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Synaesthesia: Opinions and Perspectives

30 Interviews with Leading Scientists, Artists and Synaesthetes

Anton V. Sidoroff-Dorso, Sean A. Day, and Jörg Jewanski (Eds.)

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Foreword & Acknowledgements

Foreword

This book is a collection of interviews with the world's leading experts, artists, and public figures whose scientific research, creative aspiration, or perception are connected with natural or congenital synaesthesia (another, less accurate, name for this phenomenon). Conceived as an accessible "introduction to the topic", the original Russian version of this book was published by the Moscow State University of Psychology and Education (MSUPE); that book became the first case where natural synaesthesia was the central and single topic of a scientific publication in Russian. Its publication was devised as a forerunner of the scientific symposium in the framework of the *II International Synaesthesia Conference of the International Association of Synaesthetes, Artists, and Scientists* (IASAS), *Synaesthesia: Cross-Sensory Aspects of Cognition across Science and Art*, which was held in Moscow, October 17–20, 2019. The co-organisers of the symposium were the Moscow State University of Psychology and Education, the International Association of Synaesthetes, Artists, and Scientists, and the Moscow State Tchaikovsky Conservatory. The book on hand is a revised and extended version of the original Russian one.

One of the main purposes of the original Russian version of this volume was to introduce Russians attending the Moscow synesthesia conference, which took place the 17th–20th of October, 2019, with some of the latest "foreign" viewpoints and research regarding synaesthesia; that book was made available to all attending the conference from its first, opening day. But it was our overarching view, and hope, from the beginning, that this book would eventually serve a much broader purpose by far. We did not want to create a "one-way street", but, rather, help towards initiating and promoting—if only in a small, humble way—a vast network of mutual and balanced interchange amongst all of the different contributors and readers from all around the world.

Today's research into synaesthesia has demonstrated that the investigative inquiry of the phenomenon encompasses a wide scope

of interdisciplinary issues of scientific theory, research and practical applicability. Research into synaesthesia sheds new light on the mechanisms of brain activities as well as their environmental and genetic determinants, specifically, when seeking answers about the nature of language, imagery, metaphor and creativity. The conceptual tenets of arts education and methodological approaches to developing performative mastery are extensively derived from understanding the synaesthetic mechanisms and regularities of interconnection among several sensory modalities. Therefore, by integrating a wide array of converging lines between systematised scientific knowledge and research as well as teaching practices and creativity, the phenomenon of synaesthesia holds an immense potential for reciprocally beneficial exchange between science and art.

The world scientific community is very much aware of the value of past and current Russian research in Psychology, Neuroscience, and related fields; and realizes that, due to language barriers and other causes, much of this work remains unknown outside of Russia. We hope, through our joint efforts, the conference and ensuing events will help in rectifying that. Collaboratively, we are intending to discuss the issues of synaesthesia and present the latest results of its research in science, art and education. The cultural section of the conference was planned to include screenings of videos, exhibitions by synaesthete artists, and workshops with the blend of music and electronics.

Initially, the main idea of the book was to present to the Russian-speaking reader the broadest possible range of opinions and facts about congenital synaesthesia on behalf of the widest possible circle of specialists. However, without abandoning the early mission of the collection, we came to a more comprehensive project while composing the book. As the attentive reader will quickly notice, many of the propositions, views, and even facts put forward by our interlocutors are polemical in nature. To emphasize and also sharpen the controversial content of our collection, it was decided to make the most controversial and contrasting provisions in the form of a quote in the title of each interview. It so happened—and in this, we see a real indication of the current extant problems of research on the phenomenon

of synaesthesia — that the book, planned as an accessible introduction, as if by itself began to acquire the format of correspondence dialogue.

The selection of experts invited as interlocutors for the interviews collected in this book was carried out strictly based upon the great importance of their research and educational contributions to the field of synaesthesia of natural development. The criterion for the selection of participants from Russia was their representation in the public space of science and art. With our questions, we sought to make our book accessible and relevant. As we worked on this book, we were proud to discover that almost all specialists, artists, and scientists immediately accepted our invitation with genuine willingness, worked punctually on response comments, conscientiously criticized, supplemented some of the questions, and even corrected the underlying inaccuracies and biases.

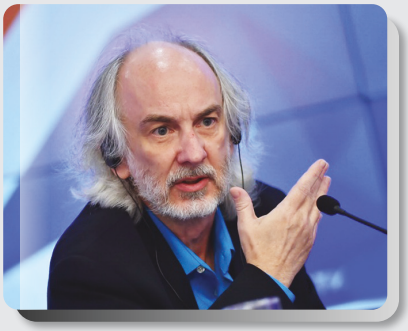
We used two simple principles as the bases of two large blocks of interviews, with the historical sketch by Jörg Jewanski as the watershed between. First, the selection of interlocutors in the first block tends to the sphere of science, mainly to psychology and other areas of research (e.g., psychophysics, psychophysiology) of the human psyche and its biological substrate, the brain. The second block is artistic, creative, personal. Not all interlocutors whose responses were placed in this part of our book are involved in art or studying arts. Still, they all have synaesthesia, which is why we dared to ask all of them, without exception, very individual questions about this phenomenon: the role of synaesthesia, about first memories associated with synaesthesia difficulties, etc.

