

Ceramic goods, from elaborately decorated tableware and storage jars to firebricks and lowly chamber pots, are widely used through all strata of Lythian life. The potters' guild has a monopoly on the production and sale of all such clay-based products.

INTRODUCTION

Many potteries on Hårn are urban establishments that cater to the needs of craftsmen and the kitchens of noble households. Such households prefer tableware of glass, bronze, and pewter when they can get it, but their kitchens and bedchambers are well supplied with a wide variety of guild-made ceramics. The floors and walls of their great halls are adorned with decorative ceramic tiles, and the playing pieces used in their games are often ceramic.

Craftsmen—their businesses and their residences—are the main outlets for the potter's wares. Millers want waterproof containers for their flour and molds for their holy day cakes. Apothecaries need a collection of waterproof or airtight jugs, jars, and vials for their commodities, as well as easily cleaned mortars and pestles. Miners and alchemists need crucibles capable of standing up to very high temperatures. Smiths of silver and gold need crucibles too, and they and their colleagues who work in iron and steel need bricks or tiles of fire clay to line their forges. And all but the wealthiest of these craftsmen turn to the potters to appoint their chambers as well as their kitchens with high-quality housewares.

The potter's goods are in demand in more humble households as well. Most peasants who buy from the guilded potter make do with a few cooking pots and other necessities, but those who can afford them acquire milk and butter crocks of glazed stoneware and even glazed chamber pots. In well-to-do cottages, it is not uncommon to find a few pieces of guild-made tableware, pedestal lamps, or a kitchen cistern. These are usually prized possessions and are passed down from generation to generation.

While most potteries are small shops that cater to a local market, others are large-scale operations that specialize in producing goods for retail sale by other members of the guild and chandlers over wide territories. The master potters of Thay and Coranan are particularly noted for both their artistry and their fine white clays, and their work can be found in wealthier households throughout Hårn.

THE GUILD

Potters are found in nearly every major settlement, yet their guild is one of the least influential within the mangai. Only the largest towns have more than one franchise in operation; most

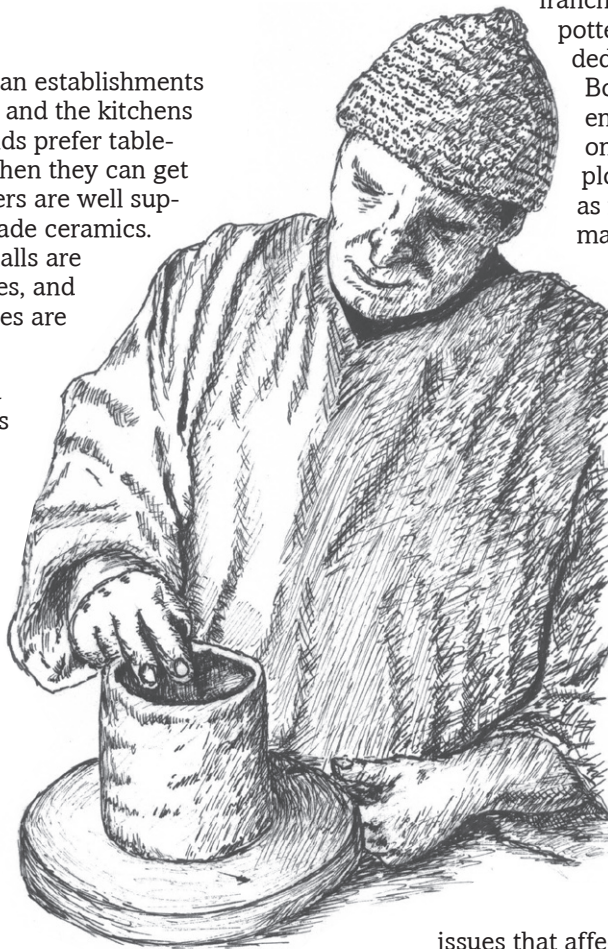
potteries are small operations dedicated to local markets.

Bonded master potters are employed in larger potteries; only rarely are they employed in noble households as is common with other master guildsmen.

Potteries typically employ only a handful of workers—an urban franchise with more than six guild members is unusually large. Recent advances in kiln building and operation, however, are changing this pattern and larger operations that employ a dozen guild members or more can be found in some places.

In one of the Mangai's many paradoxes, the glassworkers' guild is both the closest ally and leading competitor of the potters' guild. At one time, the two guilds were one and still the

issues that affect one are important to the other, leading to frequent alliance between the two guilds. Advances in knowledge are rarely shared between the two guilds, however, as they compete



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with one other to supply wealthier households with the necessities of everyday life.

Village peasants often ignore the legal monopoly the potters' guild claims. Every village, it seems, has at least one "village potter" who makes crude, utilitarian ware for himself and his neighbors. Such wares are substandard in almost every respect—he uses raw surface clay, with none of the additives that produce proper clay bodies, he fires at low temperatures in clamps (covered pits) rather than proper kilns, and his work is generally crude in appearance.

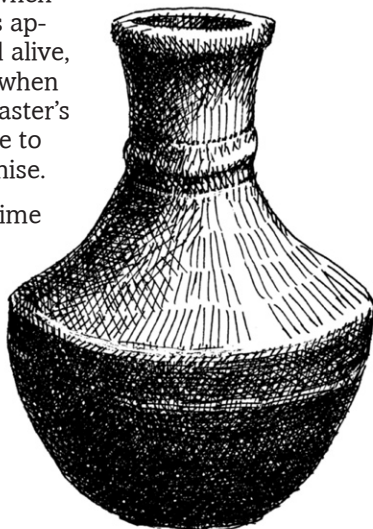
The guild generally tolerates the village potter because most villagers cannot afford the guilded potter's wares, and because the amateur does not offer serious competition. Anyone who can afford them will almost always favor the quality wares of the guilded potter over the crude fare made in a village hovel. For peasants, such quality ware is a sign of wealth and status. For the others, the craftsmen and the nobility, there is no question of their patronage. When the village potter is found infringing on the guild's business, however, the guild and mangai take swift action.

Guild Structure

The potters' guild structure is the same hierarchical system common to most of Lythia's guilds: apprentice, journeyman, and master. Master potters elect the local guild chapter's board of syndics. The syndics choose one of their number as guildmaster. The guildmaster represents the local chapter to the grand chapter of the guild and to the mangai.

Potters typically enter apprenticeship at age 13, become journeymen at age 19, and become masters at age 22. Though there is nothing precluding marriage while still a journeyman, most guildsmen delay marriage and family life until after they achieve rating as a master potter. As a result, most master potters are about 37 years of age when their eldest child enters apprenticeship and, if still alive, are about 46 years old when that child achieves a master's rating and returns home to inherit the family franchise.

Since the training time for a master potter is nine years, and most spend at least 20 years working as a master potter, there are about as many master potters as there are apprentices and journeymen combined.



