

OWEN JONES'S COLOR AND FORM 'GRAND TOUR' REVOLUTIONARY RESEARCH AND ITS IMPACT ON MID- NINETEENTH CENTURY BRITISH DESIGN STEREOTYPES

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Abstract: Proposition 14: *Color is used to assist in the development of form, and to distinguish objects or parts of objects one from another.*

Proposition 15: *Color is used to assist light and shade, helping the undulations of form by the proper distribution of the several colors* (Jones 1856, 7).

Through a labyrinthine searching on the unknown roads of history about the importance of color and form in architectural surfaces Owen Jones was led to a number of conclusions that were to define new coordinates in the second half of the nineteenth century British and world design and thus to constitute fundamental principles in the history of ornamentation and decoration. His 'Grand Tour'¹ in rich in ancient, medieval and renaissance history Mediterranean countries was not a simple travel tour, but a precious bet with science and art which he had to win. Many historians would agree that his profound studies in the color application in both architecture and object forms can be compared to Aristotle's classic color theory which was not challenged until Renaissance, when other, more sophisticated color models were developed by Franciscus Aguilonius and Aaron Sigfrid Forsius. But what were the targets and the main objectives of this magnificent nineteenth century 'Grand Tour'? What new principles emerged for the relationship of color with form and how were they adopted? Why his famous colorful book

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¹ By this we mean a special trip type undertaken by young English, German and French mainly upper class men of the seventeenth and eighteenth centuries who often spent much time travelling around Europe with the scope to come in touch with the culture, architecture and geography of Continental Europe, mainly Italy and Greece. The emergence of the railway and the steamboat, but also the dwindling of the Neoclassical ideals in the first decades of the 19th century contributed to the decline of this urban tradition, which, however, continued to have fewer, but ardent supporters.

entitled *The Grammar of Ornament* is still considered the color and pattern Bible? All this will be dealt with the historical and scientific accuracy required by Jones' diverse and enthusiastic eternal journey in the color and form evolution in world art.

Keywords: color, form, historic styles, design, mid-nineteenth century, Great Britain

The first half of the nineteenth century in Great Britain saw a wealth of historical, social and cultural upheavals that were reflected in the visual and applied/decorative arts, but also in the country's architectural tradition. This, combined with the thriving industrial production, resulted in the coexistence of many different aesthetic/decorative styles struggling to prevail in the taste and preference of the then emerging strong middle class. It was the era in which the importance of color in combination with the value of the form seemed less strong. According to the requirements of the then predominant architectural style, it being the neoclassical, whose roots were in ancient Greek and Roman discoveries of the mid-eighteenth century, but also the revival in British architecture, as well as the design of products of Gothic art style products through the appearance of the famous Neo-Gothic style, color constituted a less important value compared with form. The lack of color on Gothic church architecture and sculpture, and the insistence on the use of white color - the classic ancient white - but also of cream, beige and light blue despite the significant revelations of the era that ancient buildings were decorated with numerous colors, seemed to seriously affect the logic of British architects, designers and manufacturers who, out of fear and unaware of the possibilities of color, gave much more importance to the design of form. Within this rather chaotic, from an aesthetic viewpoint, environment, the appearance of the Victorian architect and designer Owen Jones (1809 - 1874) in the arena of Victorian design was subversive. Although Jones had presented until the early years of his career works of a rather poor quality in the field of iron-and-glass construction, which did not presage his further development, he seemed to find his way in research and development of the theory of color and form, as his findings constituted a milestone in the history of not only British, but also world design (Jespersen 2008, 143). Born in London on February 15, 1809 he was the only son of a rather middle-class family hailing from Wales, while his father was a successful archaeologist. He received his basic education in the famous

