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The Growth of Pottery, Metallurgy,
and Craft Specialization in Ancient Mesopotamia

Ancient Mesopotamian civilization is perhaps most well-known for its major achievements in the development of society as a structured and organized unit, beginning with the discovery of agriculture, the development of writing, and eventually the emergence of cities and states. It was a long internal process of change that spanned for centuries but relatively short compared to the simple nomadic lifestyle that persisted for millennia. As such, it was no easy task for early Near East dwellers to come up with ideas previously unimaginable, not to mention from untrodden territory, to have a better form of living. But as an underlying thought of this paper, man and his nature will overcome such difficulties out of need and necessity.

One of the earliest major breakthroughs in ancient civilization is the invention of pottery, prompted by the discovery of agriculture by indigenous settlers who needed storage facilities for their newly found food staples like wheat and barley. It was the beginning of change that broke the seemingly monotonous and uneventful cycle of continuous foraging in an area before moving to another to do the same thing. It was also the first step towards more complex associations with the physical world, including metallurgy and craft specialization which will be discussed later on.

As time passed, pottery became more than just a simply-designed and crafted household item. In 5500 B.C., there existed a type of painted pottery adorned with animal figures called Halafian pottery that was a leap from the previous periods' monochromatic design (Price, 430). Subsequently, in 5300 B.C., under the new Ubaid period, Halafian pottery was replaced with Ubaid pottery characterized by its monochrome pots however with geometric designs. In addition, with the first use of a slow-turning potter's wheel, a wider range of pottery wares became readily available than the earlier Halaf (Price, 432).

The changes on pottery during the Halaf and the Ubaid were nothing compared to the drastic change in the succeeding period, however. During these two periods, the surface design was all that changed but with the turn of the new period, Uruk, during the early Fourth Millennium B.C., all decorative work ceased to exist on plates, bowls, and jars. The carefully fashioned and designed potteries became simple and untasteful. It was the time of unpainted pottery. But saying that the lack of aesthetic on Uruk pottery is what made this period different and unique is only partially true. When looking at relics, particularly bowls, anyone fairly knowledgeable about the Uruk period will almost immediately recognize a beveled-rim bowl at first glance and categorize it as an Uruk material culture. Its distinguishing features are its crude and plain undecorated look with a rim to prevent cracking.

The beveled-rim bowl is not only special because of its exclusivity, but also because it remains as one of the unproven mysteries of Ancient Mesopotamia. Nobody knows exactly what it was made for. In 1968, H. J. Nissen offered his theory that the bowls were used as ration bowls, and has since then become the most widely accepted reason. However due to the lack of concrete evidence thereof, others have opposed Nissen's theory like T. W. Beale and A. R. Millard in 1978 and 1988, respectively. Beale says the bowls were votive and brought to the

temple, while Millard argued they functioned as bread molds. Nevertheless, it is still Nissen's theory that seems most probable. (Potts, D., 151-153)

As D. T. Potts noted, it's not as much important to know the use of the bowls as to the reason for their crude appearance and uniformity. With its longevity of much of the Fourth Millennium B.C., Uruk had ample time to begin a process of urbanization through fortification of settlements, absorption of neighboring small units within its walls, and expansion of territories by building colonies. Habuba Kebira in the south of Syria is probably the largest and, if not, the most well-known Uruk colony with its fortified walls, gate, and uniform internal structure that suggests a level of authority and initial planning during and prior to construction (Van De Mieroop, 37). With urbanization comes an increase in population and an increased demand of goods, including pottery wares. And by looking at the beveled-rim bowl and other Uruk pottery it was obviously much more important to have an adequate supply of goods than spend time to make them aesthetically pleasing.

Another aspect to look at besides urbanization as the reason for the drastic change in pottery is the abundance of clay in the region. Pottery was fairly new during the Halaf and Ubaid period so intricate designs and patterns may have been used to gauge personal material wealth. This must be the reason that led people to overlook the implications of having an almost endless supply of the raw material from the Tigris and Euphrates banks. But as more materials were acquired through trades and invention of new crafts, pottery became much common and these new materials like textiles and imported metal goods turned out to be more valued (Price, 436). Among these metal goods was copper that was mostly traded. It even made its way to the list of top Uruk material culture by being the next most abundant material next to clay.

The trade of copper in northern Mesopotamia can be traced back as early as the Fifth or Sixth Millennium B.C. but not in the south until around 3500 B.C. (Price, 436). It is believed the supplies most probably came from Anatolia, Cyprus, Oman, Iran, and most especially Anarak in central west Iran because of its close proximity to the Near East (Potts, T., 391; Potts, D., 165). It should be useful to know that Anarak copper was also called arsenal copper because of its special impurities. This type of copper was found in an overwhelming number of Ancient Mesopotamian artifacts. The availability of raw metal materials gave rise to a new industry in Mesopotamia that is metallurgy, and by 3000 B.C. coppersmiths were present in the south (Price, 436). Other metals were also traded like tin, silver, lead, and gold, albeit significantly less than copper due to the limited knowledge of metal working by the Mesopotamians around this time. Thus, only simple artifacts like ornaments, beads, jewelry were created.