Apprentices

The guild admits two apprentices for each retiring master in the expectation that one will fail to complete his training and become a master. Before applying to the local guild chapter's board of syndics for membership, each aspirant must first secure written acceptance from a freemaster potter willing to take him as an apprentice. The board almost always grants apprenticeships to the heirs of master potters, with the "extra apprenticeship" normally granted to the other offspring of freemaster potters. Other individuals with natural talents or heavy purses are sometimes admitted to the guild if they are able to find a sponsoring freemaster.

Apprenticeship normally lasts six years. To ensure proper discipline, apprentices are rarely allowed to serve in a parent's franchise, though many return home to take employment as journeymen or bonded masters.

Apprentices do not earn wages but are supported with room and board at an approximate cost of 24d per month. Generous masters may also grant them a small amount of spending money.

Apprentices spend long hours digging clay from pits knee-deep in water and using wooden shovels to turn clay in seasoning pits. Marching in place, they tread on clay in old-fashioned pug tanks. They laboriously grind and sift minerals and refined metals into fine powders, and mix and wedge clay and clay bodies to prepare them for use by journeymen. They cut cords and cords of firewood into lengths suitable for use in the pottery's kilns, and sort the stacked fuel by type of wood. They load and unload hot kilns, and spend long hours tending small but hot fires inside tiny fire pits. And, in the process, they begin to unravel the secrets of alchemy.

They learn to identify the properties of various clays and other minerals by their appearance. They learn to predict the color of the final product based on the contents of the clay body and the compounds in the slips and glazes used for decoration and waterproofing. They learn to control the temperature of the kiln through careful selection and mixing of the type of fuel added to the fire pit. They learn how to modify and control the atmosphere inside the kiln, creating ones that are oxygen-starved or sodium-enriched, to cause controlled and predictable results. They note how the careful addition of certain minerals to the clay in just the right quantities changes the temperature at which it vitrifies, and how that affects the porosity, durability, and heat resistance of the finished product. And they learn to create the compounds of minerals and metals used in making waterproof glazes of dazzling colors.

Once apprentices have demonstrated proficiency with the science of pottery, they begin to learn its art. In this, the master can but provide the opportunity for the apprentice to find his own style and technique.

Journeymen

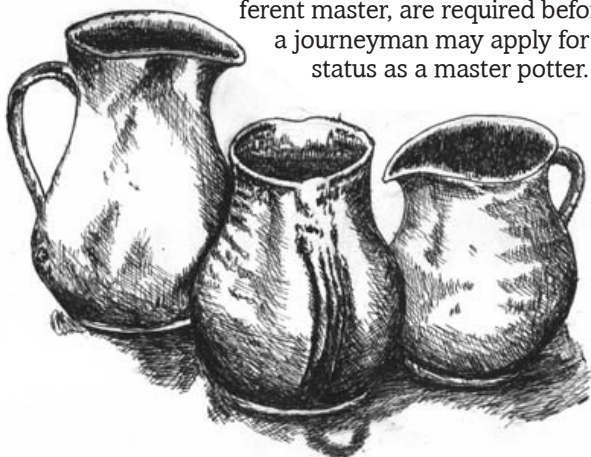
The geographic dispersal of the potter's guild lends an air of great import to the testing of candidates for journeyman status. Eligible apprentices accompany their masters to a regular convention of the board of syndics to demonstrate proficiency in both the theoretical and practical knowledge of the potter's craft.

Typically, proficiency is established during a series of oral examinations. However, some examination boards require applicants to identify various minerals and other components of clay bodies and glazes based on appearance and properties when exposed to heat, both alone and as part of various compounds. The apprentice's master normally vouches for the candidate's artistic abilities when he nominates the apprentice for examination.

Candidates who successfully complete testing are immediately granted the certificates that confer on them the rank of journeyman. By tradition, new journeymen do not return with their former masters but use the convention as an opportunity to find employment with a new master within the guild chapter.

In addition to room and board, journeymen are paid wages depending on skill and experience. Generally, a first year journeyman potter is paid 20d per month, a second year journeyman receives 30d per month, and a third year journeyman earns 36d per month. The cost of room and board for each journeyman is about 24d per month.

Journeyman are expected to travel from one settlement to another, serving different masters of their guild as they perfect their craft. After three years experience as a journeyman, potters may apply to the board of syndics for rating as a master potter. Journeymen who desire rapid advancement typically spend only one year with each master, leaving for employment elsewhere once they obtain a favorable recommendation. A master must employ a journeyman for at least a year before he can grant his recommendation. Three favorable recommendations, each from a different master, are required before a journeyman may apply for status as a master potter.



Masters

Candidates for certification as a master potter must present themselves for examination during a regular convention of the guild's board of syndics. With the written recommendation of three masters as evidence of having mastered the art and science of their craft, candidates are normally required only to demonstrate the ability to manage the day-to-day business operations of a franchise. Examinations are generally oral, though in some cities written examinations are becoming more common.

Unlike journeymen, master potters are not expected to travel. Most settle down and begin families. Masters who will inherit the family's franchise generally return home to take employment as a bonded master. Those without such prospects seek employment as a bonded master in a large pottery where they typically earn 60d per month—more if room and board is not provided. Bonded masters who are married expect additional pay in lieu of room and board. Especially skilled or experienced masters may receive additional pay and incentives.

The guild manages its membership so that there are about three times as many masters as there are franchises. This ensures that there are enough skilled masters to meet the demand for quality pottery and that even the smallest shop has the opportunity to take an apprentice.

Board of Syndics and Guildmaster

All masters, free or bonded, are voting members of the local guild chapter. They elect from their membership a governing board of syndics that in turn appoints one of the board members as the chapter's guildmaster. The size of the board is governed by the size of the local chapter. A five-master membership is most common, but every board consists of an odd number of members whatever its size.

The guildmaster heads the local board and represents it to the local chapter of the mangai. He also sits on the grand chapter's board of syndics that elects the guildmaster of the guild's grand chapter.

The board of syndics is empowered to award and revoke existing franchises, create new franchises, set "fair price" guidelines for utilitarian wares of specific qualities, and rule on disputes between chapter members. The board normally convenes once every six months at a time and place announced at least two months in advance.

During these regular conventions, the board handles routine matters of administration and hears complaints from chapter members, but its main business is to consider applications for apprenticeship and examine applicants for advancement to journeyman and master. Hearings concerning award, revocation, or creation of franchises, however, always take precedence.

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Chapter Organization

The geographic boundaries of the guild's local chapter usually coincide with the boundaries of the local chapter of the mangai. Typically, a major market town, such as a free city or castle town, forms the nucleus of the chapter with guild members at other nearby settlements included in the membership.

Grand chapters are composed of a number of local chapters. Typically, the boundaries of grand chapters coincide with political boundaries so that all local chapters within a state are members of the same grand chapter. In the more-populated areas of the Venarian Sea, however, it is not uncommon for the boundaries of a republic or empire to include two or more grand chapters of the guild.