Charterhouse School², and after the age of thirteen he continued his studies at a private school. Being just sixteen, Jones with a strong inclination towards the arts and design, soon became an apprentice to the office of architect Lewis Vulliamy (1791-1871) an offspring of the famous family of watchmakers Vulliamy, where he remained until the age of twenty, while continuing along the studies at the Royal Academy of Arts. However, his performance at the Academy was not particularly successful, in that he always had a weakness in mastering the figure: however, it was not long before he became an excellent interior designer. Following this important, for his time, profession, he immediately realized the importance of color in space, and therefore its strong value in the interior; it is no wonder thus that he always believed that *form without color is like a body without a soul* (Moser 2012, 37). At the time, as we have said, the aesthetics of Neoclassicism seemed to block his unprecedented color theory, since the monotony of the white tone gradation - from Josiah Wedgwood's teapots, to the Adam Brothers' domestic interiors³ and also the columns and statues on the facades and gardens of London's imposing public and private buildings - had covered almost everything. Jones was the one who took the initiative to intervene in this rather dull and indifferent urban environment in terms of both architectural and product design. With his revolutionary theory of color and form which was the result of his profound research in the art of ancient civilizations, the esoteric charm of Islam, but also the unknown beauty of the European Middle Ages interiors during his long trips in the Mediterranean, the Middle East

²The Charterhouse School was both a day and boarding type of school in Surrey, London. Its foundation which lies in the early years of the seventeenth century (1611) in the monitor section of an old Carthusian Monastery in London, was one of the most prestigious educational institutions in the country for teenage students and today still constitutes, along with the Eton and the Westminster Schools, one of the most famous and expensive boarding schools in England and abroad.

³The Adam Brothers (Robert & James) were architects and designers who, along with the renown ceramist Josiah Wedgwood, constituted emblematic figures of the English Neoclassicism as they were the first to introduce to the British bourgeoisie the archaic aesthetic values. The classical symmetry of Neoclassicism in combination with its pale colors, was the revolutionary antidote to the then dominating naturalism. More specifically, the concept of geometric, fine, but often excessive, cold and tiring symmetry that seemed to encompass everything, was the main feature of that era mainly in architecture and was served faithfully by those architects who were also known as *Adelphi* (being Greek for brothers).

and Western Europe, he managed to open new roads of visual perception, thought and creativity.

COLOR AND FORM RESEARCH IN THE DEPTHS OF HISTORY

The main objective of Jones's travels in the eastern Mediterranean and then in Spain was very specific as it focused on research, finding, studying and recording the entire chromatic scale together with numerous decorative flowery, geometric, embossed, flat or even three-dimensional patterns of great ancient and medieval cultures. The prospect of this titanic effort was cataloging this new material and its further application in many areas of British design which presented aesthetic quality problems in the use of color in relation to form.

The beginning of the ambitious Grand Tour was just in 1832 when Jones decided at first to visit Italy, where he studied the art of the Renaissance and of ancient Rome and Pompeii. Particularly impressed by the labyrinthine ornamentation on columns and pillars, the medallions, rosettes, the murals and ceiling paintings of the temples and large *palazzi* of Rome, Vatican, Pavia and Mantua, he noted with great sensitivity the flowery, almost organic designs and mainly their colors, but also the combinations of both. The strong color palette of Pompeian buildings, frescoes and mosaics in combination with the geometry of their shapes, which were obviously influenced from the ancient Greek and Roman culture (Beard 2008, 122), was another important milestone in his innovative in-depth study.

His visit immediately afterwards to Greece, just a few years following its liberation from Turkish rule, was destined to open to him new knowledge paths with regard to the use of color. Through his short but thorough tour he also discovered that ancient Greeks had developed a uniquely harmonious colorfulness system that was directly linked to the concept of the structure whether it was referring to a piece of architecture, a work of art, to a utilitarian or even a decorative object (Eaton 2013, 80). This very important discovery was his main trigger for a scientific, more detailed research, which was implemented in the regions he visited later and mainly in Spain. During his momentous visit to Greece he was to meet the French architect Jules Goury, who was one of the assistants of the famous German architect Gottfried Semper⁴ in his extensive and revolutionary research on the polychromy

⁴ Gottfried Semper (1803 -1879), except of being an important architect who designed and built the famous Semper Opera House in Dresden (1838-1841), was a writer, a professor of architecture and art critic. One of his most remarkable literary

of ancient buildings. Almost immediately the then twenty-one years old Gourey became Jones' permanent scientific companion helping him in this difficult research work until his untimely death from cholera in 1834 (Crimson 1996, 32).