Secondly, the interview questions were compiled and asked in two stages. The first stage for each participant included a selection of topics of universal content (the first 6 questions in the collection in the block of science and the first 7 in the artistic part), obtained from analyses of recent research publications and popular scientific articles, and generalization of the problems of discussions at symposia and conferences on synaesthesia. The second stage involved a more thorough understanding of the range of problems, research or creative methods and individual activities of each interlocutor, the

The cover of the Russian edition of the book of interviews published prior to the IASAS Moscow Synaesthesia Symposium 2019.
Published by Moscow State University of Psychology and Education (MSUPE)

history of their participation in social events, special achievements, key developments and concepts in the field of synaesthesia. Thus, starting from the above-described structure of the book, we can offer the reader a unique strategy of reading: parallel acquaintance with the answers to the first half of the questions in each of the two blocks. By comparing the sometimes vastly different, occasionally complimentary opinions of our interlocutors on similar questions, the reader will be able to get a comprehensive picture of both the generally accepted facts in the study of synaesthesia, and still open questions in this area.

This book is also unique because its appearance marks an important step of multifaceted, interdisciplinary cooperation in the research of synaesthesia in many directions at once and with the involvement of a large number of specialists. Our publication, as well as the Moscow Symposium, involved artists and scientists, authors with synaesthesia and non-synaesthetes. It introduced a scientific perspective in the face of the university and recognition from the art represented by the Conservatory. Our interlocutors are representatives of different countries and different areas of research, from



Sean A. Day

President of the International Association of Synaesthetes, Artists, and Scientists (IASAS)

holds an M.A. in Anthropology, and a Ph.D. in Linguistics. He is the founder and moderator of the Synesthesia List, begun in 1992. In 2016, he helped form the International Association of Synaesthetes, Artists, and Scientists (IASAS), and serves as its President. A multiple synaesthete himself, he has given talks about synaesthesia in numerous different forums, and has been featured in documentaries on synaesthesia around the world.

Anton V. Sidoroff-Dorso

co-founder of the IASAS, member of the IASAS Board,

International Coordinator of the IASAS II International Conference on Synaesthesia

received a specialist degree in linguistics and language acquisition and a post-graduation degree in psychology focusing on individual differences and synaesthesia. He founded the Russian Synaesthesia Community and manages its website synaesthesia.ru and database. He translated and stewards the Russian version of the Synesthesia Battery (synesthete.org). He is developing the notion and measure of Synaesthesia Quotient (SynQ).

psychology to art criticism, from pedagogy to artistic creativity. Thus, the answers to the questions that we have tried to raise in this book are not only of scientific and research importance but also personal, social, and often ideological.

Due to the novelty of its subject, and due to the accessibility, informality of its presentation, and "conversational" style in the form of questions and answers, our book will be useful to all interested in the phenomenon of congenital synaesthesia. During the invitation of interlocutors, in the process of working on the wording of questions and the expected content of the answers to our readers, we presented ourselves as people whose activities and interests do not have close ties with science (e.g., artists, musicians, designers), as well as students, beginning researchers and professional specialists (e.g., psychologists, neurophysiologists, art historians) who want to get an idea about the field of synaesthesia research in the format of a concise volume.

Dina Riccò:

> “Our perceptive capacities are more “nuanced”, articulated and various; perhaps the distribution of the subjects on a synesthetic scale would be more realistic.”

Dina Riccò, Ph.D., is an Associate Professor in the Department of Design, Politecnico di Milano. Riccò has a Master of Science degree in Architecture (1990), and a Ph.D. in Industrial Design (1997). She was a piano teacher at several music schools in the area of Reggio Emilia, Italy (1992–93), teacher at Politecnico di Milano in the disciplines of perception and visual communication since 1996, and at the first course of “Theory and Practice of Synaesthesia” at Scuola Politecnica di Design (Milan, 2000/01). Since 2007, she has participated in organising the international conference Synaesthesia: Science and Art, promoted by the ArteCittà Foundation with the University of Granada and the Politecnico di Milano; she is also Director of the parallel project MuVi. Video and moving image on synesthesia and visual music. This multimedia project has been selected for publication in the prestigious *ADI Design Index* 2019, and Riccò has been nominated among the Excellences of Lombard design (Milan, December 17, 2019). Overall, she has written over 100 publications in books, specialized magazines and national and international conference proceedings. She is the promoter of and responsible for scientific content on the web sites www.sinestesie.it and https://muvi-visualmusic.tumblr.com.