Another notable exception to the typical pattern is the still very sparsely populated island of Hårn. There, where some estimates put the number of guild franchises to be as few as 180 potteries, local chapters of the potters' guild include entire kingdoms and together form a single grand chapter.

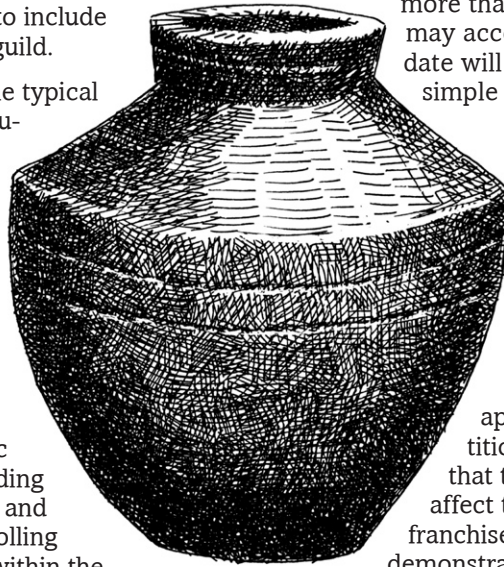
Pottery Franchises

The primary purpose of the potters' guild is to provide economic security to its members by safeguarding the guild's monopoly on the making and sale of ceramic wares, and by controlling the number of franchises available within the chapter. A franchise is a license from the guild entitling the holder to own and operate a pottery within the jurisdiction of the local chapter. The franchise does not include the property, buildings or other equipment the master must obtain or provide in order to actually conduct business. Franchises are granted only to master potters; master potters who own franchises are known as freemaster potters.

Franchises are heritable, and most franchises are passed down from parent to child. Franchise holders may also sell their franchise to another qualified master for whatever price they are able to negotiate. Prices are based on the profitability of the franchise, but most are bought for a price between 1,440d and 7,200d. Having negotiated the purchase of the franchise, the buyer must also negotiate the purchase of real estate, buildings and other equipment, or make arrangements to provide his own. The buyer also bears the expense of the origination fee that transfers the franchise into his own name (240d, paid to the guild chapter to cover the costs of licensing the franchise through the mangai with the local government or lord).

Masters who die without heirs, go bankrupt, or have their franchises revoked for cause forfeit their franchise to the guild chapter. Such franchises are offered for sale by the board of syndics. When possible, the guild uses its own funds to purchase the real estate and capital equipment of failed franchises to make them available to prospective buyers.

The guild may also make loans available to prospective buyers, especially if the franchise was financially solvent before it was reacquired by the guild. In the case of a failed franchise, prospective buyers must prove they have the capital to sustain the operating costs of their first year. In the case of more than one prospective buyer, the board may accept bids to determine which candidate will be granted the franchise, though a simple vote by the board may suffice.



A master potter may petition the board of syndics seeking the creation of a new franchise. Approval of such a petition is very unlikely in areas of minimal population growth, but in areas of population or market growth the petition may be granted.

Before the board considers an application for a new franchise, petitioners are required to demonstrate that the new franchise will not adversely affect the economic security of existing franchises. Successful applicants typically demonstrate that the ratio of existing franchises to population density or market sizes do not meet current guild guidelines and that a new franchise is needed to keep prices stable.

Once the economic security of existing franchises is assured, applicants describe their plans for acquiring the real estate, buildings, machinery and other equipment required to establish the franchise, and demonstrate that they have the capital required to execute their plans. Most boards also require proof of sufficient capital to pay the wages and support costs of all employees through the first year of operation. Loans from the guild to cover these capital costs are sometimes made available.

If a majority of the board's syndics vote for approval of the application, the board acts through the local chapter of the mangai to obtain a business license from the local government or lord. Bribes to facilitate a favorable outcome are considered a routine expense of the process.

Once approved, the board collects a small franchise origination fee from the applicant and issues the appropriate license. Origination fees for a new pottery franchise are 240d.

THE POTTERY

Successful potteries require easy access to four essentials—clay, water, wood, and a market for wares. For these reasons, potteries tend to be located on lowland near a stream or river at the margin of the urban market they serve. Where such ideal locations are not available, most potters prefer to be nearer to their market than to sources of raw materials.

Whether located within a town or on its margin, a pottery normally includes a number of auxiliary buildings and structures in addition to the workshop. These supporting structures, together with the homes of the master potters, give a large pottery the appearance of a small village. The pottery's structures are grouped and sited according to the function they serve.

Expenses and Revenues

Freemaster potters bear all costs of running their franchises. They must pay the salaries and support costs of their employees, as well as a plethora of other expenses. These include the guild tithe (10 percent of the franchise's gross revenue); property tax (usually 6 percent of the value of the franchise's real estate); repair and upkeep of tools and capital equipment; materials such as glass, fluxes, tempers, and special clays; and fuel for the kilns.

Firewood for the kiln is the pottery's major expense. Each firing consumes between one and two cords of wood, for an average cost per firing of about 72d (assuming firewood is purchased at the "trade price," which is 80 percent of retail).

of about 30 cubic feet. Loaded to capacity, it produces about 24 five-gallon urns in a single three-day firing.

At average retail price, those 24 urns sell for a total of 288d. Because most kilns contain a variety of ware in various sizes, it is difficult to fill them to maximum capacity. Revenues are further decreased if the pottery sells in bulk to mercantylers or other potters instead of to retail customers.

