

与联觉艺术家Maria José De Córdoba的访谈

原创 2017-05-28 熊宁辉 音画联觉艺术工作室

编按：今年作为[首届中国联觉艺术展论坛“跨地域的联觉调研”](#)的第二期，我们在这里将陆续刊登工作室主持人对国际联觉学界著名学者和艺术家进行专访，增进我们对联觉认识，对他们的联觉研究成果进行介绍。

本期访谈人物：**玛彩丽博士 Maria José De Córdoba Serrano Dr.** 她将在这里给我们介绍联觉的基本概念和种类，联觉与艺术的关系，联觉如何进行培养，以及当今世界联觉学术研究的动向，她作为首届中国联觉艺术展论坛的主讲人，这方面的介绍在中国国内在是首次。



玛彩丽博士是西班牙格拉纳达大学美术学院终身博士教授，博士导师带教国际流动，西班牙“国际艺术城市基金会”会长、文化交流和研究部主任。自八十年代开始联觉的相关学术研究，在欧洲的联觉学界属于领军人物，她作为艺术家，她也在视觉音乐影像、版画、合成聚合物新材料装置方面的艺术创作取得巨大成就。

Maria José De Córdoba Serrano Dr. is Profesora Contratada Doctora Permanente, Tutoradocente movilidad internacional, Facultad de Bellas Artes, University of Granada. She is President and Dirección Artecittà International Foundation, Dpto. de Investigación, Desarrollo y Promoción Cultural. She is Doctor of Fine Arts, has been researching on the synaesthesia field since the 80' s and she is one of the

key persons in Europe leading synaesthesia research and study for many years. In addition, she also researches in other topics such as visual music, engraving and new materials and illustration systems on synthetic polymers.

玛彩丽教授作为欧洲联觉研究和推广方面是先行者，策划并主持召开五届国际联觉学术交流大会（[精彩回顾：第五届科学与艺术国际联觉大会](#)），在欧洲，她是唯一的将联觉的学术研究带到了跨学科跨领域的高度人物，与来自世界各国近40个国家的大学和机构的学者有着广泛的合作，所进行的联觉项目已经应用在学位教学课程之中，主持可视化音乐影像艺术国际比赛，组织国际间跨学科联觉研究课题。2014年，玛彩丽教授主持了联觉研究领域至今最重要的著作之一《联觉：理论的、艺术的、科学的基础》的编写工作。

As a forerunner of the study and promotion of synaesthesia in Spain, she has managed to organize five International Congresses on Synaesthesia, Science and Arts unique in Europe due to their multidisciplinary character and bringing together the highest level of researchers among more than universities from 40 different countries. Likewise, she has been able to put in contact several national and international research groups which, sharing their ideas and progress, have created new projects and even implemented University Masters, Summer courses, international contests on Visual Music, etc. and the establishment of an international and multidisciplinary research group, whose members are all of them of the International Foundation Artecittà. She led the project for the publish of one of the important synaesthesia research books: Synaesthesia: Theoretical, artistic and scientific foundations (ISBN 8493905496, 9788493905491, N.º de páginas 372 páginas, 2014).

玛彩丽作为一位杰出的艺术家，她的艺术生涯包括了200多次的西班牙国内和国外的绘画和版画艺术展览并屡次获奖，与她合作的博物馆包括了俄国圣彼得堡阿米泰吉博物馆、圣托多明戈现代艺术博物馆、俄国明斯克现代艺术博物馆、西班牙国家文献馆、西班牙版画博物馆等。玛彩丽获奖和荣誉，主要大奖包括

- 西班牙第四届绘画、版画获奖作品展版画一等奖，1994；
- 意大利圣雷国际当代艺术展一等奖，1996；
- 意大利盖雷金棕榈奖，1996；
- 西班牙皇家优秀美术大奖，2009。

As a great artist, she has in their artistic journey more than 200 exhibitions between national and international. Several engraving prizes and painting. Have medal to the merit of the Fine Art in the year 2009. And her work is in museums like: Museo del Ermitage.

San Petesburgo; Museo de Arte Moderno de Santo Domingo; Museo de Arte Moderno deMinks; Calcografía Navioal, España, Museo del Grabado, España....Key Honors& Awards are:

- 1 Premio de grabado. "IVpremio de dibujo y Grabado". Madrid. 1994
- 1 Premio Arte Contemporáneo.Festival Internacional de Arte Contemporáneo. San Remo. Italia.- 1996
- Premio Palama de Oro. 1996.Giarre.Italia
- Medalla al mérito de las BellasArtes 2009. Real Academia Ntrª Srº de las Angustias. Granada. España

相关网站.<http://www.artecitta.es/MARIAJOSEDECORDOBA.htm>





熊宁辉：什么是联觉？

Ninnghui XIONG: What is synesthesia?

玛彩丽：联觉是大脑产生的一种共同感受的现象，这不是一种主观的幻意，是对外界的反应，一种明确的感知。在联觉人的大脑里，相关的部分被激活。这是一种个人的经历，例如：你听到一种色彩、或通过观察某种造型或色彩而感受到一种声音，阅读或听到一些词汇、或看一些数字而感到它们的色彩等等。统计研究发现联觉至少有60多种，如字母/颜色、音素/颜色、声音/色彩、音乐/色彩、时空/色彩、数字/色彩等等。从语源上分析，SYNESTHESIA由SYN和ESTHESIA组成，SYN表示共同；ESTHESIA表示感官，也就是感官的联合（是联合而不是混合）。

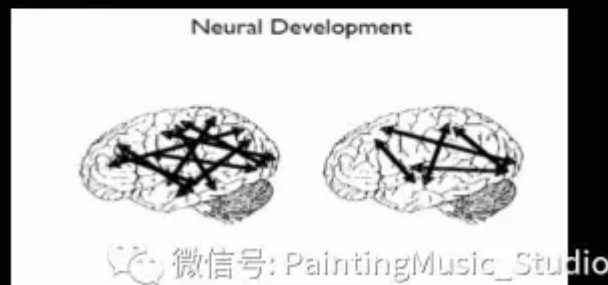
Maria Jose: Synaesthesia is a brain phenomenon producing the union of senses, It is not an allucination because attention is paid to the outside object- it is a clear perception. In the synaesthetic brain, a secondary property is activated. And It is an individual experience- for example: You can listen to a color or view a sound with a certain shape and colors. Read and listen to words and letters in colors...; Statistical studies have found more than sixty types of synaesthesia, such as grapheme /colour, phoneme /colour,

sound /colour, music/colour;space /time, numeric /space ...Etymologically it would be: SYN:UNION; ESTHESIA: SENSES, ie "Union of sense" or senses together (not mixseses, but union)