How do you define synaesthesia?
Is it one phenomenon or several ones?

The word synaesthesia has changed its meaning over time: from its appearance in the texts of the ancient philosophers, with the expression συναισθανεσθαι (synaisthanesthai) of Aristotle, in the form of a verb and not yet a noun, which follows the meaning of Castellus's (1746), of *Synæsthesis* as an awareness of the disease. Then, from the definitions present in scientific production, especially in the medical field, and the dictionaries of the second half of the nineteenth century, up to today's application contexts, the meaning of the word synaesthesia has undergone dilation and delimitation over time.

This is inevitable; a word changes, is transformed, takes on multiple meanings, in parallel with the evolution of the theories that accompany the concept. If we consider the last 150 years, from the definition of Littré (1872), to that of twenty years later and more extensive than Millet (1892), until today's applications, we note that the meaning of the word synaesthesia has progressively widened, thanks also to the progressive explosion of scientific production on the subject.

The semantic expansion of the word begins with the concept of synaesthesia understood as "sensations associées" by Millet (1892) and in Italy with the concept of "bello sinestetico" ["beautiful synaesthetic"] by Pilo (1894, 1905). I think this is an important moment in the evolution of the term because it leads from synaesthesia as a phenomenon that identifies a perceptual character or specificity of the **subject**, of the individual, to synaesthesia as a character instead of the **object**, something that is no longer just *psychic* or *physiological*, but *physical*.

Considering this extended meaning of synaesthesia — combined with the study of the concept in various disciplinary fields, from neurosciences to the arts, to music, to design — I have come to distinguish three types of synaesthetic manifestations:

1. Synaesthesia as a perceptive phenomenon (the Synaesthesia proper);
2. Synaesthesia as a linguistic expression (e.g., metaphors);
3. Synaesthesia as a representation or as a "practice" (what Dufrenne calls "pratique synesthésique des arts", 1991).

Three distinct manifestations of synaesthesia; this does not exclude that they can also be concomitant. I think the difficulty, and the differences in definition between the different theories, are not so much in defining what synaesthesia is, but who/what is synaesthetic and who/what is not synaesthetic. In particular, I find the postulates formulated by Tornitore (2000) useful; he believes that a synaesthetic phenomenon to be defined as such must include:

1. the "coexistence of two or more sensory domains (senses and/or sensations), real or virtual";

2. "between the aforementioned heterogeneous sensory domains there must be a type of synthesis link (from analogy to identification), and not of accumulation or parallelism".

The indications of these postulates are not trivial; in fact, we find studies in which they are mistakenly called synaesthetic phenomena, in which inducing stimulation and image induced belong to the same sensory register. This, by definition of synaesthesia, is not correct. So, I agree with an extended sense of synaesthesia; but I believe that more rigor is needed in determining what is, and what is not, synaesthetic.

To what extent is synaesthesia inborn (genetically determined)? What are the causal influences of learning and cognition in its occurrence?

I believe that synaesthetic phenomena contribute to both innate factors the cases of striking synaesthetes such as the one described by Luria demonstrate this, as well as other studies conducted on newborns; see for example the study by Meltzoff & Borton (1979) — and are acquired with learning. We find studies supporting both of these factors.

I think rather that the types of synaesthetic correspondences have a different origin. In this sense, the taxonomy that Walker-Andrews (1994) makes of intermodal relations seems to me to be explanatory; they can be: 1. amodal information; 2. artificial/arbitrary relations; 3. arbitrary/natural relations; 4. typical relations.

The *typical relations* between characters of different sensorial registers are undoubtedly influenced by experience. The *amodal information*,

which echoes the concept of *common sensorum* of Aristotle and of the unity of the senses we have seen addressed in Hornbostel (1925), Werner (1934), and Marks (1978), can presumably be understood as innate. The *artificial/arbitrary relations* are the work of man, of the designer, therefore not innate, even if the particular associative choices of the designer could respect the *amodal correspondences*. The *arbitrary/natural relations* are learned, even if in a natural context (for example, the association of a voice with a face).

In what ways is synaesthesia an advantageous, an impeding and a neutral condition?

Reading Luria's *The Mind of a Mnemonist* would lead one to think that synaesthetic perception may be considered an impediment to other cognitive and thought activities; but I think this is true only in particular subjects, and in particular levels of synaesthetic training.

For the generality of the subjects, I think that synaesthetic awareness can instead be a beneficial condition, especially for creativity. For this reason too, the relationship between synaesthesia and art has fascinated scholars, and some works by artists and musicians — we think of Kandinsky, Scriabin, and many others — are considered paradigms of synaesthetic expression. In this sense, I believe that the study of sensorial correspondences of synaesthetes can help to design communicative artifacts whose information is sensorially congruent.

Are people with synaesthesia special in any other way? Do all people have synaesthesia to some extent?