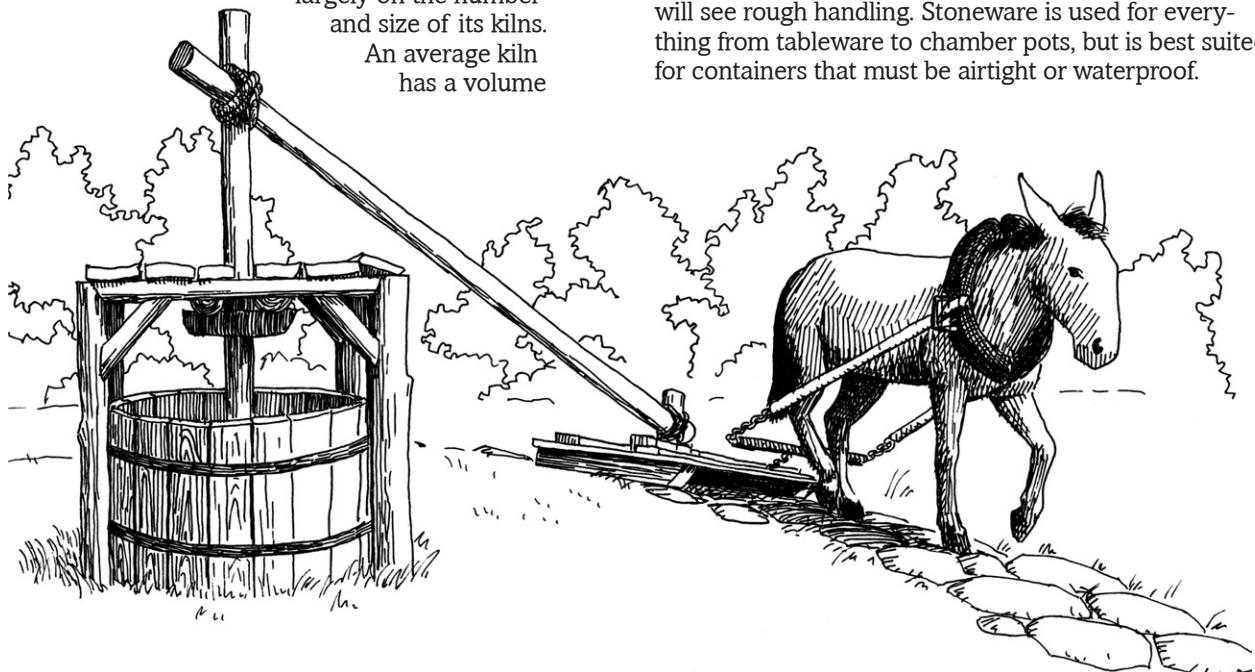
POTTERY PRODUCTION

There are two types of pottery generally available in western Lythia—earthenware and stoneware. A third type, fire clay, is used in special applications such as lining forges and kilns, and in the making of crucibles.

Unglazed earthenware is typically red, brown, or dark gray in color. Because of its composition and because it is fired at lower temperatures, earthenware does not vitrify and remains porous unless covered with a glaze. Earthenware is lighter than stoneware, and glazed earthenware is usually much more colorful—the low temperature at which it is fired makes available a wider range of colors and decorative glazes. Unglazed earthenware is commonly used as cookware. Glazed earthenware is used as tableware and house ware in poorer homes and taverns.

Unglazed stoneware is typically light brown or light gray in color; high quality stoneware is almost white. Because of its composition and because it is fired at higher temperatures, stoneware vitrifies to form a dense, waterproof ceramic that fuses to any glaze present during the firing. Stoneware items are about 20 percent heavier than similar sized earthenware items, and are more durable and better suited for any use where they will see rough handling. Stoneware is used for everything from tableware to chamber pots, but is best suited for containers that must be airtight or waterproof.

A pottery's revenue depends largely on the number and size of its kilns. An average kiln has a volume



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Fire clay is similar to stoneware in appearance, but because it contains a high percentage of alumina and kaolinite, it is much more resistant to heat. Unlike the clay used in earthenware and stoneware, fire clay is seldom found in lowland and is usually obtained in mountainous areas near outcrops of coal. Raw fire clay requires relatively large quantities of temper to create a clay body that is nearly as porous as earthenware. Bricks or tiles of fire clay are used to line forges, kilns and ovens. The crucibles used by miners, smiths, glassworkers, and alchemists are also made of fire clay.

Items with small openings, such as bottles and jugs, use softwood stoppers as seals. Items with ceramic lids, such as storage jars, usually have leather gaskets fitted to the lid. Jars used for long-term storage usually have their lids sealed with wax or tar.

Except where noted, prices in the list on page 10 are based on glazed earthenware of average quality. Unglazed stoneware costs 20 percent more. Glazed stoneware costs 35 percent more. Where appropriate for use in the item listed, unglazed earthenware costs 20 percent less.

Common glaze colors are brown (iron), ginger (iron), and olive-green (iron). Less common and more expensive glaze colors are bright green (copper), blue (cobalt), purple (manganese), pink (chromium with tin), yellow (chromium with tin), and opaque white (tin). Red (copper fired in a reducing atmosphere) is difficult to achieve and is extremely rare.

The retail cost of pieces with the expensive colors is greater than the listed price by 5 percent or 1f, whichever is higher. Pieces glazed in red retail at a price greater than the listed price by 10 percent or 2f, whichever is higher.

Typical decorations of engraving or carving can add as much as 50 percent of the listed price to the final price. High-quality decorative work with inlay or intricate painting by well-known master potters can triple the calculated value.

Winning the Clay

One of the distinctive features of a pottery is its clay pit. High-iron content surface clay, the red clay used in everyday earthenware, can be found almost anywhere. But the ball clay used in quality pottery is usually found near the banks of a watercourse. Between the high water table and rain, the pits stay half-filled with water.

Winning the clay, digging it from the pit, is normally done during autumn. Apprentices use wooden spades, with holes cut in them to prevent sticking, to move a year's supply of clay to the seasoning pit. This is difficult and tiring work—one cubic yard (765 liters) of clay can weigh as much as 3,000 pounds when wet.

The won clay is mixed with water in the seasoning pit and sieved to remove stones and other debris. The seasoning pit is normally sheltered by a thatch roof and has one or more drains to control rain flooding and allow the clay to dry. Drains are sometimes arranged to create coarse and fine clays by draining off finer, lighter clay particles into other pits. Potteries that work in several clays (e.g., earthenware, stoneware, and fire clay) have separate seasoning pits for each type of clay.

Throughout the winter, the clay is turned and mixed to expose it to the action of wind and frost, breaking it up and improving its plasticity. In the spring, the seasoned clay, now fairly dry, is broken up and cleaned of any remaining debris, then moved to the mixing shed.

Preparing the Clay

The raw clay is transformed into a clay body by adding fluxes and tempers. Fluxes, usually feldspar, lower the temperature at which the clay vitrifies, while tempers, such as sand or crushed pottery, make the clay more workable and stable by lessening stickiness and controlling shrinkage. Master potters develop their own recipes for a variety of clay bodies, giving their work a distinctive quality.

The components of the fluxes and tempers are ground into a fine powder on worktables in the mixing shed and stored in separate containers until use. Carefully measured quantities of raw clay, flux, and temper are placed in large wooden barrels or troughs. Water is added to create thin slurry known as slip.

The slip is thoroughly mixed and set aside to allow the clay body to settle to the bottom of the container. Excess water is poured off and the clay is spread in a thin layer on a wooden table and left to dry. Drying pans, ovens of a sort, are sometimes used instead of drying tables. When sufficiently dry, the clay body is moved to a pug tank or, in larger potteries, to a pug mill.

Pugging is the process of grinding and mixing the clay until it is suitable for working by hand. In small potteries, or poor ones, pugging is the work of apprentices who churn the clay body with their feet. A pug mill uses an animal strapped to a pole which turns a set of wooden blades and paddles within the pug tank. Potteries with pug mills normally stable the animal at the pottery.

After pugging, the clay body is cut into easily handled lumps, wedged by hand on sturdy wooden tables, and then put to immediate use, sold to other potteries, or placed into temporary storage.