WHAT IS SYNAESTHESIA?: INTRODUCTION, REMINDER

- A brain phenomenon producing the union of senses
- It is not an allucination
- Attention is paid to the outside object – it is a clear perception
- In the synaesthetic brain, a secondary property is activated
- It is an individual experience



人的一些共同的联觉的特点或特性可以概括（但需要进一步的研究加以证实）如下：

- 联觉是与生俱来的；
- 联觉人往往具有不止一种联觉种类（有低强度的、高强度的联觉）；
- 艺术家和创意设计人员居多；
- 不擅长数学或分辨左右有困难；
- 视觉记忆力超强；
- 非常具有想象力；
- 左撇子居多，或左右手技能都很好的；
- 具有识别音高的能力。

Some of the features, which are believed common in people with synaesthesia are as follows (though we must continue to study and research them in order to consider them to be true):

- *Is an inherent condition;*
- *Synaesthetes usually experience more than one type of synaesthesia (There are low and high intensity of synaesthesias);*

- *It's more common among artists and creative people;*
- *They have problems related to left and right and mathematics.(confusion in differentiating the right hand on the left, and also in solving arithmetic problems);*
- *They have early development of visual memory;*
- *They are very imaginative;*
- *They have a higher IQ than average;*
- *They are left-handed or right and left handed.(left-handed or ambidextrous often, ie, they use the left hand or both hands with equal skill);*
- *They are able to capture the perfect pitch.*

熊宁辉：您可否简单地回顾一下联觉研究的历史和现在在全球范围内的研究现状？您作为五届国际联觉大会的精神领袖应该是回答这个问题最合适人物。

Ninghui XIONG: Can you briefly review the history of synesthesia research and its current status worldwide? I think as a leader of five international congresses of synesthesia, you are the right person to comment on this.

玛彩丽：虽然联觉的研究历史可以有五百年以上（亚里斯多德、牛顿等等，对色彩与声音、说话语音与色彩等的关联都进行过研究），在中国自古也有对联觉现象有过相应的记载（可能是与四季、身体、面相、行星等等，具体可以参见 Jewanski 或 Sean A Day 的报道和研究）。1812年 George Sachs 曾经研究用于医学研究的所谓超级声音色彩的联觉，在1934年 E. Lowel Kelly 的文章中有过记载。在这方面 Tonino Tornitore 在2007年国际联觉大会上有过介绍，题为《色彩字母：听见色彩的历史》，该文收录到《联觉：理论的、艺术的、科学的基础》一书。在1909年 V. Mercante 对联觉教育方面有过研究的报道。但在过去对于联觉的研究都是秘而不宣的，并没有被科学界所关注，直到80年代，感谢脑成像核磁共振技术。

Maria Jose: Although there are historical references of more than 500 years ago (Aristóteles, Newton, Guiseppe Arcimboldo, Kepler, Kircher, Louis Bertrand Castel... studied the correspondences between colors and sounds, voices and colors, for example), in China, it is also known since ancient times this phenomenon (various schemes relating such matters as seasons of the year, body parts, facial features, and planets, references authors have reported as Jewanski (1999) or Sean A Day in his first studies), medically it is known that there are studies since 1812 on hypercromesthesia (George Sachs), reported in 1934 by E. Lowel Kelly; Tonino Tornitore (Faculty of Letters and Philosophy University of Genoa, Italy), was lecturer at one of our international congresses, in

2007, devotes a chapter /title Summary: THE COLOUR OF THE ALPHABET: THE HISTORY OF HEARING COLOURED of his study of all this first time on cases of hiperchromesthesia studied at the medical level, first references, and published in 1986, in our book "Synaesthesia.Theoretical, artistic and scientific foundations". There are also references in 1909, about education (verbocromía) and synesthesia, by V. Mercante,for example. We know that the study of synesthesia was dismissed by the scientific community, being something very mysterious and esoteric subjects related serious-bit is not until the 80s that their study is resumed, thanks to advances in technology as brain image MRI.

60年代在前苏联的普罗米修斯学院，对联觉方面的深入研究也有许多，可惜我们未能收集到这方面更多的信息。但在近些年，关于联觉研究和文献大量出现，这也归功于国际联觉界的学术交流活动，如美国联觉协会 ASA自1995年成立以来举办的多次研讨会、国际联觉学术会议在2003年在汉诺威医学院举办、英国联觉协会自2005年开始的学术年会，尤其是2005年以来由国际艺术城市基金会主办的国际联觉大会“艺术与科学”，将联觉研究带到了一个跨学科的高度，将艺术与科学联系在一起，那些在联觉研究的先驱人物如神经科学家 Cytowic,Larry E Mark, Maurer Daphne, H.Hemrich, Ramachandran, Edward Hubbard等等，他们都将其研究成果带到历届大会上。

Unfortunately, we do not reach Russia studies conducted in the '60s, in Kazan, from the Prometheus Institute. But in recent years the scientific literature on the subject have multiplied exponentially, and this also contributed some international initiatives such as conferences organized by ASA (American Synesthesia Association) since 1999, international conferences organized by the Medical School of Hannover 2003, annual conferences organized by UK Synaesthesia Association of 2005, and in particular, we believe, of conferences "Synesthesia: Science and Art" since 2005 the Artecittà International Foundation, in a multidisciplinary where, art and science come together. Cytowic,Larry E Mark, Maurer Daphne, H.Hemrich, Ramachandran, Edward Hubbard,... They are known for pioneering neuroscientists publishing scientific studies on synesthesia, who participated in our congresses

自2007年以来，与国际联觉大会平行进行的“联觉与视觉音乐国际比赛 MuVi”吸引了众多职业艺术家、教师 and 大学学生，运用联觉，将他们创意声音影像进行展示交流，同时还有联觉音乐会、跨学科的艺术展，显示出联觉研究在艺术方面的丰富多彩。大会论文集和 MuVi作品专辑都以文献方式出版，分享联觉知识的传播和更新。所有这一切的贡献结果，有助于对联觉的研究，有更多的大学设立了专门的博士研究课题，吸引了许多学者在各个领域的研究和应用，不仅在艺术、神经科学、心理学方面，而且在教育和创意领域。