Their first joint trip to Egypt had as main objective the study of color and design of the pre-Christian, ancient Egyptian architecture which seemed to have been the oldest in the hitherto known ancient world. His journey to the oldest country of the Mediterranean Basin was not confined only to areas of common interest such as historic Cairo and the Pyramids, but continued up to the Nile, towards the region of Aswan, ending up in its second waterfall, deep down in the African continent (Searight and تشارتسيرايد 2006, 128). The color palette of the ancient mystic temples and tombs interiors, the colorful sarcophagi that encompass the heavily trimmed, stuffed bodies of the dead, the characteristic ancient symbols such as the lotus and the papyrus - the food of the body and spirit - the inlaid feathers of rare birds - the sovereignty symbols - and the palm-branch - the eternity, victory and long-life emblem – constituted valuable information and knowledge sources (Worth 2016, 3).

Their first contact with a multi-cultural rather than pure form of Islamic art that was to influence to such an extent Jones' further philosophy about the importance of color in relation to design, did not come but upon their arrival in Istanbul. The capital of the Ottoman Empire, being full of colorful, mysterious mosques, tombs, big squares, hammams, sanctuaries, gates and fountains⁵ seemed to retain the nobility of the imperial colorfulness, but also the color symbolism of Islamic solemnity magnetizing the two researchers with unique decorative combinations between colors and patterns. The influence that the other similar cultures such as ancient Persian and Arabic cultures had had on Turkish art, was still pervaded in the multitude of flowery motifs that dominated especially in the art of ceramic objects,

works was the book titled *The Four Elements of Architecture* which was completed in 1851. He was one of the most prominent personalities in the international dispute over the polychromy in ancient architecture.

⁵ The famous Blue Mosque or the Mosque of Sultan Ahmed A!, decorated with the amazingly beautiful, Iznik , blue ceramic tiles, and more than two hundred windows with stained glass intricate designs that let through natural light, the admirable Dolmabahçe Palace with its stunning, almost lacy, metal gate and the Church of Hagia Sophia were some of the favorite places for research for Owen Jones in the 1830s Istanbul.

especially the tiles, and metal, marble or mosaics arabesques that adorned the facades, floors and interiors of many important architectural works, which aroused the curiosity of Jones for further research in these interesting areas of history (Rosselli 2016, 3). One of his most brilliant studies in Istanbul was also the search for lost original byzantine decorative motifs since any hitherto extensive study and attempt of historians and Western researchers to record them had rather vague and indefinite results. Jones was able to detect significant original data on color scale, as well as patterns of the Byzantine Empire and find in them a combination of many more historical and cultural ‘schools’, which led to the creation of an unrepeatable decorative style, it being very different from Islamic.

Jones and Goury continued their adventurous trip to southern Spain going across the Mediterranean aboard French warships which helped them to reach their final destination. Being amazed by the unparalleled beauty of Islamic art of the Alhambra Palace architecture they stayed for six whole months in the Granada region observing, studying and recording the impressive, extensive scale, colors and sublime geometric patterns, of Moorish ceramic tiles and reliefs rendered in detail, producing many sketches, drawings, and plaster casts. The Moorish conquerors of Spain had high knowledge of decorative art which they clearly distinguished from the concept of construction of an architectural project: i.e. they believed in the idea of decoration of an integrated architectural design and not in the idea of decoration as a basis for an architectural composition this resulting in that the produced elaborate abstract patterns that they were inspired from to further serve the aesthetic, ideological possibilities and functionality of an architectural project. Their religion at that historic period explicitly forbade the depiction of realistic motifs and scenes, so their main interest was focused on geometric patterns, usually framed with holy Islamic inscriptions the purpose of which was to tell the viewer that, in spite of the admirable achievements of the constructors, *there is no greater creator than God* (Worth 2016, 4). The phenomenal attraction for the Islamic colors and designs of medieval Spain, which he did not feel in any of his previous trips, earned him the nickname Alhambra Jones with which he later became known in the circles of writers and art theorists in London (De Noblet 1993, 146). However, Goury’s tragic death in Spain forced Jones, once he had the dead body of his partner to France for burial, to return to England and attempt to publish the results of their long and painstaking research in Spain. The book of