Also in this case, the reading of Alexander Luria's *The Mind of a Mnemonist* would lead one to answer that synaesthesia is a "special" ability. For some people, synaesthesia is actually "special", as it is extremely developed, and constantly present; however, I think synaesthesia is a "normal" phenomenon. I agree when Merleau-Ponty (1945) states that "La synesthésie est la règle", it just occurs in people at different levels of intensity and types. Marks (2009, 2011) talks about "vivid synesthesia", a form that we find present in a few individuals; and, taking up the terminology of Osgood (1960) of "synesthetic tendencies",

we find these in the generality of individuals.Here, I believe these are central concepts to help the community of scholars to order and define a shared theory of synaesthesia. In essence, to my thinking, synaesthesia is a *multiform phenomenon*, and is also present at *different levels* of intensity (vividness) in the generality of individuals.

What is your story (and impression) of reading Alexander Luria's *The Mind of a Mnemonist*?

My impression is partly expressed in the two previous answers. In general, the book, and Luria's research, are the amazing proof that the mind has no limits. Reading the book also leads to more general reflections, not strictly related to synaesthesia: namely, the relationship between the imaginary world and the existing world, between physical reality and imagined reality. It reminds me of a particular dialogue of the science fiction film *The Matrix* (1999), in which Morpheus, one of the protagonists, says "What does it mean, real? Give me a definition of real. If you refer to what we perceive, to what we can smell, touch and see, that real are simple electrical signals interpreted by the brain."

For man, the real world is the phenomenal world, the world that is aware of perceiving through the senses. In fact, to Mr. S., the difficulties emerge when the imaginary world, the mental images that are so "blinding" in him, come into conflict with reality, blocking the possibilities for action.

Why is it important to do research into synaesthesia? What are its promises for cognitive science or science at large?

I particularly study the relationship between synaesthesia and design, specifically the functions of the synaesthetic project, intended as a project that pays attention to the relationship and the coherence between sensory information, in which the current meaning of synaesthesia as "simultaneous perception" is united with the Aristotelian one of effective perception and awareness of perceiving. In this conception, I think that research on synaesthesia, and the synaesthetic project, can be useful, in particular for the following: 1. to design effective communicative

artifacts, in which the information between the different sensory registers is coherent with each other; 2. to design communicative artifacts accessible to all, including users with sensory disabilities.

A vicarious sense can take the place of a missing sense, or that particular non-functioning condition, if activated for synaesthesia. We know that this is physiologically possible. Studies conducted in neuroscience, using brain visualization techniques — see the works of N. Sadato (et al., 1996), Krish Sathian (1999), and Oliver Sacks (2003) — show how much the brain is plastic, and how, for example, a tactile stimulus can activate the visual cortex, to produce visual mental images even without corresponding stimuli. This happens in blind people, who remodel the lost capacity in other senses; but the same happens for those who are temporarily "blind", i.e., when they are blindfolded, while performing a tactile task. Therefore, the ability to define synaesthetic correspondences with intersubjective validity would facilitate the project of effective communicative artifacts.

A second area in which the study of synaesthesia is important, for those involved in design and training of designers, is a function of creativity, in teaching activities and training a creative attitude that has the awareness of synaesthetic perception. Also, in this case, what for us it would be important to define, and therefore to have an answer, is essentially what synaesthetic correspondences, which characters, in which sensory registers, do we recognize as an intersubjective validity.

Regarding pedagogical methods, how do you help students distinguish and discriminate between cross-modal correspondences and synaesthesia? What do you explain about synaesthetes' potentials? Who of the world-famous artists and composers do you consider true synaesthetes?

I state I consider it improper to divide the subjects clearly between *synesthetes* and *non-synaesthetes*. Our perceptive capacities are more "nuanced", articulated and various. Perhaps the distribution of the subjects on a 'synesthetic scale' would be more realistic, at whose extremes there are rare conditions: on the one hand the total absence of synesthesia (I assume rare) and on the opposite side the high

synesthesia (equally rare; see for example the case of Mr. S. described by Luria). While at the center there are hybrid conditions of various synesthesia intensity.

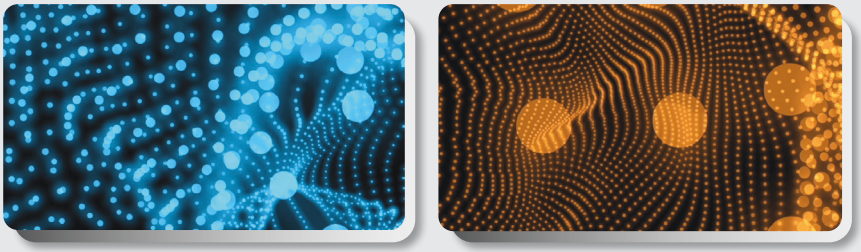
Students usually do not distinguish the differences between the concepts of *synaesthesia* and other related terms, such as *cross-modality*, and even the more general *multisensory*. To explain the concept of synaesthesia to students, first of all I describe the historical case studies, taken from Lussana (1873) and Lemaître (1901), observed on students. I also describe the particular case observed by Luria, and recently the classification of the types of synaesthesia present in the book by Sean A. Day, *Synesthestes* (2016). In a second phase, I propose practical exercises.