We are proud also to be promoted, since 2007, international competitions "MuVi" (visual music and synesthesia- In it, involved professional artists, teachers and college students, who use their synesthesia or the concept of synesthesia for creations audiovisual). It is always parallel to scientific conferences activity. But concerts, exhibitions multidisciplinary art are also promoted, to accommodate the artistic dimension of the study of synesthesia. Both conferences as MuVi have their correspondings publications

to facilitate the dissemination of shared knowledge and updated around theSynesthesia. All this has contributed, today, that the synesthesia is known much more and even there are already many doctoral theses devoted to synaesthesia study. Many people are attracted to the study and application in different areas of knowledge, not only in the artistic or neuroscientist andpsychological, but also educational and creative field.

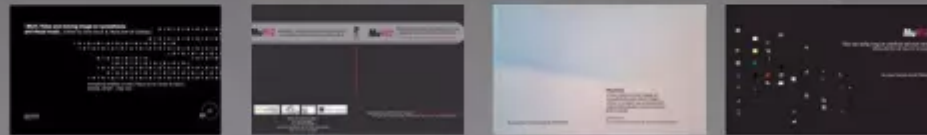
历届科学与艺术国际联觉大会论文集均由玛彩丽教授主编、装帧设计和出版：与Dina Riccò合作的历届视觉音乐与联觉影像国际比赛作品专辑的出版，这些著作和作品已经被许多联觉研究人员所大量引用，在西班牙关于联觉的第一个纪录片，在地区和国内的媒体电台、电视台广泛传播。

The publication of the minutes corresponding to each of the Congress designed and organized by Maria Jose de Cordoba, as well as the International Contest of Visual Music, in collaboration with Professor Dina Riccò, have become the reference for many researches on the synaesthesia field, which is not so emerging any longer. It should also be mentioned the first documentary filmed in Spain about this field, which has been broadcasted, due to its scientific character, by regional and national televisions .



<https://www.artefutura.es/temas/tema104/tema104.htm>

科学与艺术国际联觉学术交流大会网站及出版物



视觉音乐与联觉影像国际比赛网站 微信号: PaintingMusic_Studio



2014年，玛彩丽教授主持了联觉研究领域至今最重要的著作之一《联觉：理论的、艺术的、科学的基础》的编写工作。

Leading the project for the publish of one of the important synaesthesia research books in 2014.

Synaesthesia: Theoretical, artistic and scientific foundations

ISBN 8493905496, 9788493905491, N.º de páginas 372 páginas

由西班牙国际艺术城市基金会、意大利米兰综合技术大学、西班牙格拉纳达大学、美国联觉协会共同合作完成

该书涵盖了自十九世纪以来对联觉的相关知识和研究的总结，对象是联觉研究学者、大学和音乐学院的学生，以及那些致力于这个跨学科领域内容包括联觉历史、神经科学解释、语言、艺术和设计方面相关实验和应用进行发现和探索的学者。

Fundación Internacional Artecittà/Politecnico di Milano/University Granada/ American Synesthesia Association

This book intends to provide the knowledge acquired in the last two centuries of study of synaesthesia, from the beginning of the 19th century up to nowadays, targeted at researchers, university and music

School students and to those from diverse disciplinary contexts who would like to discover the history of synaesthesia and the neuroscientific explanations or would like to experiment with the possible applications in language, art and design.



微信号: PaintingMusic_Studio

7

熊宁辉：根据某些统计报道，只有极少数人被称为“联觉人”，这样联觉研究的方向也就比较狭窄，而且人们对联觉的理解也模糊不清，是这样的吗？

Ninghui XIONG : According to some statistical reports, very few people are so called 'synesthetes' , then synesthesia research should be quite isolated. People are often very confused. Is that true?

玛彩丽：许多人并不知道他们是联觉人，只有当了解到这种现象后，许多人对他们这种跨感官的能力并不关注，其中有些人怕被别人误解，又怕被人贴上联觉人的标签。通过我们的调研，这种联觉人的比例比我们认为的要高出许多。通过我们自2006年开展的联觉调研和研究，我可以肯定

地说，在说西班牙语系的人群中，至少有14%的人具有联觉，至少是概念联觉，其中4%的人具有天生的联觉，非常强烈和突出的。以前，并没有根据联觉发生的情况和条件指出联觉种类，但通过调研，我可以说，联觉分布非常之广。

Maria Jose: Well, many people find out they are synaesthetes when they become aware of this phenomenon. Most of them pay no attention to their cross-sensations as they are afraid because they cannot understand them. Occasionally they feel shy and are unable to share them or they think everyone has these multiple associated sensorial labels, and as we conduct more and more surveys, we are becoming sure that the percentage of possible synaesthetes among the population is higher than thought. I can dare to say, according to my studies and surveys conducted since 2006, there are about 14% of the Spanish population with synesthesia, the conceptual least call; and 4% with congenital synesthesia, ie that experience synesthesia very vivid and projective. Formerly, I have not mentioned the different types of synesthesia according to their origin, what and how they occur. Here I can now state my theory about it. The evident conclusions derived from our surveys, there exists a wide range of synaesthesias.

第一：一些人他们的认知相关的神经生理，倾向于认为一个或更多的不相干的部位的联系在一起，引起半知觉性的或低强度的联觉，或者是高强度有知觉的联觉。（低强度联觉是指对联觉的知觉不是很明显，包括可能在大脑感觉到看到一种颜色但没有特别关注，可能认为之“正常的”；而高强度的联觉是指对联觉的知觉非常很明显，可以投射到外面，不是在大脑感觉到而是你真实看到的字幕的色彩，尽管是黑的或白的，还有就是看色彩的时候，会感知到一种味道。

No.1 Those related to the educational and cognitive development in personalities with a neurobiology, are prone to have one or more areas of the brain in connection uninhibited, provoking half-conscious or low intensity synaesthesias and/or high-intensity, conscious synaesthesias; (Low intensity means not so strong sense of synaesthesia. It is like when you see in your mind one color for every day, but you don't pay attention, it is "normal" for you. High intensity means vivid with strong sense of synaesthesia, for example: projected to the outside, not in your mind's eye, but you can really see the color of a letter (black on white). Above it, there a photism, when read in colors, one can really smell a color, and you are aware of it.

