Abstract

The article is dedicated to the work of the artist Oleksander Andriyovych Borodai, an enameller who made transformations in the field of hot enamel in the late 20th – early 21st centuries in Ukraine, and whose name is associated with the transition from miniature decorative to experimental forms in the use of hot enamel. His works, including easel and monumental compositions, installations, art objects, sculptures, and jewelry, are a unique phenomenon that has no analogs in Ukraine and stands out against the backdrop of enamel work on a global scale. The purpose of this publication is to reveal the personality of Mr. Borodai as an artist, enameller, and teacher. To attain this objective, the publication reveals the main dates and facts in chronological order from the biography of the artist, which contributed to his formation as a leading enameller in Ukraine. At present, the works of the above-mentioned author, made in the technique of hot enamel, have gained significant importance in the field of construction and architecture. Due to the anti-corrosion properties and strength of the material, which retains its color despite weather conditions, the interior and exterior works of Mr. Borodai acquire particular significance as figurative and artistic dominants of large cities of Ukraine. As a result, it is emphasized that O. Borodai has become a phenomenon of modern enamel art. He left a significant creative legacy and students who continue to promote the enamel work at home and abroad. It was revealed that in the conditions of formation of the Ukrainian art market and taking into account active integration into the European art space, the artist’s work has become a kind of cultural asset of Ukraine, which requires deeper research and systematization.

Keywords: Olexander Borodai, hot enamel, enameling, artistic metal, interior design, monumental art.

1 Lecturer, the Department of Fine Arts, Borys Grinchenko Kyiv University. ORCID: 0000-0001-6981-0739 Email: d.mostovshchykova@kubg.edu.ua

2 Ph.D. in Culturology, Associate Professor, the Department of Fine Arts, Borys Grinchenko Kyiv University. Email: v.mykhalevych@kubg.edu.ua
Introduction

Artistic enameling has more than three thousand years of history. In the technological sense, "enamel" is mostly a glassy solid solution of silica, alumina, and other oxides (Wolski, 2015: 86). It is moistened in the form of powder with water and applied in various ways on a metal surface (gold, silver, platinum, copper, steel). Then it is slowly dried and baked in an oven at a temperature from 650 ° C to 850 ° C for an average of 3-10 minutes. The number of such burns starts from 1 and can reach 10-15 times. As a result of high heat treatment, metal and glass are firmly combined without the use of a binder. After firing, a vitreous colored layer appears on the surface of the product, which is strong and durable. It can be stated that the enamel is not subject to time. In confirmation of this argument, Leonardo da Vinci in his treatise "Comparison of the Arts" compares the hot enamel for durability with sculpture. And he states, that if a bronze sculpture is durable, then enamel painting is eternal. At the same time, bronze sculpture becomes black and brown, enamel painting retains the brightness and tenderness of paints and is infinitely varied (Leonardo da Vinci, 1952).

From ancient Egypt and ancient Greece, smalt and colored glass were used in jewelry as an imitation of precious stones. For this glass to become enamel, it was necessary to roast it in an oven. But despite the great skill of the ancient Egyptians, E. Brepol notes that this step was not taken (Brepol, 1986: 27). Meanwhile, two pendants and six rings with cloisonne enamel dating from the 13th century BC were found in Cyprus (Michaelides, 1989). It is quite possible that these were the first enamels, given that the island was one of the oldest producers of copper in the world and had a thriving metal industry (Miralay, 2018: 497). Cloisonne is a technique in which wire partitions were installed on metal products according to the pattern, the holes of which were filled with vitreous mass. One type of cloisonne enamel is enamel on the scan (filigree). It is based on a double-twisted wire, which held the enamel mass much stronger. This allowed the enamel to decorate bulky things: dishes, jewelry, boxes, and more.

In ancient times, especially in the Middle Ages, the art of hot enamel spread throughout the Old World – from Western Europe to China and Japan (Mostovshchikova, 2020: 175). The attitude to the enamel has gradually changed. It began to be used not as a means of artistic imitation of stones, but in a new light, as an independent artistic technique. Artists began to create "eternal" painting with enamel paints. Thus, new techniques of painted miniature and painting enamel appeared in France (Brepol, 1986).