high aesthetic and scientific value relying almost entirely not only on personal observations of the decorative and architectural style of the Alhambra palace, but on the whole defense complex of the city, known as 'red fortress', was entitled *Plans, Elevations Sections and Details of the Alhambra* and was published in twelve parts in almost ten years (1836-1845). The technique of chromolithography that he used himself for the first time, in an experimental way as it included even hand-coloring, was the world's first performance effort of a 'convincing' mode of color in mass print form and established Owen Jones as one of the most significant design theorists and mainly pioneers of modern color theory in the world (McDowall 2013, 6).



Figures 1, 2

Characteristic chromolithographic patterns from the book *Plans, Elevations Sections and Details of the Alhambra*

(Source: [https://commons.wikimedia.org/wiki/File:Alhambra_\(Page_107,_Page_183\).jpeg](https://commons.wikimedia.org/wiki/File:Alhambra_(Page_107,_Page_183).jpeg))

RESEARCH FINDINGS IMPLEMENTATION: THE CRYSTAL PALACES

This first attempt to record and print this great research on Islamic art established its initiator as an architect / writer / researcher model for

his contemporary architects and designers, and helped him to gain the prominence of design educator in the decade that followed. Besides, the new roads in the aesthetic and cultural understanding of architecture and decoration, opened by this research, brought the architectural polychromy issue in the contemporary, but rather unimaginable British design arena, for debate and discussion. But it was not simply his theoretical proposal that created this new wave of reaction to the aesthetic value of Islamic culture, but also his first attempt to design objects and architectural surfaces. So, drawing inspiration from Islam's diverse traditional colorfulness, abstraction ideology and flat patterns, and having in his most important interests the latest developments in mosaics and tessellated pavements, Jones designed a series of tiles which were the main attraction of attention of many prominent designers and reformers of his time. Among them was the Prince Albert⁶, which made him emerge as one of the most remarkable contributors in the Great Exhibition of 1851, in London (Hrvol Flores 2006, 21). As the sense of the new and the unexplored, but attractive element to the new realities of the mid-19th century British architecture became more and more intense, creating a building of unparalleled originality from prefabricated metal surfaces, glass and wood, seemed imperative. The famous Crystal Palace that would house the Great Exhibition started being constructed in the spring of 1850 and was the inspiration of the renowned architect and gardener Joseph Paxton (1803-1865). Its colossal size, 1851 feet long and 408 feet wide, made it seem like a strange bright and expensive ornament with arches, columns and domes (Tsoumas 2005, 121). Its central part and its huge halls were divided into special areas to house the pavilions. These spaces formed four parallel rows along the entire length of the building on three floors and were joined with many, narrow corridors and eight double metal stairs. This construction was supported by a plethora of cast iron columns positioned exactly one above the other on each floor for safety reasons.

⁶ Queen Victoria's husband and, at the same time, a leading figure in the realization of many important public and social changes such as the educational reform and the worldwide abolition of slavery, but also of the national identity formation in British design. Together with the renowned designer Henry Cole, became the initiator of the Great International Exhibition of 1851 in London.



Figure 3

Partial view of the Crystal Palace interior, 1851, Hyde Park, London

(Source: https://commons.wikimedia.org/wiki/File:Crystal_Palace_-_interior.jpg)

But the final version of this futuristic, monumental piece of architecture could hardly bear the responsibility of Paxton, given that a host of other architects would put their personal stamps of taste. However, the most important contribution of all came from Owen Jones who, based on his extensive study for color in space in the architecture of traditional mosques, the sanctuaries and tombs of Turkey and Egypt, but especially of the Alhambra palace, he proposed the bold, for that time, idea of color use on the cold metal surfaces of the internal parts of the architectural project. This, however, was based more upon the fact that he was deeply familiar with the spatial importance of multi-bayed columnar space that dominated the Islamic architecture of the aforementioned global hubs of cultural importance and is also very likely that this ambiguous familiarity he had with the concept of color in Islamic architectural culture enabled him to gain the ultimate control of such a complex and comprehensive structure as the Crystal Palace was.