第二：一些人天生就有的某种神经生理的改变，这种比例极低的具有有知觉的联觉。此外，他们也伴有某些综合症，如孤独症等。

No.2: Those caused by genetics, specific altered neurobiology, i.e., conscious ones which might be present in a very low percentage of the population. Besides, they could be associated to some syndrome such as Asperger Syndrome or Autism.

第三：文化与社会相关的观念联觉，这方面非常普遍。我们都知道“Kiki Bauba”实验，似乎在我们的语言中联觉或社会心理联觉是普遍存在的。

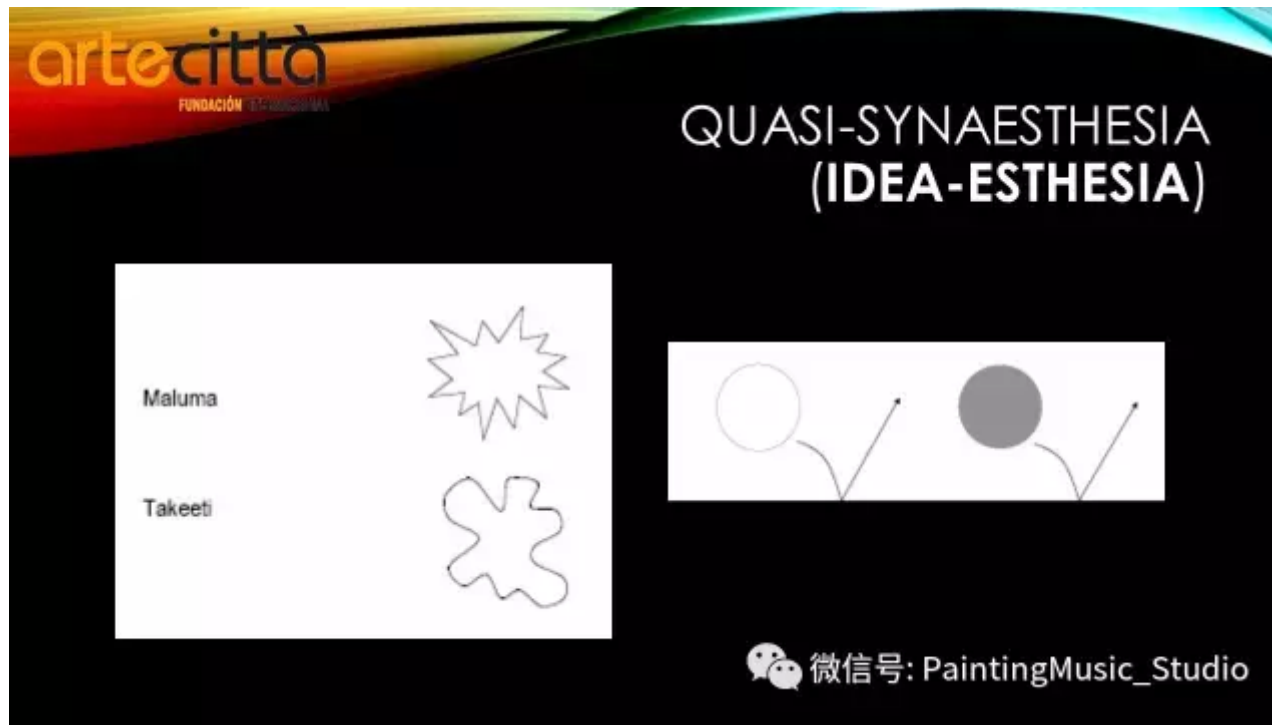
No.3: Pseudo/quasi – ideaesthesia-cultural/social synaesthesias are very common. We are all familiar with “Kiki” and “Bouba” experiment. Thus, it is plausible that synaesthesia, or social psycho-synaesthesias are present in the generation of our language.

熊宁辉：什么是观念联觉？

Ninghui XIONG: What is so called Ideaesthesia?

玛彩丽：观念联觉，这是一个新的名词，是针对低强度的概念性联觉（早期研究称为准联觉），99%的人似乎都可以感受到。这个观念可以帮助艺术院校的学生和老师理解我们如何理解或潜意识、认识口语和概念中的形状和色彩。

Maria Jose: Ideaesthesia -A new term with regards conceptual low intensity synaesthesia is called ideaesthesia (earlier called quasi-synaesthesia) and ninety-nine percent of the population seems to experience it. This example helps Artstudents and teachers to understand how, unconsciously, we ascribe shapes and colours to spoken words and concepts.



请参考，[音画联觉，你有吗？（第一集）](#)

熊宁辉：艺术联觉的含义是什么？

Ninghui Xiong:What do you mean by synesthesia in art?

玛彩丽：我们知道，艺术和联觉是密切相关的，纵观艺术史，有许多记载、研究和方法旨在联觉概念的应用以及探索它们之间的关联。在二十世纪的先锋艺术运动中，那个所谓“综合艺术”（TOTAL ART），就是讲艺术门类综合在一起进行互补的理念。现在，这种趋势得以继续恢复，因为新技术的支持，能够为跨感官贴上新的标签（赋予新的含义）。

Maria Jose: We know that Art and Synesthesia have been closely, and has been throughout the history of art, texts, studies and methodologies aimed at using the application of the concept of synesthesia and interrelation between the Arts. We remember artistic movement pioneer of the century, summed up in the concept of TOTAL ART, where all the arts come together and complement each other. Today this trend is resumed, more than ever, aided by new technologies and the ability to translate sensory tags.