It is with the development of enamel art in the world (especially in Europe) that the history of this kind of art in Ukraine is closely used. The attachment to enamel does not remain in constant progression, it fades away and then revives when the need for multi-colored works of art arises. In the artistic space of Ukraine until the end of the 19th century, hot enamel was mainly perceived as a part of jewelry and decorative arts. Only at the end of the century artists O. Kulchytska and M. Dolnyska, who were graduates of the Vienna School of Arts and Crafts, contributed to using enamel in easel works (Voloshyn, 2005). These works were created on the national Ukrainian theme, mostly up to 20 centimeters in size from the larger side.

A new round of development of enamel art took place in the early 20th century (Arustamyan, 2003). Among the important factors are discoveries in the field of chemistry, which contributed to making the materials for enameling cheaper. With the invention of special ground enamels, artists moved from gold and silver to cheaper copper and steel. In the meantime, the use of electricity has simplified and accelerated the process of roasting the enamel. All these factors contributed to the usage of enamel in monumental art in the second half of the twentieth century in Europe. The facades of buildings were decorated with industrial and artistic enamel and widely used in interiors (Borodai, 2013:9). The first experience in the development of this direction in Ukraine belongs to the famous artist Olexander Borodai. Due to his work, the enamel is easel works, installations as well as a part of
monumental art. Borodai (1946–2019) is considered to be the father of domestic hot enamel. At the same time, his creativity has not been studied and analyzed sufficiently.

This is due to the fact that enamel is still a little-known technique for Ukraine, although it has a wide range of possibilities for artistic expression. The solution to this problem is a comprehensive study of the work of the innovator in the field of hot enamel of Olexander Borodai.

**Literature review**

The works of R. Shmagal (2015), J. Arustamyan (2003), L. Voloshyn (2005) on the enamel art of Ukraine at the beginning of the 20th century were meaningful. Also important in terms of comparative research is a textbook on the history of enamel by E. Brepol (1986).

Olexander Borodai's work is partially considered in the dissertation research and publications devoted to hot enamel by Y. Dovgan (Borodai) (2006, 2005, 2013). In this study, the direct emphasis is placed on the creative work of O. Borodai. For the formation of a general portrait of the artist, introductory articles to the artist's catalogs are important (Babak, 1992; Borodai, 2013, 2016, 2018).

**The purpose of this article** is to analyze the milestones of O. Borodai's creative biography and his artistic achievements as an artist, enameller, teacher, in the context of visual arts of Ukraine in the late 20th – early 21st centuries.

**Methodology**

The publication uses a set of general philosophical, historical, cultural, and art methods, taking into account the principles of scientific objectivity, comprehensiveness, scientific reliability, as well as art and design approaches. Among the methods some groups are worth to be noted:

- philosophical: ontological, used to study the life and creative path of the artist in the context of cultural and artistic events of the late twentieth – early twenty-first centuries; axiological – in outlining the value of O. Borodai's work on a domestic and global scale; hermeneutic was used to interpret the artistic work of the artist;

- art history: typological, which came in handy in the analysis of the genre diversity of the artist's works and his appeal to various enamel techniques; art analysis – in characterizing the features of composition, color and tonal solution of works.

**Results**

The future artist was born on September 15, 1946, in Dnipro, Ukraine. The family supported the artistic desire of Olexander to draw. The father, Andriy Semenovych, was a self-taught artist, came originally from a Cossack family in Poltava region and wanted his son to receive specialized education. Olexander’s uncle is the famous sculptor Vasyl Borodai, the author of many monuments in Kyiv, including the Motherland (Statue). He was to some extent an example for the future enameller.

The training of the artist by vocation began at the Dnipro Art School, after which in 1966 O. Borodai entered the Kyiv State Art Institute at the Faculty of Monumental Art. For 6 years Oleksandr Borodai had a chance to improve his skills at the studio of national Ukrainian artist T. Yablonska. In 1969 he began to participate in all-Union (USSR) exhibitions, and in 1975 became a member of the Union of Artists of the Ukrainian Soviet Socialist Republic.