In general, I propose two types of exercises to help students gain greater awareness of the cross-modal relationships and the intersubjectivity characters of certain sensory correspondences.

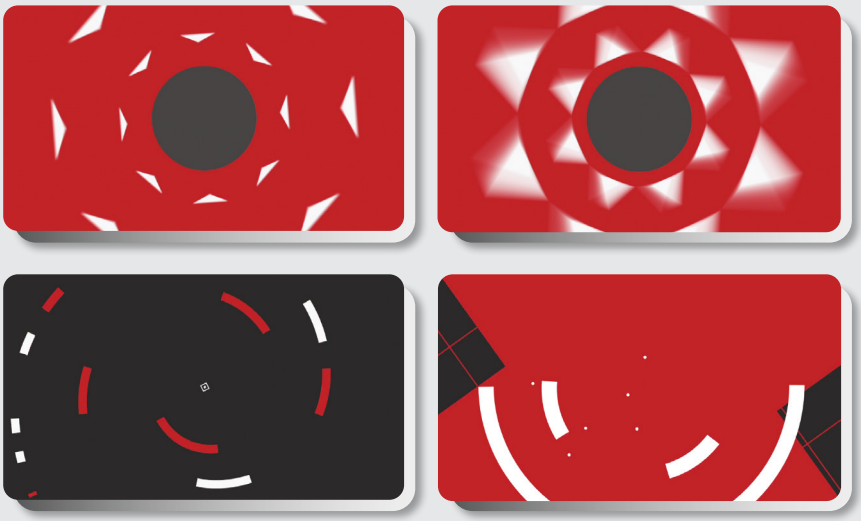
1. A first group of tests — which I call of *synesthetic interobservation* — consists in listening to some (2–3) pieces of music extracted from audio / video footage, and in the recognition of the visual correspondence between some (2–3) animation videos (without audio) presented. A brief description of this exercise on Fischinger's films can be found in my book *Sentire il design* (2008).

2. A second group of exercises, on the other hand, requires a greater effort; that is, not only choosing or coupling a visual, but also conceiving, representing, visualizing, a sound / musical content. This generally meets greater difficulty for students: it is simple to synchronize a visual with a sound; it is much more difficult to find the right shape and even more (for the subjectivity of correspondences) the right color. This is what we did for example at the last conference of the Artecittà Foundation in Alcalá la Real, Spain, 2018, with a video project presented for the *Boléro event* conceived by Ninghui Xiong.

These experiences lead students to have a greater awareness of the interactions between sensory registers, and the difficulties of visual mental representation of a musical content, but also of the intersubjectivity of some audio / video correspondences. The figure of the artist who best represents for me the synaesthete subject is the Swiss



Two frames from the video *Baba-Yaga*, synaesthetic translation of composition *Pictures at an exhibition* by Modest P. Mussorgsky — produced by the students of the "Appliances and complex systems design studio" (Politecnico di Milano, Design School, A.Y. 2010/2011). Directors, professors Dina Riccò and Antonio Belluscio, with the collaboration of teaching assistants Gian Luca Balzerano, Alessandro Zamperini. Provided by Dina Riccò



Four frames from the video *Boléro 2018*, synaesthetic translation of composition *Boléro* by Maurice Ravel, produced for the exhibition *Boléro* (ed. by Ninghui Xiong et al.) — part of the *VI International Congress Synaesthesia, Science & Art* — by the students of the "Appliances and complex systems design studio" (Politecnico di Milano, Design School, A.Y. 2017/2018). Directors, professors Dina Riccò and Gian Luca Balzerano, with the collaboration of teaching assistants Alberto Barone, Giulia Martimucci, Alessandro Zamperini. Provided by Dina Riccò

painter — as well as graphic designer, animator and amateur musician — Charles Blanc-Gatti (1890–1966). The graphic and chromatic characters of his works, which among other things frequently have musical titles, his "vision" of the music, correspond well to the descriptions of the percepts we find in the case studies on synaesthetes. Another author that I always present to my students is Oskar Fischinger (1900–1967), regarding whom, although he does not have a certain testimony of "true" synaesthetic perception, the visual kinetic translations of musical pieces, the audio / video synchronization, the high abstraction of the compositions, well represent the visual characters of the synaesthetic percepts.

In terms of integrating synaesthetic aspects to modern architecture, looking at the latest computer and digital technology, what do you feel is the biggest mistake people (e.g., students) are making?