关于这方面，我们可以提及一些艺术家，他们对联觉的研究和兴趣，包括艺术家马塞尔·杜尚 Marcel Duchamp、康定斯基 Kandinsky、保罗克利 Paul Klee、瓦西拉基斯·塔基斯 Vassilakis Takis、拉兹洛·莫霍利·纳吉 Laszlo Moholy Nagy (任教于早期的包豪斯), Man Ray, Francis Picabia 等等；音乐家凯奇 Cage、斯托克豪森 Stockhausen, Kagel 等；还有诗歌包括意大利的可视化诗歌或声光混合媒体、影像声音计算机编程等。这些都是20世纪早期的例子，说明艺术和各种感官联系在一起的重要性，其核心就是知觉与联觉性的象征。我可以断言，创造力与联觉始终是不可分离的，艺术和联觉通过某些方式也可以在一起。

There are several artists we could mention related to this concern, study, interest or investigation about synaesthesia (Marcel Duchamp, Kandinsky, Paul Klee, Takis Vassilakis-, Moholy Nagy (professor in the Bauhaus school), Man Ray, Francis Picabia etc.; musicians/ ' painters' , such as Cage, Stockhausen, Kagel etc.; also consider poets and artistic movements such as concrete poetry, In this genre, visual and spatial have the same level of importance the rhyme and rhythm in lyric poetry, and the Italian visual poetry, or Opto-Phonetics, an experimental way in which the image, the plastic element, in all its facets, techniques and media, dominates the other components supports predominates over the other components, Mixed Media, as well as the new sound interfaces, computer programmes for images and sound, audio and video. Are all examples of early twentieth century, where the relationship between the arts and the mixture of sensations, become important. At its core is the concept of perceptual and metaphorical synesthesia. Trying to take as true the assertion that creativity and synaesthesia can go together, Art and Synesthesia then, in some ways, come together too.

SOME HYSTORY EVIDENCES

Franz Liszt



"O please,
gentlemen,
a little bluer,
if you please!
This tone type
requires it!"

Adapted from <https://www.comcast.net/~msh-dp>

"O por favor,
caballeros,
un poco más azul,
si hacen el favor!
Este tipo de tono
lo requiere!"

Franz Liszt

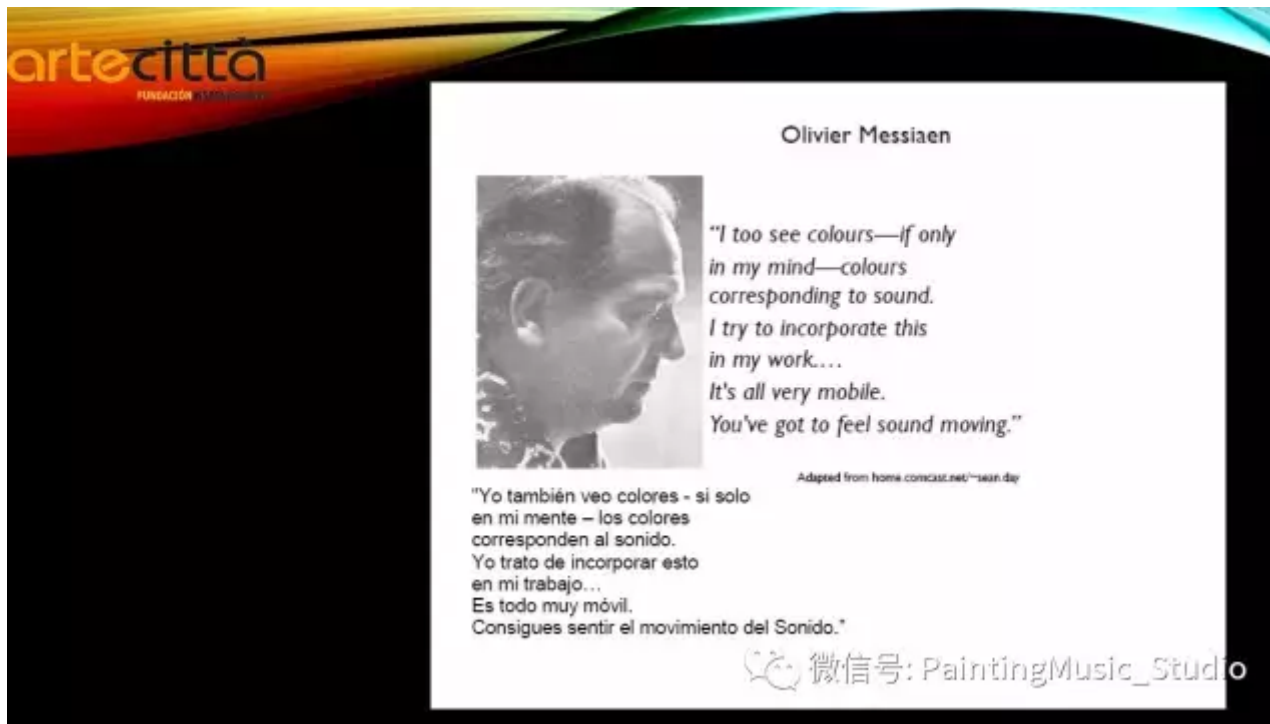
Rimsky-Korsakoff



Adapted from <https://www.comcast.net/~msh-dp>

Korsakoff también percibió el color cuando él escuchó la música: Un color específico para cada nota musical.

El compositor Ruso, Rimsky-



参考：[什么是艺术联觉？](#)

熊宁辉：作为艺术作品，大部分的诠释是与象征比喻有关的，当然这具有幻像的成分且很主观，也许是基于艺术家的记忆，在我的理解，这必须与联觉或经验联觉分开，但有时似乎我们也不能简单地将其分开，你的想法是怎样的？

Ninghui XIONG : In artist works, the normal major part of explanation is referring to metaphor, of course it is allucination which is quite subjective or based on artist memory, in my understanding, and we have to separate it from synesthesia or ideasthesia, but sometimes, we cannot simply separate them at all. Is it right?

玛彩丽：是的，我们应当把联觉性的象征从知觉联觉中进行分开，这是很重要的不能够混淆的。联觉在任何情况下不是幻意。在我看来，艺术家有他丰富的内心世界，他用感官感知自然，与情感混合，给观众带来一个独特的世界，反映到他的绘画、文学、音乐，以及其他艺术形式，构成他内在的自我，通过多种感官和情感的转换过滤。

Maria Jose: We must differentiate the synesthetic metaphor of perceptual synesthesia, it is very important not to confuse this. Synesthesia is not a aluciación, in any case. In my opinion, the artist uses his inner world, his perceptual world full of sensory tags and

mixed with emotions, which aims to convey to the viewer, a particular and unique world. Projected through painting, literature, music or whatever Art, part of his inner self, filtering its multisensory vision and emotions.