Based on his extensive theory about color, Jones initially professed that any structure can be decorated; however, decoration can never be purposely constructed, either for color or ornament-orientated intervention because the concept of construction concerns only the structure of an object. He also believed that the surface on top of which

any type of paint was applied, should not be a surface in the sense of its envelopment in the structure of an object. The surface had to be liberated from any type of such associations so as to constitute a flexible ground for color and decoration (Eaton 2013, 80). He also thought that color should be used to support the development of form and to differentiate either isolated objects or parts of them, thus highlighting their relations with other objects, but even with the space where they are located (Dorra 1995, 90).

With the aim of creating an area of unusual aesthetic value where primary colors or shades thereof would be harmoniously combined, he studied in-depth every detail of this oversized metal construction, trying to draw even the slightest information that would lead him to the perfect application of his theoretical principles.

Initially he chose light blue for basic skeleton, red for the internal beams of the roof, yellow to illustrate the cross-metal plates, and a combination of yellow and blue for the columns. Furthermore, he treated in a very subtle way many of the decorative elements of the space such as the arches between the columns and the cresting against the skyline in such a way as to raise intensive memories from Islamic culture (Guedes 2006, 210). He thought that in this way he would contribute to overstress the sense of vastness, and harmony that this big building had had and would facilitate the emergence of exhibits which also constituted themselves an extensive, multi-cultural medley of colors and shapes.

However, any type of criticism would be expected after such a bold venture for the British way of thinking. His innovative idea raised strong reactions and consequently an extensive debate, which however seemed to affect neither his self-confidence nor his future plans, since they originated only from a narrow and “arteriosclerotic” cycle of architects and intellectuals rather than from the six million visitors who visited and admired this great achievement of technology and architecture from May to October 1851.

After the completion of the Great Exhibition, the famous Crystal Palace, was moved, almost unchanged, to the Sydenham area in London to house another important exhibition in 1854.

However, for many historians and theorists of history of art and design, his most important and magnificent intervention in this type of metal, modular exhibition buildings, was the construction and decoration of some special historical Courts to be housed under

different, however, conditions in the already known building⁷ (Pearson 2006, xiii).

The contribution of the architect and art historian Matthew Digby Wyatt (1820–1877) to the decoration and layout for this new incarnation was catalytic as they both envisaged a new way of narrative which would attract visitors to a fascinating trip to history, color and decoration.

More specifically, the special representation of selected historical sites, with their prominent key architectural features, into which wonderful art collections from around the world and from many periods of history would be exposed, would give UK guests the chance not just to have before their very eyes the history of world culture, but also to come into contact with high-quality replicas of historic architectural styles, many of which had already played an important role in the then modern British architecture.

As expected, Owen Jones was the backbone of this ambitious project, and - in his opinion - this new project seemed to claim a place among the wonders of the modern world.

The first and most interesting of the Courts that he undertook to design and build was none other than the famous Alhambra Court, while he was at the same time one of the key consultants in the design and manufacture of Roman, Pompeian, Egyptian, Renaissance and Greek Courts especially concerning the development of color in the design and ornament of these styles (Harrison, 2012). His major research course had already ranked Jones as one of the pioneers in the reform of long-suffering British design, something which was further strengthened with the initiative for the design of these Courts. Especially with regard to Alhambra Court, Jones exhibited with pride his findings which were not presented though as such, but rather adapted to the modern aesthetic standards⁸. This new approach was the beginning for the creation of a series of new design principles that

⁷ The Crystal Palace in Sydenham was not just another exhibition place for industrial products from all over the world. It was a very ambitious project that, besides showrooms, had a rather entertaining scope as it enhanced the reconstruction of ancient architectural styles which came to light from the knowledge of recent archaeological discoveries around the world.

⁸ Jones also saw the complexity of Moroccan style as a unique means for an exemplary stylization of colors and forms according to which natural or plant forms could be refined and reworked in accordance with the then data of aesthetics, thus serving his own mission for nineteenth-century British art and design production.

supported the meanings of propriety, flatness and the stylization of natural or plant forms, as well as the importance of polychromy on ornamented surfaces.