What I observe in my Design students at the Politecnico di Milano is the difficulty to break away from the configurational limits of digital techniques. That is, the difficulty in thinking about something that cannot be done, or I cannot do (draw), with the computer. *Technical ability* strongly affects *creative ability*. I am not referring to the result; in all ages, the quality of the final artifact is conditioned by the technical ability. I refer instead to the predisposition to experiment with new techniques: they seem, for the students, to be all filtered by the screen and its limits, forgetting other analogical and material possibilities.

Today's digital technology allows an anticipation, and a forecast, of the constructive and design results, much more advanced than in the past, but we find it more difficult to go beyond the known technical limits. Digital technology expands the possibilities, but at the same time "limits" extradigital experimentation, and in some aspects also creativity.

Regarding your understanding of the influence of culture on the sensorium and culture-related specifications of the synaesthetic models, do you think that synaesthetes are people with novel, advanced capabilities or those who retained this phenomenon throughout the course of evolutionary changes?

I think that the environment, the culture and the technologies influence our sensorial response and consequently that the quality (or the subjects / objects) of the perceptions of the synaesthetes change accordingly. However, the detectability of new skills is conditioned by the way we study these skills, recognize them and catalogue them. That is: if the definition of synaesthesia that we apply today is the same as applied a century ago, it becomes more difficult to recognize diversity, what has changed, and what are the new capabilities.

If sensoria (models of cross-modal correspondences) change throughout history and seem geographically and culturally modifiable, too, do different sensoria generate irreconcilably different ways of meaning-making? What is special about modern western culture in terms of the interrelation of the senses and related meaning-making? (How) can we answer the question of what it is like to be a synaesthete?

The peculiarity of modern culture I think is to be found in *invasiveness*, *immersiveness*, real / virtual *hybridization* of digital technology that, on one hand, differs from materiality, from physicality, with its own sensorial qualities, and, on the other, *simulates sensations*.

The result is that, in the quantity and variety of sensations — both real and simulated — everything becomes more difficult to distinguish, not only between real and simulated, but also in the specifics of the qualities of sensations. For example, what is *visual* and what is *tactile* in an image that I touch on the screen? I could equally say this for printing techniques that simulate, sometimes reproduce, tactile qualities: the cover of a book is "to be seen" in the bookshop, but new printing techniques increasingly invite "to touch".

It is much more difficult (compared to the pre-digital age) to distinguish the limits between the sensory registers and always stronger that *The Unity of the Senses* so lucidly intuited by Marks (1978). We therefore return to the central question: what does it mean to be a synaesthete? I think we should once again confront each other and propose an updated definition that considers the mutation of the perceptual experience produced by digital technologies.

Being a non-synaesthete yourself, would you want to have synaesthesia? If so, which type of synesthesia would you most like to have, towards doing research on yourself?

In effect, if we have as reference to "true" synaesthesia, cases like S. described by Luria, I am not a "true" synaesthetes, I have nothing of constancy, of vivacity, of the memorability of such perceptions. However, I consider myself synesthetic in the meaning of Merleau-Ponty when he says "La synesthésie est la règle", or some correspondences (e.g. colors / smells) disturb me and in general I can not help but connect, and merge, perceptions from one sense to another. Anyway, yes, I would like to experience the emotion of what we call "true" synaesthesia.

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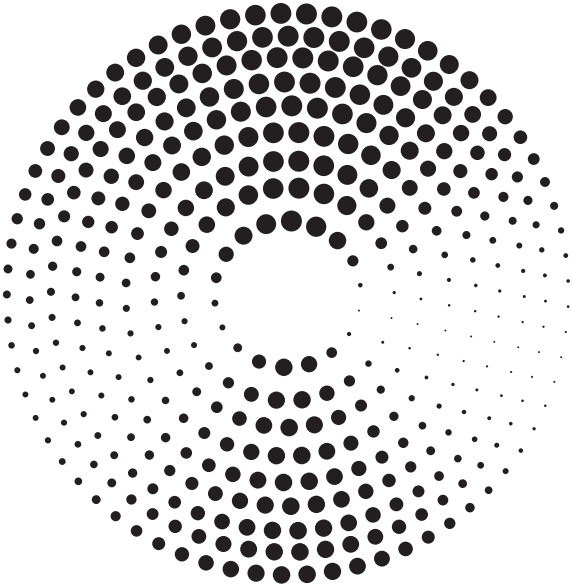
Appendix



Moscow State University of Psychology and Education

МУЗЕЙ
МОСКВЫ

International Scientific Symposium

Synaesthesia: Cross-Sensory Aspects of Cognitive Activity across Science and Art

(Moscow, October 17–20, 2019)

in the framework of the 2nd International Conference of the *International Association of Synaesthetes, Artists and Scientists* (IASAS)

Poster of the Moscow Symposium. Design by Polina Varlashkina

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Aleksandr S. Sokolov, Dr., Rector of Moscow Tchaikovsky State Conservatory