熊宁辉：在中国，曾有过类似的概念叫“通感”，广泛地运用在日常交流，尤其是美术、音乐和文学中，例如“红杏枝头春意闹”（宋祁998～1061）、“歌者端如贯珠”（出自2000年以前的《乐记》）。这些是联觉吗？根据目前的联觉研究，你对此有什么说法？

Ninghui XIONG : In ancient China, there was a similar concept of synesthesia called “Tong Gan” in some phrases during daily communication, but more in art, music and literature. For instance, “A red apricot flower is seen, representing the spring is coming, not just alone and quiet 红杏枝头春意闹” (Songqin 宋祁998～1061). Another example is “singer’s voice like pear 歌者端如贯珠” written in the book “Yue Ji 乐记” almost 2000 years ago. Are these synesthesia or not, do you have any further comments according to current studies of synesthesia?

玛彩丽：是的，您以前也提到过，在第五届科学与艺术国际联觉大会上，关于中国美术、音乐历史中的联觉，您和丁同俊教授给我们做了非常精彩的报告，里面列举了中国古代美术和音乐与多感官情感、诗意密切联系的典型案例，包括了情感联觉及其音乐与绘画的交互。（这方面，我尤其对中国古代文字及其与联觉的关系非常有兴趣，在90年代，我还根据中国字进行了版画创作，那些水、月、天、大、上、心等文字边旁，具有特定的含义，质感和色彩）我认为我们应该对中国艺术进行深入了解，如同你们的研究，在我看来，尤其是观念联觉与“通感”。这两种概念是具有相似性的。

Maria Jose: Well, before has mention about in ancient China knows we know exists. Your presentation in our "V International Congress Synesthesia, Science and Art", with your colleague professor Tong Jun Ding, was a wonderful review on the history of art in China and synesthesia in music, which you illustrated perfectly that since ancient times, China It shows in his art and music intimately linked processes multisensoriality, emotion and poetry. Emotional synesthesia and interaction between music and painting. (Particularly interested me, for years, the study of Chinese ancient alphabet and its relationship with synesthesia. I think they are drawings that contain all the physical and spiritual content of the word / concept, with its sound included as well. Even I made a series of engravings on Chinese characters in the 90s, as are the words: water, moon, sky, together, protection, big, up, spirit ... that were recorded messages, with texture and color). I think we should know more about the ancient Chinese art. And deeper in this period that you studied. Tra similarities in both concepts, especially, in my opinion, in ideesthesia and "Tong Gan" .

BRIEF REVIEW SYNAESTHESIA IN CHINA MUSIC AND ART HISTORY

Presented by Chinese Synaesthesia Study Group



Objective

Introduction of Chinese synaesthesia in music and art history

Methodology

Matrix analysis in synaesthesia through
1. Art category, 2. Art aesthetic characteristic

Results

Case study in

- Chinese characters,
- Music,
- Poetry,
- Calligraphy,
- Painting
- Garden design etc.

Root cause analysis in synaesthesia linking with Chinese art original

Conclusions

Chinese art aesthetic characteristic =
inner music + multi synaesthesia emotion interaction
Statement of Chinese art synaesthesia study roadmap

Beihai Xuehui 8198 La Platon International Art Center
Teng Jiao 8198 1988 Nanyang Normal University
Liang Li 8198 88 And Design Studio
Zeng Zhen 8198 81 La Platon International Art Center
Hu 8198 88 China Central Academy Fine Arts (CAFA)



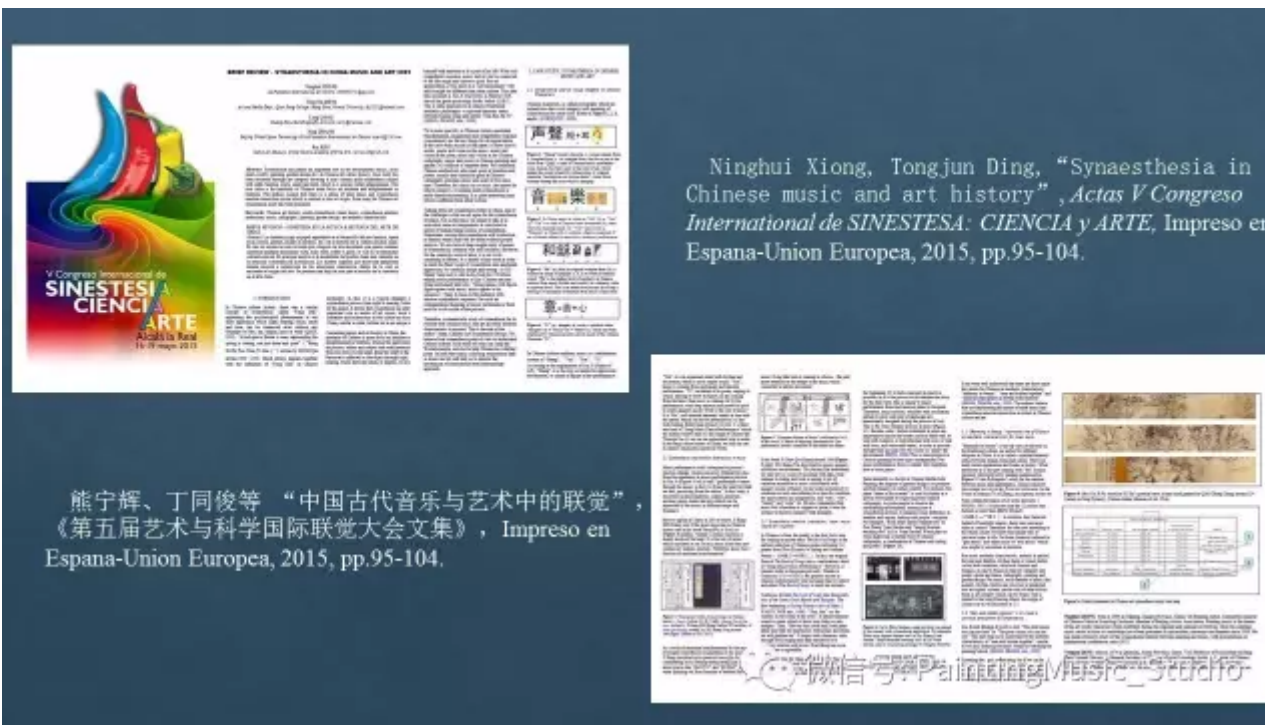
V International Conference Synaesthesia, Science and Art,
in Alcalá la Real, Jaén (España), 16-19 May 2015



在2015年《第五届艺术与科学国际联觉大会》
熊宁辉、丁同俊的发言 “中国古代音乐与艺术中的联觉”



微信号: PaintingMusic_Studio



Ninghui Xiong, Tongjun Ding, "Synaesthesia in Chinese music and art history", *Actas V Congreso Internacional de SINESTESIA: CIENCIA y ARTE*, Impreso en Espana-Union Europea, 2015, pp.95-104.