Using the Clay

The potter's wheel is the quickest and most efficient method to throw clay into usable shapes, but using one requires both skill and experience. With a

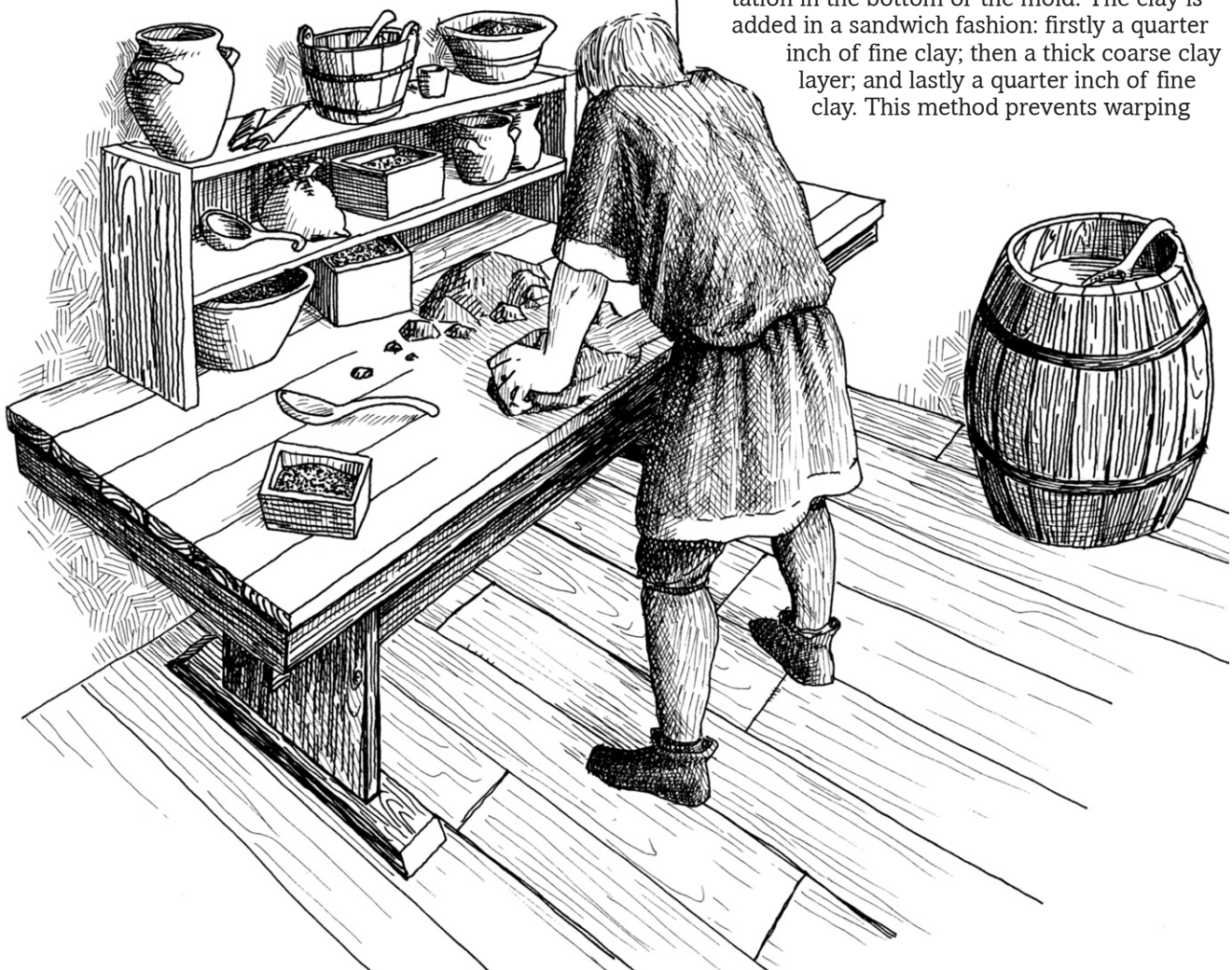
wheel, a skilled potter can produce small items such as mugs, tankards, and small bowls in about a minute. Larger items, or those requiring tight-fitting lids, take significantly more time. Lidded storage jars with capacities of several gallons can take as long as half an hour. The process is made more efficient by producing a number of like items at one sitting, and by using the same amount of clay in the making of each item. Scales or rules are used to weigh or measure out the lumps of clay before work begins.

Hand building, joining coils or slabs of clay together into useful shapes, allows the potter to make thicker pieces well suited for use as cookware. This technique is slower but requires less skill, and such work is often used to train apprentices in the handling characteristics of various clay bodies. Hand building requires sturdy wooden worktables, sometimes covered with rough cloth, and wooden rollers, paddles, and similar tools.

Molding—pressing thinner slabs of clay into molds of metal, wood, or fired ceramic to create useful shapes—requires even less skill. The pressed clay is left in the mold until dry and stiff enough to be handled without deforming its shape. Large open shelves, portable enough to be moved in and out of doors, hold the filled molds while drying. Molds are used in making decorative tiles, fire tiles and bricks, flat flasks, small oil lamps, game pieces, loom weights, and similar wares.

After they are fashioned into shape, items that are to be joined together, such as two halves of a flask, or which will receive handles, knobs, or decorative attachments, are placed on drying racks or shelves and left until they reach leather-hardness. Once the pieces are dry enough to handle, a thin slip is used like glue to join the pieces and they are set aside for further drying.

Making decorative tiles, especially those of a high quality, requires the use of multiple clay bodies and decorative slips. The tile is formed in a mold with a relief pattern that forms an indentation in the bottom of the mold. The clay is added in a sandwich fashion: firstly a quarter inch of fine clay; then a thick coarse clay layer; and lastly a quarter inch of fine clay. This method prevents warping



and gives a fine clay surface and a sturdy interior body. The tile is allowed to dry until safe to remove from the mold, then colored slip is poured onto the surface filling the indented pattern in the clay. After three days of additional drying, the surface layer of slip is scraped to reveal the design and the tile is set aside until dry enough to fire.

Green pottery requires up to 20 days of drying time before it is ready to go into the kiln. Weather permitting, racks and shelves are placed outside where wind and sun can aid drying. At other times, the wares are kept inside drying sheds. Most drying sheds are equipped with drying ovens or braziers for use in the final days of drying during humid or cold weather.

Decorating the Clay

Decorating adds value to any object, and pottery is no exception. Common cookware, thick pots of earthenware that see service in cooking fires and ovens, is seldom decorated but a wide variety of techniques are used on tableware, burial urns, and house wares such as ink pots, lamps, and spice boxes.

Decoration can start with the making of the pot—by combining two or more clay bodies of different color in its making. Most decoration, however, is applied after the pot is made but before it is fired, while it is still leather-hard, damp green ware.