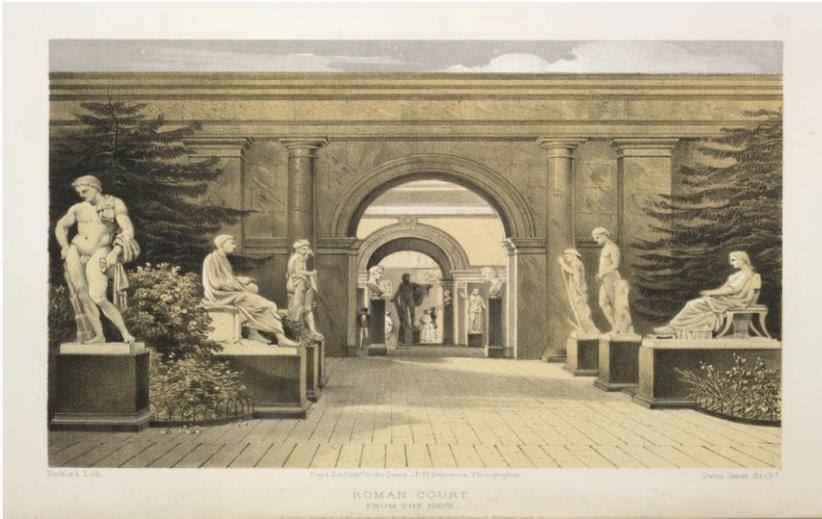


Figure 4

Roman Court - Views of the Crystal Palace and Park, Sydenham (1854)

(Source: [https://commons.wikimedia.org/wiki/File:Roman_Court_-_Views_of_the_Crystal_Palace_and_Park,_Sydenham_\(1854\),_plate_viii_-_BL.jpg](https://commons.wikimedia.org/wiki/File:Roman_Court_-_Views_of_the_Crystal_Palace_and_Park,_Sydenham_(1854),_plate_viii_-_BL.jpg))

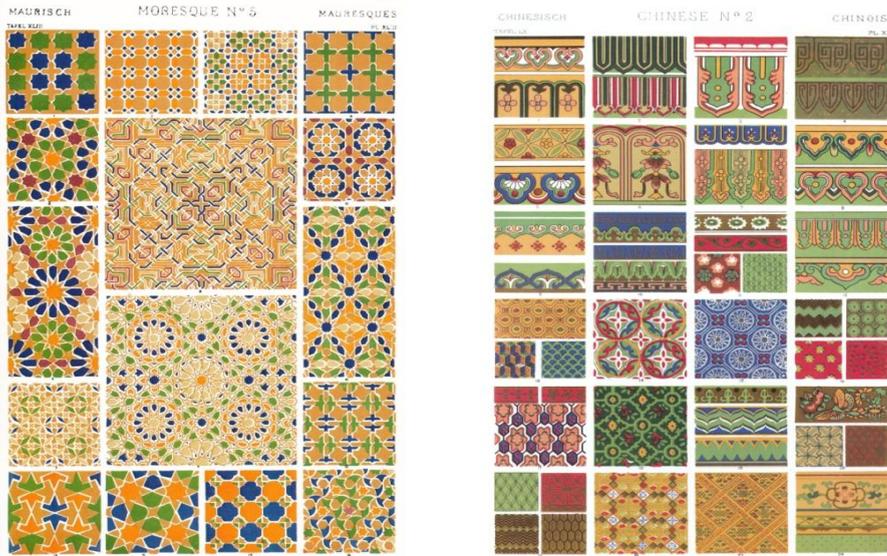
His intense interest on the detail of decorative feast of Spanish-Marroquin palaces, gave to this Court the air of a plausible historical building which, despite the decorative interventions it was subjected to, impressed passing crowd. So, although he considered his creation as ‘a fragmentary reproduction of the real Alhambra’ (Jones 1854, 4), the reality was that he never attempted an unedited copy thereof, but instead he adapted many of its classic decorative qualities in totally new configurations. Thereby he catalytically raised the Islamic art in the consciousness of the British public, and from then until the end of the 19th century he began to have an enormous impact in British design and architecture.