熊宁辉、丁同俊等 “中国古代音乐与艺术中的联觉”，《第五届艺术与科学国际联觉大会文集》，Impreso en Espana-Union Europea, 2015, pp.95-104.

参考：[熊宁辉、丁同俊在国际联觉大会上的发言：概述中国古代音乐和艺术中的联觉](#)

熊宁辉：联觉是可以继续训练和学习吗？

Ninghui XIONG: Can synesthesia be learned or trained?

玛彩丽：从2009年开始，我就开始在产品广告中研究生课题中引入联觉，题目是科学的跨学科的联觉研究，以及针对创意项目教学的联觉与观念联觉课题：联觉作为综合性的创意思维。在实施这些课程之前，我针对格拉纳达大学学生中具有联觉能力的人群进行调研，探索创造力与联觉的关系。我们通过工作坊、不同的教学活动、展览、知识的传播让这些学生 - 未来的艺术家或艺术教师了解联觉确切的含义，对各种古怪的现象进行一分为二的分析。

Maria Jose: Since 2009 I have been teaching the subject of synaesthesia within the master of design production and dissemination, entitled: An approach to the interdisciplinary scientific study of synaesthesia. And also an didactic innovation project about creativity and synaesthesia / ideaesthesia: Synesthesia as holistic creative thinking. Before getting to implement a course on synaesthesia in this Master, I was probing for students at the University of Granada, possible

syneasthetes, and also looking for a possible correlation between creativity and synaesthesia. We have implemented workshops and several different didactic activities, exhibitions and knowledge dissemination so that students - who will be future artists and also teachers- can be aware of the peculiarities and the dichotomies that connote the didactics of synaesthesia.

我们组织一些工作坊，如在2009年11月在卡迪斯举办的第七届西班牙音乐节的“图画音乐”活动，根据参与者不同的情况进行分类进行适当的项目（不同的技术、媒介、语言方面的），在工作坊中，我们研究了与身体感官相关联觉的活动，如动觉方面，身体运动知觉、通过声音的韵律和声给予人内在的反应，我们称之为“身体感官表达”。此外，我们还进行了口语表达、听音方面的活动，用以支持了如何进行联觉象征表达。此外，在创意即兴艺术创造实验中，如何采取其他多种选择，尝试改变，不同的材料和方法。

The participants learn to consider the different techniques, media, languages and also the profiles of the different actors that operate with diversified logic(s) and finalities in the synaesthesia didactic and research field briefly mention the workshop we organized in November 2009 called “Drawing the Music” during the 7th Spanish Music Festival in Cadiz. During this workshop, we studied the auditory somatic sensory synaesthesia experience. Likewise, we dealt with kinaesthesia, movement proprioceptive sensations, and internal sensations that by means of rhythms, harmony and sound sequences are offered to us. For this reason, we use the expression “somatic sensory.” Besides this, we also analysed the verbal description of an auditory event, which is inevitably supported by a synaesthetic metaphor. Besides, the improvising side of intelligence benefits with regards the ability to change the direction or to re-define the objectives when better options pop up during the creation of a piece of art; it improves the use of materials as the means.

技术手段是需要的 – 有必要进行跨学科的研究，这样，我们的艺术创意表达才能够更加精细，艺术内容的设想才可以塑造，它也改变了我们如何看待世界，以美学的观点，改变我们那种将经验进行书面与口头表达的质量。尽管我们对联觉的了解已有300年或更多时间，但现在在任何方面，这种对联觉新知识的研究和应用、对艺术教育联觉方面的研究，都有了很好体现，我们看到在认知知觉方面的提高。这就促进了我们多种智力和创意的开发。这就是为什么我们对教学环境的关注度不断提高的原因。但这种提高一定是跨学科的，这样才有效和准确。

It also contributes to elaborate a way to create expressive contents using the artistic talent. It models the imagination of the artistic contents; it changes how the world is seen with an aesthetic perspective as well as the ability to translate the qualities of experience into a written or oral event. The study and application of new knowledge on our natural synaesthetic ability and the necessary research in art teaching proves, now more than ever, that despite the fact that we have been aware of the existence of synaesthesia and have studied it for more than 300 years, this ability is present in our cognitive and perceptive development. It boosts the

development of our multiple intelligences and of our creativity. That is the reason why interest within the educational environment is increasing. However, this interest should be interdisciplinary so that our research can be efficient and accurate.

参加过艺术城市国际基金会这种创意教学学生都表示极大的积极性和兴趣的，以科学的视角对联觉知觉的奇妙世界有了感性的了解，他们都理解不同的联觉概念的区别，如联觉象征（文学方面的）、观念联觉、知觉联觉（一种真正的感知，出现类似那种 Stroop 斯特鲁普效应给人带来的感知）。（注：Stroop于1935年做了一个实验，利用的刺激材料在颜色和意义上相矛盾，要求被试说出字的颜色，而不是念字的读音，结果发现，说字的颜色时会受到字义的干扰）

Everyone who has been participating in the FIAC innovating teaching project has provided very positive and pleasant feedback. They have approached the fascinating world of THE synaesthetic perception from a more scientific view point. Students can better understand the difference between synesthetic metaphor (which is a literary device), the ideasthesia, and perceptual synesthesia, which is a real perception and behaves like normal perception, complying with the same rules (remember the Stroop effect, example)

我的结论是，对自我探索新方法的应用，了解联觉的含义，在艺术教育方面的新尝试，这些都是我们给学生提供的创意响应、激励他们积极参与新的艺术产品、创意和项目。

In my conclusion, the application of these new methodologies of self-exploration, becoming aware of synaesthesia", and new approaches in the field of arts education that the university provides students with a creative response, motivates them in the generation of new projects, ideas and artistic production.