Deputy Chairmen of the Organizing Committee

Konstantin V. Zenkin, Dr., Vice-Chancellor for Scientific Work, Moscow Tchaikovsky State Conservatory

Arkady A. Margolis, Ph.D., Rector of the Moscow State University of Psychology and Education

The Organizing Committee

Sean A. Day, Ph.D., President of the International Association of Synesthetes, Artists, and Scientists (IASAS), Professor of Behavioral and Social Sciences, Trident Technical College, Charleston, South Carolina, USA

Konstantin V. Zenkin, Dr., Vice-Chancellor for Scientific Work, Moscow Tchaikovsky State Conservatory

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James Wannerton, Vice-President IASAS, Stuttgart, Germany

Carolyn 'CC' Hart, Secretary of IASAS, San Francisco, CA, USA

Natalia A. Baykovskaya, Head of the International Relations Department of Moscow State University of Psychology and Education

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About the Organising Institutions

The Moscow State University of Psychology and Education (MSUPE) is a fast-developing, innovative institution of higher education. It was established in 1997 on the basis of the Psychological Institution of the Russian Academy of Education — the oldest psychological scientific institution. Psychological education at MSUPE originates in scientific works by the world-famous Russian scholars of psychology — Lev S. Vygotsky, Alexander R. Luria, and others. The scientific research foundation at MSUPE comprises public, scientific and education centres, including centres for neurophysiological, psychogenetic, and ethnopsychological research, and a high ability and cognitive resources research centre.

The Moscow State Tchaikovsky Conservatory was founded in 1866 by the pianist Nikolai Rubinstein, who became its first Director. Its first professors were famous musicians invited from abroad, as well as Pyotr I. Tchaikovsky, the world-renowned composer. His student, composer Sergei I. Taneyev, was also a Professor and then, for some time, Director of the Conservatory. Taneyev trained and educated Sergei Rachmaninoff, Aleksander Scriabin, and many others. The Conservatory grants Bachelor's and Master's degrees to composers, conductors, music theorists and performers. The Grand Hall of the Conservatory is one of the largest concert venues in the world and hosts performances by almost all of the most prominent musicians. Its scientific activities are implemented in various fields of theory and history of music, and are represented by such prominent scholars as Herman A. Laroche, Aleksei F. Losev, Boris V. Asafiev, and others. The Conservatory has several research centres for interdisciplinary study that, among other topics, focus not infrequently on synaesthesia and related issues.

The IASAS is a non-profit corporation, based in the United States, and operated exclusively for educational and charitable purposes. The IASAS's mission is to advance global awareness of the neurological

phenomena of synaesthesia, and to cultivate international collaboration among synaesthetes, artists, scientists, and other persons interested in synaesthesia. IASAS attempts to organize academic, educational and cultural events. Its previous conference in 2017 was hosted by the University of California, Los Angeles (UCLA); it brought in speakers and attendees from North and South America, Australia and New Zealand, and Asia, as well as from Europe.

We appreciated that scientists and artists experiencing and/or inspired by synaesthesia had the opportunity to contribute to the programme of the conference. We hope that our cooperation in organizing the conference in Moscow became the starting point for new joint projects among scientists, artists and synaesthetes and will result in wider interest in artistic and research projects related to synaesthesia, as well as open up new horizons for collaborations between Russian and foreign colleagues.

Greetings

Dear participants and guests of the International Congress "Synaesthesia: Cross-Sensory Aspects of Cognitive Activity in Science and Art",

It is with special pleasure that I note that the Moscow Conservatory was one of the organisers of this remarkable and undoubtedly innovative event that resulted from the tripartite agreement that the Conservatory signed with the Moscow State University of Psychology and Education and the International Association of Synaesthetes, Artists, and Scientists. Concerts that will take place during the days of the Congress in the Conservatory halls will become evidence of the profound and sometimes deeply hidden connections between music, gesture, colour, and a number of other phenomena, the range of which is much wider than we are used to thinking. That is why it is extremely important to continue the scientific study of synaesthesia, which can only be done by uniting specialists of various fields.

I wholeheartedly wish success attends the scientific symposium!

Alexander S. Sokolov
Merited Worker of the Arts Industry of the Russian Federation
President of the International Union of Musical Statesmen
Rector of Moscow State Tchaikovsky Conservatory
Doctor of Arts, Professor

Dear colleagues,

I am pleased to welcome the participants of the International Symposium "Synaesthesia: Cross-Sensory Aspects of Cognitive Activity across Science and Art".

The Moscow State University of Psychology and Education became one of the organisers of the symposium together with the Moscow Conservatory and the International Association of Synaesthetes, Artists, and Scientists.

During the days of the symposium, various workshops will take place at MSUPE and at the Moscow Conservatory, where we will discuss a wide range of issues on synaesthesia and intersensory aspects of cognitive activity in the fields of science, art and educational practices.

