that it was inspired by Granny's meat store and pantry, a light goes off for so many of our visitors. They remember a similar set-up in their grandparents' homes and how effective it was.



Can you find the fridge in this photograph?

There are two non-electric fridges in the Mud and Wood House. The first is our daily-use fridge. It is the small wooden door located above the worktop to the left of the kitchen door.



This is set in a 600mm deep cob wall that faces north-northwest. We keep milk, cheese, butter, mayonnaise, etc. in here – the food items that we use regularly throughout the day.

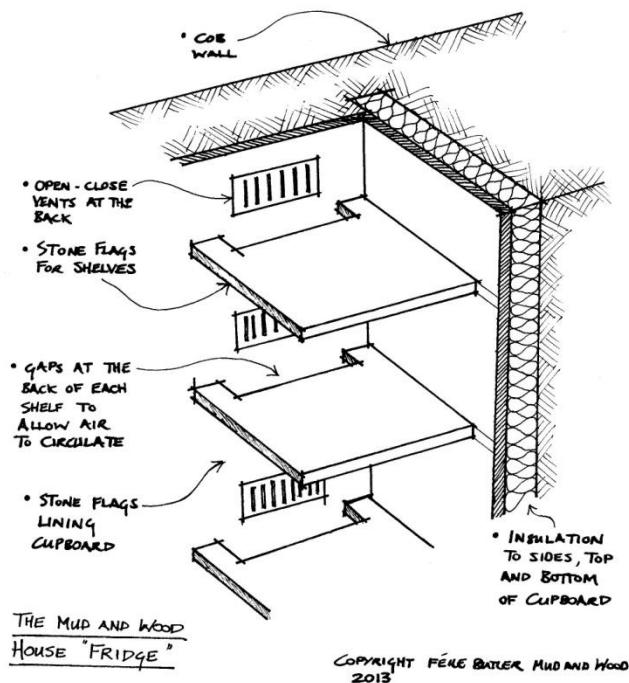
At Mud and Wood, we are big fans of salvaging building materials and the flagstones which line this cold-store came from our neighbours. They laid a new kitchen floor and had a few slate flags left over. We were happy to take them off their hands. They were happy to get rid of them. The stone lines all sides of the fridge internally and is also used for the shelf. Visitors to our house are always amazed at how cold this stone is to the touch. You can just make out the ventilation grille at the back of the top shelf (a stripy white rectangle).

The second larger fridge is in the utility room, which is through the kitchen door.



This cold-store is much larger and is buried in a north facing wall which never gets any sun. To prevent the cold seeping into the house, both fridges are lined on the sides, top

and bottom with natural wood-fibre insulation. This is a high quality, high performance breathable insulation, compatible with the cob walls. The backs of both fridges are not insulated. The doors are also insulated with salvaged rigid foam insulation (which was about to be illegally dumped when we came across it). A simple rubber seal ensures the door fits snugly when closed. Vents provide air-flow into the fridges, with gaps at the front and backs of the shelves to optimise air circulation.





**Interior of the Large Cold Store**



**Close-Up of the Stone Lining and Back Vent**

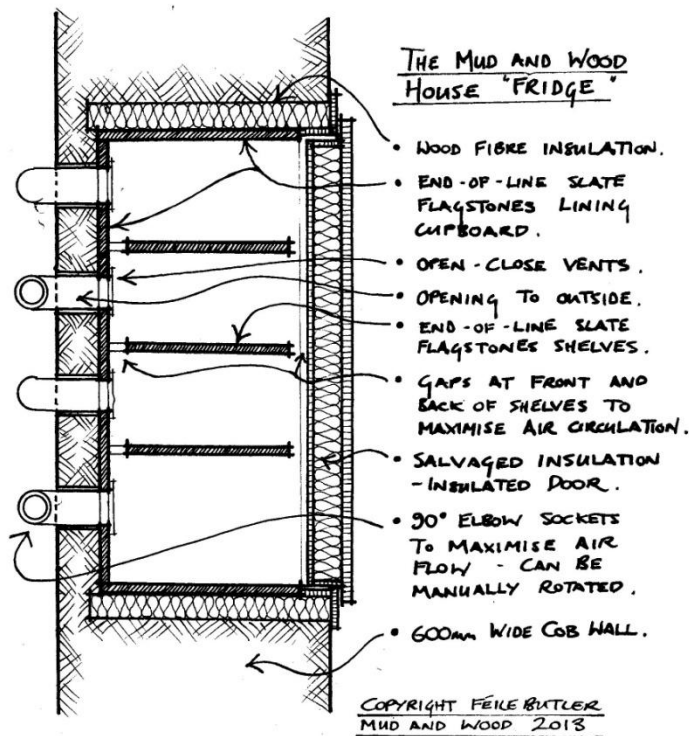
This system will not work for every location on the planet. But for me, that is the beauty of Granny Wisdom. It is not a one-size-fits-all solution. It is site specific, immediate-environment specific. It means that you must actively think about and engage with the conditions in your particular corner of the world and figure out how you can harness them to your advantage.

Our small kitchen cold-store does sometimes overheat, for about a week in the summer. This is when the sun sets in the northwest and the rays hit the wall at the side of the fridge for a few hours before sundown. Do we declare the cold-store a failure? No. We simply do not use it for that very short period.

The big fridge never lets us down. There are two reasons. The first is that the wall faces due north and is never heated by the rays of the sun. The second is that we developed a way to optimise air-flow into the back of the fridge. We do not need a fan to ventilate the cold-store. Instead, we use a series of 90° pipe sockets (or elbows) which can be manually rotated to capture even the smallest breeze.



The Sophisticated Control Settings for our Fridge



Fridges are one of the highest electricity users in the home. Although a dishwasher or oven may use more kilowatts per hour of electricity, they are only used for relatively short periods once or twice a day. A fridge runs constantly. By applying Granny Wisdom and harnessing our immediate environment (and using mainly salvaged materials), we are able to keep our food fresh and store it safely without using any electricity at all.

Sometimes the most elegant solution does not involve the most advanced technology.