微信号: PaintingMusic_Studio





 微信号: PaintingMusic_Studio

熊宁辉：联觉除了在音乐和艺术中使用外，还有那些应用？在跨学科的层次取得过那些成绩？

Ninghui XIONG: Are there any other applications of synesthesia, not only in art or music, but also in other domains and what about the achievement in an interdisciplinary level?

玛彩丽：是的，自从2005年以来，通过国际联觉大会，我们看到并了解到在欧美各专业对这方面的广泛研究，许多学者积极参与，在不同的论坛板块广泛交流，其中包括：

- 神经科学与认知；
- 神经学与语言；
- 心理学与神经疾病；
- 语言学与文学；
- 感知、创造性与联觉；
- 药物致幻与联觉
- 教育学与教学；
- 平面设计与联觉；
- 新技术与联觉；
- 音乐与联觉

Maria Jose: Yes, of course. Since 2005, in our congresses, we have seen and also inform through researchers involved, the different lines of research that are taking place in Europe and the United States, mainly. These were distributed at different tables of communication such as:

- Neuroscience and cognition
- Neurology and linguistic
- Psychological and psychiatric
- Linguistic and literary
- Perception, creativity and synesthesia
- Pharmacologic (We know there are some studies about "mescaline, Lsd, and other drogues making synesthetic experiences)
- Teaching and education
- Arts / Artistic

- *Graphic design and synesthesia*
- *New technologies and synesthesia*
- *Music and synesthesia*



Anton Sidorof Dorso, Moscú



Sean A Day, USA



Michael Haverkamp,
Germany
Mª José de Córdoba,
Spain

微信号: PaintingMusic_Studio



例如，目前正在**神经营销学及其设计**中开始应用。神经营销学研究的是大脑对消费期待的行为反映，运用在广告设计和公关设计，这是一个新的研究，通过被测试者的脑部图来揭示他们是如何对特别的广告或者物品产生反应的，这里也涉及了联觉在广告方面的应用，色彩引发味觉、嗅觉等等的合理的设计。

For example, now it is already applied in **neuromarketing and design**. Neuromarketing is the application of techniques belonging to the field of marketing neuroscience, studying the effects that advertising and other communicationsthat has on the human brain with the intention to get to predict consumer behavior. ...and design. It is a new study that seeks to brain mechanisms bywhich the public is influenced in advertising, how to use these mechanisms inmore advertising to sell or create the "need or desire to buysomething." the study of synesthesia applied to advertising, for example isalso used: the colors that evoke tastes, smells ... more suitable for a particular product.

还有其他的例子，譬如，我们在格拉纳达大学进行的研究，我们在研究报告中是这样说的：“消费者倾向于对圆角形状（如圆形）与甜的食物或饮料联系起来，而对苦的食物，更多地联系到带角的形状，如星形或三角形。一些饮料如水、软饮或啤酒的广告中具有红色的尖角，通常是星

形，也包括三角形，给消费者暗示其中包含碳酸或苦涩的味道。为什么？有人认为与三角形与山的形状一致，有的认为星的形状表述一种奖励，成功和高质量的意思。” 我们注意到，一些饮料公司都将这些形状作为商标的一部分贴在饮料的包装瓶上。Heineken甚至将五角星作为它公司的徽标。

Other example, in Universidad de Granada, we have done study “ Universo Kiki-Bauba: CAPÍTULO 15: EFECTO KIKI BOUBA Y NEUROMARKETING 1 by Inmaculada García Caño; Verónica Municio Pareja, María José de Córdoba y Emilio Gómez Milán.

“Consumerstend to pair more rounded shapes (eg, circles) with food and drink with a sweet taste, while related foods taste bitter, with more angular shapes, such as stars and triangles (Spence and Ngo, 2012). Some drinks used red angular shapes, often a star, but sometimes a triangle or pyramid, subconsciously in order to indicate to consumers that the package contents is carbonated and / or bitter taste, such as water, beer or soft drinks. Why does this happen? On the one hand, one could argue that the triangular shape on the front of the bottle Apolinar (Figure 1B) symbolizes a mountain. One could also point to the fact that the stars are commonly used to recognize the winner of a prize, something of high quality, and / or success. Therefore, one might think that this is the reason why these forms appear so frequently in the labeling of bottled waters” . However, the key point to note is that this type of angular shapes appear much more frequently in the front (not to mention the sides, back and top) of water carbonated in containers of water quiet. Heineken, one of the leading producers of beer, other alcoholic carbonated beverage, has also incorporated the red star as an integral part of the company logo ”



微信号: PaintingMusic_Studio

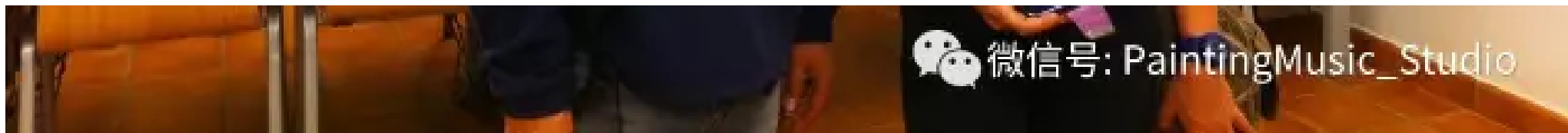
熊宁辉：你认为联觉的研究在将来是否会改变我们的生活？

Ninghui XIONG：Do you think synesthesia research in the future can change our way of life?

玛彩丽：是的，当了解联觉过程是如何参与学习和创意的机制后，我们就可以通过在教育训练来提高我们的智力。我确信，在将来，联觉及其研究会更我们带来更多的惊喜。

Maria Jose: I think, in the future, when we know more about the synesthetic processes and their involvement in learning, creativity and innovation, we can apply them in training and education to enhance our multiple intelligences, therefore, I am convinced that in the future, synesthesia and its study will give us many surprises.





2015年工作室主持人熊宁辉在参观格拉纳达大学美术学院时与玛彩丽教授的合影。

2016-2017

 首届联觉艺术展论坛
“跨地域的联觉调研” 

1st Synesthesia Art Exhibition and Forum in China
“Cross Regional Synesthesia Survey”

中国联觉同盟 Chinese Synaesthesia Alliance 艺术城市国际基金会 Foundation International Artecittà



微信号: PaintingMusic_Studio