Not much knowledge is known about the level of metal industry in Ancient Mesopotamia because of lack of physical identification of workshops and debris from metalwork in archaeological sites, but some texts give light to their operations. There is the Old Babylon text from Sinkashid palace in Uruk, as well as Third Dynasty of Ur (shortened Ur III) texts giving accurate descriptions of the measurements used by craftsmen (Potts, D., 178). It was by the excavation work of Leonard Woolley in 1922 at Ur that gave us physical evidence regarding the claims of these texts. He literally unearthed a number of what he called 'royal graves' containing a generous amount of metal works, suggesting a high level of metal material wealth during this period.

The collection of graves became known as the Royal Cemetery of Ur whose artifacts were found to be from the Third Millennium B.C. during the Early Dynasty (III) of Ur, and marked the beginning of Bronze Age. The most famous individual buried in the tomb is Queen

Pu-abu whose servants were buried alongside her. The manner in which she and, presumably, her servants and soldiers were buried and preserved sparked debates as to the reason behind it. Some say it's out of reverence and servitude to royalty, while some say it's enforced upon them as part of the divination practice upheld by the royalty. Whichever the case is, it doesn't change the fact that as the ruling monarch dies, everybody goes with him/her.

Besides that, it was in this site that first findings of more complex metal work other than small ornaments from previous periods were found. These graves that housed weapons, tools, cast metal vessels, statuettes, and elaborate ornaments and headdresses for almost 5000 years while remaining intact was indeed a great archaeological discovery. The weapons and tools were made of arsenal copper imported from Anarak while cast metal vessels were of tin bronze (Potts D., 170). The gold articles found are of utmost importance but less due to its monetary value and more to the techniques employed. Jewelers of the Early Dynasty of Ur showed signs of a mastery of gold-working techniques such as "gilding, chasing, inlaying, casting, filigree work, cloisonné, hard soldering and granulation" (Potts D., 178). Thus, it could be said that by the Third Millennium B.C., Sumerian craftsmen were masters of basic metal-working techniques (Moorey, 28).

Among the techniques practiced during the Early Dynastic period were copper overlaying, lost-wax casting, and engraving on metal. Large free-standing animals like those found from Tell al-Ubaid were not purely metal but had wooden cores with a copper sheet overlay. At Sin Temple in Khafajah, a small copper bull's head was found to have been created using this method (Moorey, 27). Lost-wax casting involves creating an initial model made of wax then plastering it with a fire-proof material, usually clay. The wax is melted and poured out, and the clay that plastered it becomes the mold. Copper is then poured into the mold, previously

occupied by wax, and after cooling it down, the clay is broken and all that's left is the hardened metal. Using this method leaves "casting webs" – a noted common characteristic to the following statues currently housed in museums around the globe: a bearded male figure in kilt in Louvre, a copper statuette of a man in the Metropolitan Museum in New York, and a copper male worshipper in Schimmel (Moorey, 27-28). The art of engraving on metal is best exemplified by the most well-known silver article, the Vase of Entemena of Lagash from Tello (Potts, D., 174) as an offering to the god Ningirsu. The vase is characterized by cuneiform script on the rim and graphical depictions over the body.

The three techniques may seem like something that Sumerians would come up with, but is apparently not the case this time. They were not pioneered work by the Sumerians. According to Moorey, they were in fact, methods largely indebted to Iran as one of the prominent metal suppliers in Ancient Mesopotamia.

In the Early Dynasty of Ur, each workshop was distinct in its own way and was classified accordingly. A smith who was responsible for smelting and casting metal was different from a metalworker who turned smelted metal into objects of use. Likewise, a metalworker is different from jewelers and goldsmiths (Potts, D., 179) with the former specializing in any type of ornament and the latter specializing in any work related to gold and other precious metals. Before, it was said that neither physical metal workshop nor debris from workshops could be found in archaeological sites, but a site of metalwork was identified in Tell edh-Dhiba'i from the Isin-Larsa period during the Second Millennium B.C. However, this is a full millennium after the Early Dynastic period where the bulk of metal items found in the Royal Cemetery are reportedly from. Because of the persisting lack of evidence of these metal workshops against the numerous metal artifacts, the relationship can only be described as inversely proportional.