COLOR LITHOGRAPHY AND *THE GRAMMER OF ORNAMENT*

Along with these polysemous activities, Jones began to present in a series of lectures, all his theories about the meaning of color, form and decoration in general both to the Society of Arts and the Government School of Design, having the guidance and the full support of Sir

Henry Cole⁹. Moreover, it was Cole himself who encouraged him to continue his writing which led to the publication of another book, much more updated and comprehensive than the previous one and which was to constitute the Bible of decoration as regards the concepts of color and form throughout the history of design: *The Grammar of Ornament* (Melhuish 2009, 4). A highly innovative work in every respect that, except its revolutionary and innovative content, constituted an amazing publication as, according to many contemporary book historians, it is still considered an exemplar of the 19th century color printing techniques (Friedman 1978, 53). This work included the introduction of thirty seven general statements on color and form (or propositions according to the author) in relation to architecture and decorative arts which were represented thoroughly through an extensive number of color illustrations in the rest of the book. The main examples of that work derived from a number of different kinds of sources, both historically and geographically, with extensive references to the Egyptian, Assyrian, Moresque (Alhambra), Chinese, Persian, Greek but also Medieval ornament. Claiming that '*all ornament should be based upon a geometrical construction*' (Jones 1856, 5) geometrical, abstract patterns and flat colors were primarily used in these illustrations not only because they were particularly used in Islamic decoration, but also because Jones deeply believed that they were the only suitable patterns that could be used for reproduction via the new industrial methods. Jones, believing that art and decorative design in Britain had reached a dead end, managed to create a complete stylized and influential visual dictionary of world decoration. Besides, he was confident that these design principles seen through his research revealed that the British designers were required to learn more about world decorative arts and come in touch with new ideas in order to make progress on the issue of 'good design': the importance of decoration truths universality, according to which there were common aesthetic features among all nations, all peoples, regardless their individual historical or cultural background.

⁹ Civil servant and inventor as well as one of the leaders in the British design education as he contributed to the establishment of the first design schools in the country. At the same time, under his guidance and support a series of small exhibitions of craft products (Exhibition of Art Manufactures in 1847, 1848 and 1849) began to be organized, which contributed to the creation of the 1851 Great Exhibition. From 1857 to 1873 he was the director of the famous South Kensington Museum, now known as the Victoria and Albert Museum.



Figures 5, 6

Plate XLIII (43): “Moresque N° 5” and Plate LX (60): “Chinese N° 2 from the 19th century color and pattern ‘Bible’ *The Grammar of Ornament* (Source: https://commons.wikimedia.org/wiki/File:Owen_Jones_-_Grammar_of_Ornament_-_1868_-_plate_043_-_300ppi.jpg)

Through not only the book’s colorful plates, but also through its rich textual parts and commentaries which accompanied each plate, Jones managed to enhance the importance of his research. The mutual dialogue between the colorful historical forms and patterns with the supporting texts constituted a powerful mixture which was mainly used for cognitive purposes (Frankel 2003, 4). He also thought that this book, despite its high price in the English market due to its high cost¹⁰, would be not only a unique source of information and inspiration for the British artists and especially for the architects who seemed to have been trapped in the watertight boundaries of British tradition (Johnson 2015, 54-55), but also an important knowledge tool for the students of the first, experimental Design Schools, in their efforts to understand the basic principles of design and color. This would enable them to

¹⁰ Because the cost of this book exceeded the £50, that is a huge amount for mid 19th century Britain, Jones decided to sell it through his publisher (Day and Son Ltd.) in the form of subscriptions. In this way each buyer would have the opportunity to buy it in parts which later could be bound together in one volume. So the cost of the book could be spread and thus could be affordable to the buyer.

contribute methodically to the creation of a national identity in British design, which had many and severe problems in terms of authenticity and functionality. Jones' main target was the contribution of his book to the formation of a new modern style and that would be impossible to have been created through the revival of old styles, techniques and especially though copying the 'tempting' patterns that are meticulously presented on its pages. Instead, he urged its respective users not to follow the 'humble' and useless procedure of copying, but to go into deep study of these historical decorative designs, into the essential reading and interpretation of their underlying principles and ultimately into the creation of new, innovative visual forms.