Simple decoration involves using the fingers to pinch designs into the pot, or the use of stamps, seals, or other devices to impress designs into the clay. Simple tools such as wooden or metal knives can be used to create more complex designs by engraving, carving, or piercing the clay. Cutting tools can also be used to inlay a differently colored clay body into the piece. Flutes and facets are often cut onto the sides of drinking vessels and similar tableware to make them hexagonal or octagonal in shape—such designs are especially popular in some churches.

Decorative slips—thin slurries of clay with colorants added—are often used to color simple earthenware. Most often used to change the color of the inside of bowls, slips are also used to paint designs on the outside of taller vessels. Colored slips are also used as the outside coating on pots that will be decorated by sgraffito—a technique of cutting designs into and through the colored layer to reveal the contrasting color of the clay beneath. Colored slips are created through the careful addition of minerals such as iron oxide, cobalt, manganese, and copper to thin, creamy slurries of clay. Their recipes, like those for clay bodies, are often closely guarded secrets.

Because slips are not waterproof, they are usually coated with a transparent or near-transparent glaze. The glaze adds sheen to the color but, more importantly, also makes the pot waterproof. Cookware

is seldom glazed, but tableware and storage vessels are often glazed on the inside to make them easier to clean and waterproof or airtight.

Although waterproof by its nature, stoneware is also frequently glazed. The higher temperatures at which stoneware is fired permits ash or salt glazing (these materials are added to the atmosphere of the kiln while pottery is firing to create decorative effects on the exterior of the pots). But most stoneware items also have traditional glazing applied to their interiors, making the interior smooth and easier to clean—properties important in ware such as butter crocks, milk jugs, chamber pots, and similar utilitarian vessels.

As the name implies, the primary ingredient in most glazes is ground glass or raw silica. Other ingredients, such as fluxes of lead, borax, sodium, or potassium, and colorants like those used in clay bodies and colored slips, are added to produce various colors and textures. Master potters develop their own unique recipes for glazes and many are well-guarded secrets.

Some clay bodies are fired twice—first at a low temperature, fixing the clay in a stable size and shape, then again at a higher temperature after the addition of decorative or waterproofing slips and glazes. This double-firing technique drastically increases the cost of the pot and is a seldom-used technique reserved for only the most artistic work.

Pots to receive a second glaze firing must cool to near room temperature before the liquid glazing compounds are painted onto them, and the glaze must dry thoroughly before the pot is returned to the kiln. Shelves in the glazing or mixing shed hold them until they are ready for their second firing.

Firing the Clay

The kiln is the heart of the pottery, and all but the smallest potteries have more than one. In a well run pottery, the kiln is in constant use—either being loaded, fired, or unloaded. Kilns have an average service life of about one hundred firings and are rebuilt about once a year.

Above ground, the kiln is essentially an open-topped cylinder made of fieldstone or earth. Most are between three and four feet in diameter and about waist high, though larger ones are now possible since the adoption of the double flue design. The kiln's interior is usually lined with a layer of firebricks, both to extend the life of the kiln and to aid in controlling the interior temperatures. A temporary closure of insulating earth and clay over a frame of fire clay-coated poles is built atop the kiln each time it is loaded and fired.

Below ground, a flue connects the pierced floor of the kiln to a nearby fire pit. The fire that heats the kiln is laid inside the flue and fed and maintained by

pottery inside the fire pit. This arrangement helps create the draft that pulls the heat and combustible gases through the kiln while also sheltering the fire from direct wind. A low wall is sometimes built around the kiln to provide additional protection from the wind.

Old style kilns use only a single flue. While suitable for a small kiln, the single flue design heats unevenly and only with great care can it produce the higher temperatures used in making stoneware or firebricks and crucibles. For these reasons, the double flue design is becoming commonplace in all but the smallest potteries. This new design, in which the kiln is served by two flues on opposite sides of the kiln, originated in Erael over two centuries ago but only in the last fifty years has its use spread to Kethira's human potters through the guild.

Great care is used in loading the kiln—partly because its walls are still warm from the previous firing, but mainly because green ware ready for firing is extremely fragile. If their exteriors are not glazed, large pots are stacked directly on the floor and on top of each other. Smaller items and those with external decorative glazes are stacked on saggars, large tiles of fire clay that are placed in the kiln like shelves between layers of clay ware. Firing glazed ware requires greater care—the potter must ensure that glazed surfaces do not touch each other or the sides of the kiln or they will stick. Skill and experience are required to load the kiln in a way that makes best use of the space while avoiding the creation of cold spots or hot spots.

Building and maintaining the fire is no simple task. Different woods burn at different rates and produce different temperatures. Controlling the temperature within the kiln involves choosing the right variety of wood from the stack, and feeding it at a controlled rate. Generally, hardwoods are used to slowly bring the kiln up to temperature, and faster burning softwoods are used in the final hours to rapidly achieve the temperatures at which stoneware vitrifies. The fire is tended constantly, being recharged and stoked every 15 minutes over the 18 to 24 hour duration of the firing.

Stacking the wood close at hand, sorted by variety and cut to the right length, is the task of the apprentice.

Each clay body requires firing within a certain range of temperature to achieve the desired properties in the finished piece. A small hole in the side of the kiln allows the potter to observe the clay as the firing progresses—the color of the heated clay indicates the temperatures attained within the kiln. Common earthenware is fired until it glows orange. Stoneware is fired at much higher temperatures, fusing the clay into a waterproof ceramic; it is fired until the clay glows with the palest of yellow. Achieving the right temperature for each firing requires experience and careful attention to the fire and the fuel that feeds it.

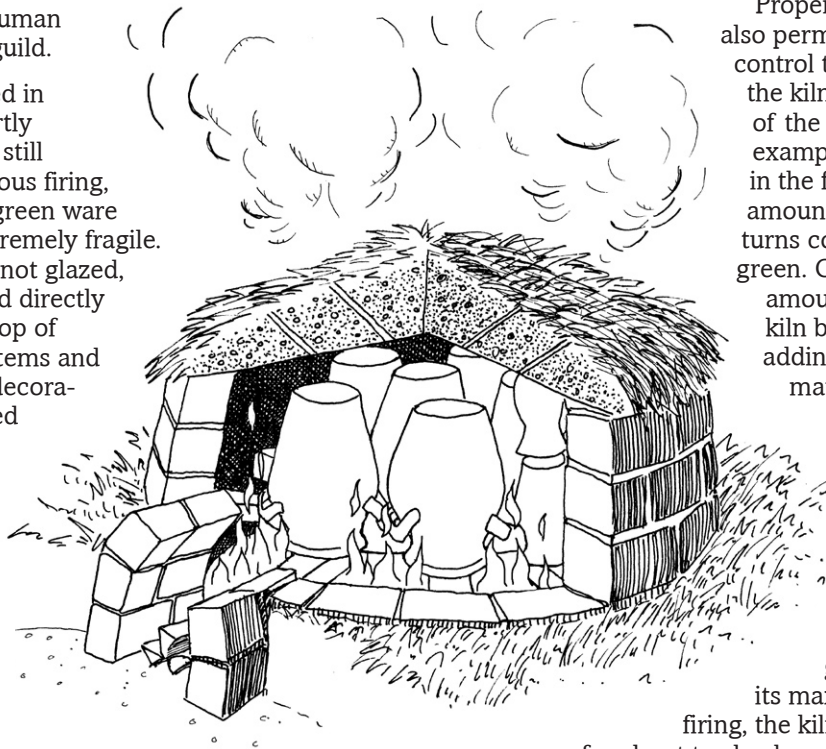
Proper control of the fire also permits the potter to control the atmosphere inside the kiln to enhance the effect of the fire on the glaze. For example, opening dampers in the flue to increase the amount of oxygen in the kiln turns copper glazes a brilliant green. Carefully reducing the amount of oxygen in the kiln by closing dampers or adding sawdust or other material to the fire shifts copper glazes to red.