Right after studying, the artist began working at art and production plants: first in Dnipro during 1972-1986, the next 5 years in Kyiv, where he performed creative orders. During this period, the master became interested in such techniques of printed graphics as etching, linocut, lithography, woodcut, engraving on cardboard, plastic, copper, silk-screen printing, and monotype. Most of his works of that time are devoted to Ukrainian themes, they reproduce the sharp emotional states that
are transmitted to the viewer. One of the examples is the work "Farewell" (1972, lithograph, 50 x 32) with a lone wave of the hand, or the work "Guests" (1973, etching, 35 x 50), where the old woman talks to people from memories, as though as they are real and appear in front of her. In graphic works, the artist skillfully used not only the spot, thanks to which he balanced the dark and light, but also the line. For example, completely linear etchings with color accents: "Kalynda (Guilder rose)" (1978, etching, 50 x 35), "Barvinok (Vinca)" (1978, etching, 50 x 35), "Dolya (Fate)" (1978, etching, 50 x 35). In the last-mentioned work, the girl-Ukraine against the background of a palimpsest, in which the previous layers with hetmans, campaigns, and scratched graffiti with Ukrainian words on the conditional old walls of history are highlighted.

In addition to printed graphics, O. Borodai was also fascinated by drawing, to which special attention was paid since his studies at the college and became stronger at the art institute. As a monumental artist, the artist created sketches for paintings that reach two meters. Dozens of creative drawings, mainly dedicated to Ukrainian landscapes, are presented in the catalog of works by the artist "Landscapes" (Borodai, 2018). They combine a free graphic line with a detailed study of spots, and in some places completely white "censorship". Due to the understatement of the artist, the viewer becomes a co-author when contemplating.

In the future, the artist successfully transformed the experience of graphics into hot enamel. He invented a pencil technique that allowed him to bake a graphite drawing. To do this, the metal plate was covered with white enamel, creating a base like a white sheet of paper. After firing, the plate was roughly ground to achieve a textured surface. On this basis, it was possible to apply the desired pattern with all the tonal details. In the furnace, the graphite was baked into enamel, accurately reproducing the composition. The surface became glossy, shiny, and the drawing itself was walled up in enamel – eternal, which is a great advantage over the "short life" of the image on paper ("Antiquity", 1996, copper, enamel, 30 x 40). Another common graphic enamel technique was "sgraffito". It has analogies with the linear pattern. Only this time, the approach is different. The enamel-coated plate is dried, and the desired pattern is scraped with pins. After firing, the scraped lines looked dark brown or black, depending on whether copper or steel was used ("Hungarian Motifs", 1996, steel, enamel, 25 x 19). Passion for etchings in his youth later also manifested itself in the enamel works of the artist. Previously, a drawing was etched on copper plates in order to print the image on paper. Subsequently, the etched copper plate itself, which often became part or even the dominant of easel works, gained value. Volumetric etching on copper was perceived in contrast to the adjacent enamel surfaces. For example, a series of works "Home Alchemy" (2005, copper, enamel, etching, all works 94 x 72)

The starting point, where Olexander Borodai got acquainted with the technique of hot enamel was a symposium in a Hungarian town. This happened at a time when the borders of the USSR began to open, and artists got the opportunity to learn about the experience of foreign colleagues, with their achievements, creative and technological techniques. Thus, in 1978 O. Borodai first attended the most popular among professional masters symposium of enamellers in Kecskemét. For over forty years, this place has been central to the gatherings of enamel artists from around the world.

O. Borodai's first acquaintance with the technique of hot painting enamel was fascinating, because here it covered large planes of metal, quite different in comparison with Kievan Rus' colts or baroque chalices of the Lviv region (Dovgan, 2006: 161). This trip changed his life and the focus of his further work, as well as the history of Ukrainian art.

At that time, finding materials for the compositions was quite problematic, so O. Borodai turned to the Novomoskovsk plant for the production of enamelware, located in the suburbs of Dnipro. There, as an experimenter, he obtained oxides of antimony, uranium, manganese, copper, chromium, oxides of cobalt, and other dyes to obtain a wide range of colored enamels. The author was able to create his first innovative works from these industrial enamels. An example is the work "Spring" (1984,
copper, enamel, 60 x 50), 16 images of which show the plasticity of lines and the smoothness of the female body. Or "Three Graces" (1984, copper, enamel, 30 x 22), where the seasons of autumn, spring, and summer are depicted as slender girls. The color accent of both compositions is a subtle gradation of white, which adds volume and materiality to the depicted figures.