Looking into the pottery and metallurgy industry of the Near East, especially in the south where most of these were manufactured, tells us a lot about the craft specialization present in Ancient Mesopotamia. But what is craft specialization? It is the production of one thing and less of the other, similar to a household making more than what it needs; a surplus of goods basically. The idea behind craft specialization and its importance in a growing society like the Uruk period in the Fourth Millennium B.C. is that people were able to have different kind of goods without having to worry about how they'll make it. Each household didn't have to be well-versed in every trade to get the item they wanted or needed. It was the opposite of nomadic lifestyle where each family had to have a hunter or an herb gatherer to fulfill its needs. Another advantage of specialization is that it increased the crafter's ability to create something ten-fold, simply by doing one thing many times over. It also allowed the production of more quality goods in the market. So, without a doubt, craft specialization is a key factor in a political economy of complex societies (Stein, 25).

Craft specialists in the ancient times were (but not limited to) reed workers, leather workers, bleachers, potters, carpenters, metal smiths, builders, textile producers, and stone cutters (Stein, 19). According to Stein, craft specialization existed in the Fifth Millennium B.C. in the form of independent workshops which were not centralized by any ruling body. In the Fourth Millennium B.C., the uniformity and evident mass production of the beveled-rim bowls indicates specialization that ruled out any possibility that the bowls were home-made. It is simply not feasible to have each and every household create something of very close proportions and likeness in large quantities as that of the bowls. Even the level of sophistication of the Late Uruk pottery, composite vase, (Potts, D., 154) was not something a regular household can do without serious training and devotion.

In addition to the growing dependence on pottery and metalwork, the rapid development of political administration during the Late Uruk period as seen through the rise of cities and states necessitated the reconstruction of the currently existing economic specialization that prompted the transition from independent craft manufacture within homes to a more publicized sector. Requirements, regulations, and careful tracking of the production of goods were standardized like those of Ur III pottery workshop's texts from Umma that describes pottery production in terms of vessel types and the time required to make each kind (Potts, D., 155-156). Another textual evidence of a centralized economic specialization during this period is the Standard Professions List that lists different occupations in order of importance: smiths, jewelers, stonecutters, potters (Stein, 31).

Although there were major changes in craft specialization in Uruk, Stein argues that Ancient Mesopotamia maintained a dual craft economy from the Late Uruk period onward. He called the centralized institutions 'attached' while the utilitarian as 'independent'. 'Attached' craft manufacturing comprised mainly of high prestige goods produced by weavers, stoneworkers, metal smiths, and woodworkers who were under central control. 'Independent' workshops present everywhere created the everyday and fairly cheap items like potteries which required little to no regulation. This 'dual' economy proposed by Stein further exemplifies the change in the importance of pottery and metal crafts over time that can be attributed to the resource availability in the region (one abundant, one traded).

Innovation is also dependent on the availability of resources. Going all the way back, the discovery of agriculture was only possible because of the fertile land between Tigris and Euphrates that only called for farming. Clay that is overly abundant in Mesopotamia was used in many different ways such as, for storage, for counting, and eventually for writing. On the other

hand, metal was not native to Mesopotamia and they have to be imported so metalwork was limited to already tried and tested methods that almost allowed no further development.

Significant changes in pottery, metallurgy, and craft specialization in the Near East occurred between the Fourth and Third Millennium B.C. in Southern Mesopotamia and two of them (pottery and craft specialization) happened during the Uruk period. Both cultural aspects changed as per the rapidly development of technology, economy, and culture; a process only sped up by urbanization. Metal workings only came to be with the availability and expansion of trade routes so its changes came in much later. Finally, these changes were necessary (good or bad) in conjunction to the ever-growing needs of society.

Works Cited

- Moorey, Peter Roger. "The Archaeological Evidence for Metallurgy and Related Technologies in Mesopotamia, c. 5500–2100 B.C." *Iraq* 44.1 (1982): 13-38.
- Potts, D. T. *Mesopotamian Civilization: The Material Foundations*. New York: Cornell University Press, 1997.
- Potts, T. F. "Patterns of Trade in Third-Millennium BC Mesopotamia and Iran." *World Archaeology* 24.3 (1993): 379-402.
- Price, T. Douglas, and Gary M. Feinman. "States and Empires in Asia and Africa." *Images of the Past*. 4th ed. New York: McGraw-Hill, 2005.
- Stein, Gil J. "Producers, Patrons, and Prestige: Craft Specialists and Emergent Elites in Mesopotamia from 5500–3100 B.C." *Craft Specialization and Social Evolution: In Memory of V. Gordon Childe*. Ed. Bernard Wailes. Philadelphia: The University Museum of Archaeology and Anthropology, 1996. 25-38.
- Van De Mieroop, Marc. *A History of the Ancient Near East, ca. 3000–323 B.C.* 2nd ed. Malden: Blackwell Publishing, 2007.
- Wertine, Theodore A. "Man's First Encounters With Metallurgy." *Science* 146.3649 4 Dec. 1964: 1257-1267.