Rapid temperature changes crack most pottery, so the kiln is loaded while still warm to pre-heat the pots and the fire is gradually built up to its maximum heat. After firing, the kiln is allowed to cool

for about twelve hours before it is opened and the pottery removed. Pottery that is to be re-fired, perhaps because of special glazing, is moved to a covered storage area where it is allowed to cool to room temperature before any liquid glazing compounds are applied.

About 20 percent of each firing run emerges from the kiln with some flaw. Some pots can be salvaged; those that cannot be are thrown on the pile of 'wasters' and are later ground into grog for use as a tempering agent.

A typical firing takes between 18 and 24 hours and consumes between one and two cords of wood, depending on the size of the kiln and the firing temperature. After accounting for time for cooling, loading and unloading, a single firing requires about three days.



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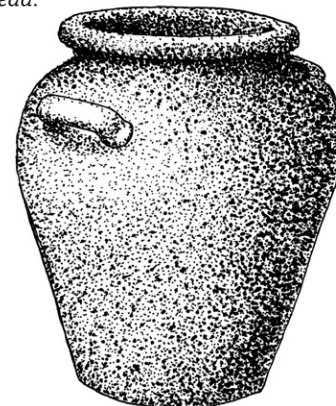
POTTERY PRICE LIST

AMPHORAE ¹ /Azeryani (7 gal)	14d	JUG/with soft wood or cork stopper, 1 gal	9d
AMPHORAE ¹ /Karejian (9 gal)	18d	LAMP/simple bowl	½d
AMPHORAE ¹ /Lerenil (15 gal)	28d	LAMP/enclosed bowl	2d
BAKING DISH/2 pint	3d	LAMP/pedestal	1d
BAKING DISH/4 pint	5d	LOOM WEIGHT/unglazed earthenware/1 lbs.	¼d
BAKING DISH/with lid, 2 pint	5d	MORTAR AND PESTLE/unglazed stoneware, 1 pint	6d
BAKING DISH/with lid, 4 pint	8d	MOLDS/unglazed stoneware (candle, cake)	6d+
BASIN/4 pint	6d	PAN/Chafing	2d
BASIN/1 gal	7d	PAN/Dripping	2d
BEADS, DECORATIVE/¼" to ½"	6d/doz	PITCHER/2 pint	4d
BRICK, FIRE CLAY/8" × 3¾" × 2¼"	6d	PIPE/smoking	2d
BOTTLE/2 pint	4d	PIPKIN ² /cooking pot with handle, 1 pint	3d
BOWL, SERVING/1 pint	2d	PIPKIN ² /cooking pot with handle, 2 pint	4d
BOWL, SERVING/2 pint	4d	PIPKIN ² /cooking pot with handle, 4 pint	6d
BOWL, SERVING/4 pint	6d	PLATE/Dining	1d
BOX, LIDDED/half pint (spices, etc.)	2d	PLATE/Serving	2d
BOX, LIDDED/1 pint (money, relics, etc.)	3d	PLATTER	3d
CANDLE HOLDER	½d	POT/cooking, 2 pint	2d
CHAMBER POT	6d	POT/cooking, 4 pint	4d
CLAY BODY/ready to use, 100 lbs.	20d	POT/infusing (tea, etc.), 1 pint	4d
CRUCIBLE/¼ pint (alchemist, jeweler)	2d	SEAL/wax imprinting	3d+
CRUCIBLE/1 pint (glassworker, miner)	4d	SKILLET	3d
CRUCIBLE/2+ pint (miner)	6d+	SPINDLEWHORL ³	½d
DRINKING/beaker (drinking pot), ½ pint	¾d	TILE/decorative, 4" × 4" × ½"	2d+
DRINKING/cup, half pint	1d	TILE/fire clay, 4" × 2" × 1"	½d
DRINKING/tankard, 1 pint	2d	TILE/fire clay, 4" × 4" × 1"	1d
DRINKING/flagon, 2 pint	4d	TILE/roof ridge 8" × 12" × ½"	1d
GAMING PIECES/1"	3d/doz	URN/Azeryani (3½ gal)	8d
ICON, RELIGIOUS/4"	2d	URN/Hârníc (5 gal)	12d
ICON, RELIGIOUS/8"	4d	VASE	4d
INKPOT/with lid and waxed leather gasket	4d		
JAR, LIDDED/1 pint	3d		
JAR, LIDDED/2 pint	5d		
JAR, LIDDED/1 gal	8d		
JAR, ACID STORAGE OR PRESERVING/ lidded, with waxed leather gasket and securing wire or thong, 1 pint	4d		
JAR, ACID STORAGE OR PRESERVING/ lidded, with waxed leather gasket and securing wire or thong, 2 pint	6d		
JAR, OINTMENT/small, with soft wood or cork stopper, ½ oz capacity	½d		
JAR, OINTMENT/small, with soft wood or cork stopper, 1 oz capacity	1d		
JAR, OINTMENT/small, with soft wood or cork stopper, 2 oz capacity	1½d		
JAR, OINTMENT/small, with soft wood or cork stopper, 4 oz capacity	2d		
JUG/with soft wood or cork stopper, 4 pint	7d		

¹ Amphora: large storage container for liquids, usually wine.

² Pipkin: cooking pot with horizontal handle.

³ Spindlewhorl: short rod mounted on a disc used in spinning fibre into thread.



GAMEMASTER NOTES

Though few players are likely to be interested in potter characters, you may find the information below helpful in creating a Hârníc pottery.

Pottery Generation

Use the following system to generate a new pottery. You may let the dice choose for you or pick values appropriate to the setting and your needs.

Number of Potteries. About 65 percent of the feudal towns (those centered on a castle or keep) described in official Hârn supplements have at least one pottery franchise in operation, while about 5 percent of them have two franchises.

Use percentile dice to determine how many pottery franchises are present. A roll of 01 to 05 indicates two franchises are present, and a roll of 06 to 65 indicates only one franchise is present. Use discretion—few small towns will have more than one franchise.