O. Borodai’s hot enamels engrave an intangible flow of time and demonstrate a wide range of intellectual interests of the author. They are very diverse: some have a plot and are dominated by real images, others – live non-figurative, abstract forms. The main themes of easel works are historical episodes, themes of medieval mythology, sculpture of the female body, images of landscapes and still lives, dynamic compositions.

All works of the artist, except for the external richness of texture and color, have an inner energy, a profound meaning that remains partially hidden. O. Borodai said that his picturesque enamels resemble a multi-layered cake, where the content, as a substrate and texture, is gradually strung through personal experiences (Sedyk, 2019: 141). The author’s approach, in which the modern conceptuality of the artist is combined with tradition, which goes back to the roots of national culture, gives the enamel a truly classical sound.

![Picture 1: Olexander Borodai, "Cradle for Unborn Baby", 1989, wood, copper, enamel, 120 x 30 cm. Museum of Ukrainian Painting, Dnipro (photograph from open sources).](image)

In the early 1990s, O. Borodai, in co-authorship with the painter O. Babak, created a series of installations with hot enamel, which were exhibited in Germany. In the outlined works, the artists realized their desire for objectivity, "tangibility" of art, synthetic, multidimensional form (Babak & Borodai, 1992). "Old Weaver's Vimana" (1987, wood, copper, enamel, 110 x 280 x 180), "Cradle for Unborn Baby" (1989, wood, copper, enamel, 150 x 170 x 200) (Picture 1), "Home guards" (1989, wood, copper, enamel, 120 x 30) and others were created from old household items, such as wooden wheels from a cart, a loom or pottery. These objects had their own history, and now, combined with enamels,
they organically reflected the spirit of Ukrainian folklore (Sklyarenko, 1992). Moreover, additional elements were used in the exhibition of installations, such as old Ukrainian carpets, yarn, dried flowers. All this contributed to the creation of the necessary atmosphere where the new intersects with folklore, the abstract with the concrete, the material with the spiritual, the separate with the general.

In the same years, O. Borodai, a monumental artist by profession, for the first time in Ukraine began to use hot enamel in monumental art. This art form has always occupied a significant place in the hierarchy of arts. This kind of art became especially privileged during the Soviet period, when, according to Lenin’s plan, large-scale work on urban facilities could influence people and spread the ideas of communist propaganda. After all, the viewer automatically became a participant in the socio-aesthetic action. In the pursuit of propaganda, one of the most important features of monumental art to be in harmony with the architecture, to promote aesthetic pleasure was quite often neglected. Despite some rough and frankly conjunctural works, there are still monumental compositions, which in their artistic properties far surpass the architecture for which they were created (Som-Serdyukova, 2001). Such an example can serve O. Beard’s composition of metal and enamel "Rhythms of the Universe" (1989, copper, enamel, brass, leather, 270 x 700) at the Main Astronomical Observatory of the National Academy of Sciences of Ukraine. Also the design of metro stations, including "Vydubychi" and "Osokorki" in Kyiv (Borodai, 2016: 4). During Soviet times, it was the metro stations that were filled with art and more attention than other utilitarian objects in the urban environment.

While designing the Vydubychi metro station, O. Borodai turned to Kyiv-Russian themes. In co-authorship with O. Babak, he realized the series "Echoes of the Past" (1991, copper, enamel, marble, 210 x 700) in which in symbiosis complement each other different enamel surfaces, polished brass, granite and various types of marble, combined on the principle of Florentine mosaic. That is, each piece of stone was adjusted to each other with the highest accuracy so that their joints were not visible (Picture 2).

**Picture 2:** Olexander Borodai, Olexander Babak, 1991, "Echoes of the past", copper, enamel, marble. Composition at the metro station "Vydubychi", Kyiv. Fragment. 200 x 800 cm. (photograph from open sources).
The plot is based on ancient Russian history (Dovgan, 2005). The two main compositions are supported by small contrasting accents of diamond-shaped panels on both sides of the stairs and four enamel compositions with a vertical center on each side of the track walls. Central compositions are dynamic. The overall color scheme is greenish-blue due to the massive abstract spots of brown granite and Cuban green marble, which are placed around the shiny brass surfaces and resemble the slopes of Dnipro. The central figures on the two panels above the exits to the platform are figures of idols made of etched brass.