This is a unique event that will bring together leading scientists and practitioners in the field of synaesthesia as well as musicians and synaesthete artists.

We are pleased to welcome both Russian and many foreign participants to the symposium, representing unique research and creative projects within the scientific, practical and creative sections of the event.

I wish the participants of the symposium productive cooperation and exciting work.

Vitaly V. Rubtsov
Merited Worker of Science of the Russian Federation
Academician of the Russian Academy of Education
President of the Federation of Education Psychologists of Russia
President of Moscow State University of Psychology and Education
Doctor of Psychological Sciences, Professor

Dear reader,

The International Association of Synaesthetes, Artists, and Scientists (IASAS) was formed with some definite goals in mind. One was to be global, with board members from different countries and members from as many places as possible. The IASAS does indeed now have members from North and South America; Europe, Africa, Asia, Australia, and the South Pacific. These members include some of the top scientists in the world who do research on synaesthesia, and some of the most noteworthy synaesthete artists.

Another goal was that, rather than trying to grab the reins — and the members — from other organizations, our purpose would be to help organizations and groups interested in synaesthesia build themselves, and to help them contact, talk to and collaborate with other such organizations and groups. The IASAS 2019 Moscow conference has brought together a large number of different organizations, including the American Synesthesia Association, the International Foundation Arte Città, the Moscow State Tchaikovsky Conservatory, the Moscow State University of Psychology and Education, the Museum of Moscow, the UK Synaesthesia Association, and the Russian Synaesthesia Community.

There is still a lot of confusion out there in the world regarding what synaesthesia is. For many, if they are familiar with the term "synaesthesia" at all, they are only familiar with it in terms of seeing colours for music, or perceiving colours for letters and numbers. Yet this is just a small tip of the iceberg of the over 80 different types of synaesthesia documented, and the dozens more that, although rare, might also potentially exist. One of the objects of this volume is to help you, the reader, to explore and discover the wide range that synaesthesia encompasses.

Towards this, in this volume, we have gathered together for you statements by some of these aforementioned leading scientists and artists, from around the world. These two groups do indeed overlap a little. You will quickly see that, as in any field where good scientific research is conducted, there are current debates, and differing views regarding specific points. Yet, likewise, you will also quickly see that we actually do know quite a lot, solidly, about synaesthesia, and are able to dispel a lot of the current prevalent inaccuracies and misconceptions. From the interviews with the artists, you will discover some of the wide range and diversity that synaesthesia can cover. Perhaps more importantly, however, you will see a small part of what living day-to-day life, over decades, with this trait is — and is not — like.

Thank you, dear reader, for being interested in this topic, and for becoming yet another person I could talk to and share wonder and fascination with. I hope to hear from you soon!

Sean A. Day, Ph.D.
President, IASAS

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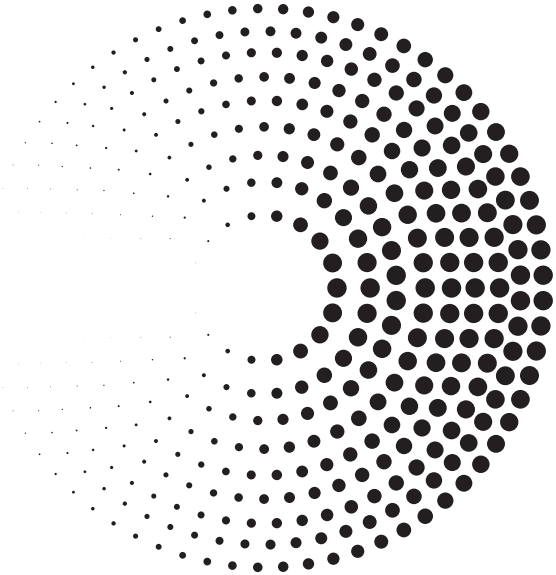

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Synaesthesia: Opinions and Perspectives

Anton V. Sidoroff-Dorso, Sean A. Day, and Jörg Jewanski (Eds.)

Synaesthesia is a remarkable phenomenon: It unites scientists and artists, as well as different disciplines such as neuroscience, psychology, music, art, philosophy and linguistics. This book is a collection of interviews with scientists and artists who explore synaesthesia. We asked similar questions to each of them: e.g., How can synaesthesia be defined? Is it inborn? Are synaesthetes special? How does it influence visual artists? Thirty people talked with us, including many of the world's leading synaesthesia researchers, such as Richard E. Cytowic, Lawrence E. Marks, Jamie Ward and Edward M. Hubbard, and famous synaesthete artists such as Anne Patterson, Carol Steen, Timothy B. Layden and Raewyn Turner. Our interview partners from North and South America, Europe, Australia and New Zealand helped create this unique collection and provided many insightful ideas, colourful illustrations and unforgettable descriptions of their experiences.

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