Pottery Size. Roll 3d6 on the Pottery Size table to determine the size of the pottery randomly, or pick a size appropriate to the locale (most published Hârníc potteries are size 4). This table also shows typical staffing for a pottery of each size.

POTTERY SIZE					
3d6	Size	FM	BM	JM	AP
3–4	1	1	–	–	–
5–7	2	1	–	–	1
8	3	1	–	1	1
9–10	4	1	1	1	1
11	5	1	2	1	1
12	6	1	3	1	1
13–14	7	1	3	2	1
15	8	1	3	2	2
16	9	1	4	2	2
17–18	10+	1	4	3	2

FM Freemaster
BM Bonded Master
JM Journeyman
AP Apprentice

POTTERY QR	
3d6	QR
3–5	One star
6	Two star
7–10	Three star
11–13	Four star
14–18	Five star

Quality Rating (QR). Roll 3d6 on the Pottery QR table to determine the pottery's quality rating. Most published Hârníc potteries have a quality rating of 3.

Price Multiplier. Roll 3d6 on the Pottery Price Multiplier table to determine the pottery's price multiplier. Most published Hârníc potteries have an Average (1.0) price multiplier. Use discretion—few one star franchises charge above average prices, while those in remote areas or where clay is less common might charge more.

POTTERY PRICE MULTIPLIER	
3d6	Price Multiplier
3–6	Low (0.8)
7–12	Average (1.0)
13–17	High (1.25)
18	Very High (1.5)

HârnMaster Pottery Skills

In the current version of CGI's HârnMaster rule set, first year journeymen potters have ceramics at SB4 and glassworking at SB2. A journeyman potter who is following the family trade has ceramics at SB5 and glassworking at SB3.

In CGI's original version of the HârnMaster rules (HM1), first year journeymen had ceramics at SB4, glassworking at SB2, and mineralogy at SB2. Under the rules of HM1, mineralogy was a skill shared with alchemists, jewelers, metalsmiths, miners, salters, and weaponcrafters. Among other things, mineralogy allowed the potter to prospect for and acquire his own clays, fluxes, and tempers as well as the components that make up the glazes used in pottery.

In the current version of the HârnMaster rule set, mining replaces mineralogy in the list of skills conferred on journeymen in the above listed occupations—with the notable exception of the potter. This is clearly an oversight, so you might allow potters at least the ability to prospect for and acquire the raw materials of their trade by granting beginning journeymen the mining skill at SB2.

Alchemy is a skill the HârnMaster rule set confers on alchemists, apothecaries, chandlers, embalmers, glassworkers, hideworkers, physicians, lexigraphers (in the alchemical speciality of inkcraft), and even perfumers—but not potters. Potters would use the skill of alchemy in developing and formulating their own unique recipes for clay bodies and glazes and you may desire to test alchemy instead of the more generic ceramics when evaluating the success or failure of those tasks. You may opt to make alchemy available to PC potters as an optional skill. If you desire to modify the potter's list of occupational skills to include alchemy, an opening skill level of SB2 for beginning journeymen is reasonable.

Mathematics and the ability to read and write are other recommended skills for the potter NPC, particularly in the case of a freemaster running a franchise.

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Progressing Through the Ranks

Use the following tables as guides in assigning skill mastery levels to NPC potters.

APPRENTICE						
Skill	Year					
	1	2	3	4	5	6
Ceramic	12	17	21	26	30	35
Glass	6	9	10	13	15	18
Mining	6	9	10	13	15	18
Alchemy	6	9	10	13	15	18

JOURNEYMAN						
Skill	Year					
	1	2	3	–	–	–
Ceramic	39	44	48	–	–	–
Glass	20	22	24	–	–	–
Mining	20	22	24	–	–	–
Alchemy	20	22	24	–	–	–

MASTER					
Skill	Stars				
	1	2	3	4	5
Ceramic	51	61	71	81	101+
Glass	25	30	35	40	50+
Mining	25	30	35	40	50+
Alchemy	25	30	35	40	50+

Player characters progress in proficiency through monthly skill development rolls. You may wish to require PC journeymen potters to attain the indicated mastery level before receiving a recommendation from their employers and advancing to the next level of status and wages. For example., a journeyman who has achieved a ceramics ML of only 46 at the end of his second year won't receive a recommendation from his employer, but continue to receive the wages and privileges of a second-year journeyman, regardless of the number of years he has been employed as a journeyman, until he has achieved an ML of at least 48.

You may wish to automatically advance eligible PCs to the status of journeymen or master potters upon their application to the board of syndics. If you require applicants to complete an examination before advancement, require the applicant to roll against his current ceramics ML. A successful result grants the applicant the advanced status, while a failed roll requires reapplication and re-examination at the next meeting of the board.

How Big is the Local Guild Chapter?

In the published Hårnic material, the number of franchises in a kingdom is equal to roughly 70 percent the number of feudal towns in the kingdom, plus three or four franchises for each free town. You can use that

figure with the following ratios to establish the number of guildsmen of each rank in a given chapter.

GUILD RANK RATIOS	
Ratio	Value
Masters to franchises	2.75 : 1
Journeymen to masters	0.40 : 1
Apprentices to masters	0.40 : 1

For example, Kaldor's 27 feudal towns should have between them approximately 19 pottery franchises. The town of Tashal has three pottery franchises, so Kaldor should have a total of approximately 22 pottery franchises. The ratio of master potters to franchises is 2.75 to 1, so Kaldor's chapter of the potters' guild should consist of about 60 master potters.

Journeymen spend three or more years perfecting their skills before they become master potters. But some of them never apply for their master's rating, either out of apathy or because they fail to achieve the required degree of skill in their craft. Together, these two groups of journeymen have a ratio to master potters of 0.4 to 1. Since there are 60 masters in the chapter, there should be about 24 journeymen in Kaldor's chapter of the potters' guild.

Because not all apprentices go on to become master potters, the guild accepts two apprentices for each retiring master. Given the amount of time apprentices spend in training and a dropout rate of about 8 percent each year, the ratio of apprentices to masters is about 0.4 to 1. Since there are 60 masters in the chapter, there should be about 24 apprentices in Kaldor's chapter of the potters' guild.

With 60 master potters, 24 journeymen, and 24 apprentices, Kaldor's chapter of the potters' guild has a total membership of 108 guilded potters. Only the master potters are entitled to vote in the chapter's deliberations.

What About the Competition?

Using the published material as a guide, pottery franchises outnumber glassworker franchises almost four to one. Glassworkers are typically found in free towns or the larger feudal towns. Any of their wares offered for sale in smaller towns will have been brought there as imports by traveling mercantylers. The two guilds compete for the luxury market represented by the great noble houses and wealthy merchants and craftsmen.

A Final Note to Potters

Yes, I know that nowadays we routinely fire pottery twice. But most pottery made prior to the industrial revolution was fired only once, with glazes applied directly to the green ware. The information contained in this article assumes Hårnic potters are using the medieval Terran techniques.