And while "Vydubychi" is a place with a history, "Osokorky" is a recently built district (Picture 3). Therefore, this station is modern and laconic in its volume, and O. Borodai connected its design with the birth of the morning star, with a new horizon. Accent compositions made of polished stainless steel, copper, and enamel show the "morning stars" (Dovgan, 2006: 66). The idea of imitation of color painting by light permeates all registration of station, beginning from reflection on steel, whimsical shadows of aluminum contours, and finishing with rainbow light on a ceiling and enamel inserts.

**Picture 3:** Olexander Borodai, Olexander Babak, 1995, steel, copper, enamel. Composition at the metro station "Osokorky", Kyiv. Fragment. (photograph from open sources).

Later, in 2003, O. Borodai realized a large-scale decorative panel "Morning over Vorskla" (2003, copper, enamel, brass, polished steel, glass, 900 x 3000) in the cultural center of Poltava "Lystopad (The fall of leaves)". The hall of the palace is decorated with a large number of incredible enamels, which are harmoniously combined. Multi-figure composition depicting prominent figures in the history of Ukraine: G. Skovoroda, I. Mazepa, I. Sirko, and others, impresses with bright colors and realistic execution.

Here you can trace the arsenal of possibilities of hot enamel and the skill of O. Borodai, from the nuances in the subtle modeling of human faces to the volume and contrast in geometric ornaments. The central part is an impressive work of 9 meters in height and 300 meters in length, which depicts a business card of Poltava, a landscape that opens from the White Rotunda (place in the
Olexander Borodai worked not only in traditional techniques of partition and painting enamel. Most of his works use experimental technologies. For example, the use of ground smalt, which melts only at 1000 °C, and at a lower temperature gives a complex surface in cracks, which is then often rubbed with a bright color. Or combine with the use of frit – colored enamels in granules, which are not completely ground, as in the series "Seasons" (1997, copper, enamel, stones, 50 x 35) or enamel "Earth" (1996, copper, enamel, 50 x 40). A common technology in the artist's work is enamel relief. This is when the hand-minted metal is covered with enamel, preferably of the same color. When firing, the color changes depending on the terrain. Indicative in this respect is the series "Mother's Hands" (1996, copper, enamel, 40 x 25). To obtain an interesting effect of cracked enamel, the artist combined low-melting enamel with refractory applied on top. During firing, complex line breaks were obtained.

Discovering some of the technological techniques of the artist, in general, one can emphasize that it is impossible to analyze the work only from a rational point of view, as a technologist. The artist in one work could combine many techniques, do dozens of burns, apply many shades of paint on top of others. O. Borodai co-authored his works with fire, which, in turn, also made its adjustments. The artist considered the most attractive aspect in the process of working on enamels to be the factor of programmed surprise, which is inherent in the unpredictability of firing. This gave hope to take a step into the unknown (Som-Serdyukova, 2006). Enameling is an exciting process in which, even being an experienced enameller, you are not one hundred percent certain what will come out at the end.

The way the artist approached the design of enamels requires additional attention and consideration. Quite often enamel was exhibited in combination with wood. And it could be on a wooden board ("Waiting", 1991, wood, copper, enamel, 65 x 52), old household items ("Home guards", 1989, wood, copper, enamel, 120 x 30) or whole wooden structures mounted specifically to represent the enamel ("Peace", 1992, wood, copper, enamel, 170 x 120). Enamels could be combined in symbiosis with ceramics ("Ritual buildings", 1991, wood, copper, enamel, ceramics), table enamel ("In memory of Maria Pryimachenko", 2013, copper, steel, enamel) or stones like quartz, agate, and others (series "Seasons", 1997, copper enamel, stones, all works in size 50 x 35). Quite often O. Borodai supplemented the enamel in the design with etched iron and etched or polished steel ("Know Yourself", 2000, copper, enamel, steel, 92 x 74), placed enamel on shiny copper, leather, fabric. The works could be created on one piece of metal or combined from many enameled parts into a composition (series "Relativity of Time", 2013, copper enamel, all works 64 x 64).