So if ever any questions arose, related to the type and quality of the techniques he applied in order to render in the best possible way the kinds of decoration that he wished and which would be a benchmark in the new, mid 19th century industrial society, then the answer would be that both he and his partners applied with skill and taste the most modern and effective ideas in the then book color printing industry, although apart from the technique of chromolithography¹¹, hand-colored engraving and block printing were also involved. It should be noted, however, that Jones himself was not able to be fully involved with *The Grammar of Ornament* publication as that time he was very busy with the design of Historical Courts at Sydenham Crystal Palace. This does not mean that he had not the diligence of all this detailed and lengthy process which was undertaken by experts. More specifically, all color plates were drawn on stone by Francis Bedford, an exceptional artist in lithography and early photography, and printed by Day & Son, one of the largest and most reliable lithographic firms of the second half of the nineteenth century Britain (McLean 1963, 90).

The chromolithography technique was a difficult, painstaking and time-consuming process requiring great skill. Although the four-color process was the basis on which stood most of the 112 illustrations, there were cases in which up to eight colors for some plates were used. The result of this 'polymorphic' printing process was particularly

¹¹ Despite being quite advanced technologically, the mid 19th century printing process, chromolithography, in particular, which was used for large-scale folio works or for highly illustrated books, was still expensive. But soon the technological developments brought to the fore the steam-driven printing press which, in combination with the widespread use of lower quality paper, contributed to the reduction of high production costs and consequently rendered chromolithography more accessible.

effective as the diversity in scale, style and color as well as the details of the final prints which were achieved by hand, almost surpassed the results of the then highly implemented screened photographic techniques.

It is however interesting that all the blocks used for the first edition of the book in 1856, that is, both those for texts and those for illustrations, could not be reused for the second and more complete reprint in 1865 because of its different publishing structure. This resulted in the creation of new blocks for every plate which meant more and more tedious task. However it is worth noting that without the full upgrade of that specific technique, Jones would have accomplished almost nothing in terms of the accurate color rendering of the designs and patterns he wanted to reproduce and his efforts to show the theory of color he had developed through his laborious and lengthy research would be unsuccessful.

CONCLUSION

Unlike the predictable design and architecture developments in Great Britain in the mid 19th century, Owen Jones suggested ways for discovering a modern style free from the heavy burden of the sterile British tradition. His ingenious idea to identify the common principles in design through some of the most characteristic examples of historical ornament, led to a new design language which, if correctly interpreted, would lead artists, architects and designers to the paths of the modern world needs and expectations. As a profound color and form connoisseur he was finally proved to be more important as a theorist rather than as an artist, as his grand ideology was dispersed through his major publications throughout England, but also in continental Europe and the US, forming so - to some extent - the basic principles of movements such as the Aesthetic Art and the Arts and Crafts Movements, even Art Nouveau itself. More specifically, although his work found a hard ideological opponent in the rather conservative, but prominent theorist and art critic John Ruskin (1819-1900) who, having deep historicist views, advocated the revival of historical styles, such as the Gothic style (Melhuish 2009, 12), there were personalities who were deeply influenced by his work. William Morris, the initiator of the restoration of crafts and ideal opponent of industrial production and modernism, was a great admirer of Jones' work, and the influence he received from it, is beyond any doubt. Despite the fact that many art historians consider him as Ruskin's

historical disciple (Frankel 2003, 5), his total work reveals the influences he received, especially in the color use and application on his wallpapers and textiles designs. Another great designer of the second half of the 19th century, Christopher Dresser who, unlike Morris, did not reject the possibilities of industrial production and never hid his intense interest in industrial design, adopted many of Jones' principles regarding color and form. His important books on design and ornament including the famous *The Development of Ornamental Art in the International Exhibition* (1862), *The Art of Decorative Design* (1863) and *Principles of Decorative Design* (1873), indicate the serious impact that he received from Jones's work as many of his innovative principles were not only adopted by Dresser, but continued to affect, in an equally bold way, the next generation British designers way of thinking.

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