In many works of O. Borodai, there is a strong connection with the history of the Ukrainian people, with the past, tradition, with bright national figure, in whose memory the artist even dedicated his works, such as Maria Prymachenko, Fedir Tetyanych, and others. Reflections on historical memory can be seen as a valuable cultural heritage that is the basis for national identity (Gizatova & Ivanova, 2017: 113). At the same time, the artist clearly appeals to the social events of today. In particular, the series "Boritesia – Poboryte (If you fight, you will overcome)" (2014, steel, enamel, all works 94x74) reflects the events of the revolution of dignity, which took place on Independence Square in Kyiv in 2013-2014. During this period, the national unity of the people was clearly manifested in the country, which helped to counteract external factors that tried to challenge the Ukrainian identity (Mortazavi, Rezakhani, & Mohagheghnia, 2018: 258).

In addition to an easel, monumental works, and installations, the artist created sculptures from copper and enamel. "Dragon" (2004, copper enamel, glass, 250 x 80) impresses with its craftsmanship. The fantastic beast is made of massive semi-oval plates, which are successfully combined. The overall range is golden with color accents: gray-purple mane, yellow-orange wings, glass ultramarine eyes.
Along the body and realistically modeled paws, the dragon is decorated with a blue and white shell. According to the artist's plans, the sculpture is placed in a private interior on part of the ceiling and wall (Mostovshchikova, 2019).

The incredible style of the artist is read in everything he undertook. Another limit of the multifaceted O. Borodai is jewelry art. The set of jewelry "Sea Wave" made of cupronickel, copper, and enamel is perceived solemnly and monumentally. There are no trace elements, these are not jewelry for everyday use, they are rather intended to create the impression of "dressed art", where a person becomes a part of the composition. The related colors of light blue, ultramarine in contrast to white and gold, and the dynamics of the movement attract special attention.

Throughout his life, the artist was supported by his wife T. Turdiyeva, an artist with whom they had been together since their student years; as well as their daughter Y. Borodai. Thanks to Oleksandr Borodai, they both connected their lives with hot enamel. Together, this artistic family did everything for the development and popularization of this art in Ukraine and abroad, thanks to which hot enamel is becoming more interesting every year for artists of different specialties, designers, architects, and collectors. Moreover, the members of the master’s family were also the initiators of the International Enamel Festival in Ukraine and the Museum of Art Enamel in Dnipro.

In the early 2000s, the artist painted the St. Michael's Golden-Domed Monastery and the Church of the Intercession in Kyiv, yet he is better known in domestic and European art for his hot enamels. The artist's solo exhibitions have been exhibited in Luxembourg (1987), Budapest (Hungary, 1989), Helsingborg (Sweden, 1990), Bucharest (Romania, 1991), Edmonton (Canada, 1992), Detroit (USA, 1993), and other countries.

The artist's works are stored in the Dnipro Art Museum, Chernihiv Art Gallery, Zaporizhia Art Museum, Museum of Decorative and Applied Arts in Moscow, Museum of Art Enamel in Kecskemé (Hungary), and at the museum named after Alexander Borodai in Dnipro (Fedoruk, 2019).

Thus, the artist for decades passed his knowledge and strength to the formation of a new generation of enamellers, admitting to his creative laboratory and revealing the secrets of mastery to students, whom he often called followers. S. Kolechka, T. Kolechka, U. Fedko, T. Ilyina, A. Ryabchuk, L. Mysko, I. Morgunova, and others belong to the informal school of the artist. Some of them, along with finding their own "face" and style, continued to pass on the secrets of enamel to their students.

The desire of Borodai to introduce the study of hot enamel in specialized higher education was realized at the Department of Fine Arts of the Institute of Arts at Kyiv University named after Borys Hrinchenko, which became the core center for easel and monumental works in this field. Under the leadership of Oleksandr Borodai, many creative works and diploma projects of students were created, which became known both in Ukraine and abroad.

Conclusion

Today it is clear that Oleksandr Andriyovych Borodai (September 15, 1946 – November 8, 2019) is the founder of Ukrainian painting enamel, an innovator, a relentless experimenter, whose contribution to Ukrainian art is difficult to overestimate. Undoubtedly, the name of O. Borodai, due to his talent and titanic work, is firmly inscribed in the history of Ukrainian and world art. The artist professionally created from enamel jewelry, easel works, monumental compositions, sculptures, and installations. In addition, he directed his efforts to the development and promotion of domestic hot appliances abroad. During his life, the artist repeatedly exhibited his works in the international arena and was a regular participant in specialized symposia, which contributed to the formation of a new stage in the history of Ukrainian enamel. The artist has left behind a whole galaxy of enamellers who continue to develop hot enamel.
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