

Anthropology of Congenital Synaesthesia

Rationale and Research Outlines

Anton V. Sidoroff-Dorso
IASAS, MPSU, MSUPE

This project highlights an anthropological perspective on congenital synaesthesia, a condition at once essentially neurological and genetic (e.g.: Fisher and Tilot, 2019), as well as social, interpersonal and, at large, indispensably cultural. The investigative approach of the project complements existing psychological and practical accounts of the condition through expanding the scope of inquiry from the intra- and interpersonal domains, in which congenital synaesthesia has been predominantly examined in search of its specificities and variations, to the wider social, cultural and anthropological perspectives (Watson, 1997, Sidoroff-Dorso, 2010; Howes, 2011; Day, 2016; etc.)

In particular, varieties of manifestations of congenital synaesthesia need to be analysed as specific “opportune” implementations of interaction(s) between neurobiological predispositions and cultural influence (education, nutrition, etc.) (Sidoroff-Dorso, 2010). Along these lines, too, people with various types of congenital synaesthesia need to be viewed not only as individuals in relation to other individuals, but as members of social groups and communities who act, displaying both social competencies, advantages, opportunities, differences and difficulties, in relation, at various levels and in multifarious situations, in accordance with the socially and culturally ordered expectations of their subjectivities and behaviour.

Therefore, congenital synaesthesia gets influenced by, interpreted through and integrated in cultural practices, communication events, (re)production of semiotic systems, self-identities, etc.

The project of anthropology of congenital synaesthesia articulates a socio-cultural approach to researching the synaesthetic brain’s neuronal attunement, cumulative and implicit influence of culture (developmental biocultural co-constructivism), social explications, practical values, science-informed perspective-taking in congenital synaesthesia in several culture-related *domains of factors* that:

- (1) encompass determination of emergence and modification of congenital synaesthesia through social practices of upbringing, formative integration and early education, *sensory socialisation*, cognitive development and perceptual exposure usually with implicit and cumulative effect;
- (2) explain direct, occasional or deliberate elicitation; explication; evaluation of congenital synaesthesia (its manifestation, brain implications etc.); through collective introspection into the specific functionalities of the senses/cognitive processes and mental representation.
- (3) are influential in interpreting socio-cultural meanings of synaesthetic subjectivity, practical applications and behaviour though encouraging or discouraging its possessors towards exploiting its functionality in practical and creative ways;
- (4) that turn instrumental in ascribing a “psychological status” to congenital synaesthesia (pathologising, romanticising, acceptance; mystification, referenceability, etc.);

(5) render congenital synaesthesia a subject of scientific research (scholarly study) and its practical projections (ascribed heuristic value, related issues, applied outcomes);

The essential fact about congenital synaesthesia is that its characteristic triggers (*inducers*) are either immediate sets of semiotic systems (letters, maths, music units, proper names, etc.) or functionally identical, meaning mediating sensorial categories moulded by the processes of experience-dependent sensory differentiation and unitization (Rey et al., 2018; Ward, 2004). The common feature that characterizes the units that function as stimuli in congenital synaesthesia is their practical use as systems-means of acquiring, appropriating and, apparently, creating certain practical domains – natural language, mathematics, music, etc. (Сидоров-Дорсо, 2008, 2010; Sidoroff-Dorso, 2010).

Semiotic systems and sensory standards functionally similar to them, perceptual patterns and other categorically organized systems that “encode” human experience - in contrast to signs, symbols and “iconic” images - have some distinctions: meaning-making and meaning-mediating combinability, automatization (assimilation to perception), contextuality, special social practices of application, transmission and acquisition (teaching methods), etc. Research tools of cultural neurobiology, psychogenetics, socio-psychological constructivism, cognitive and sensory anthropology can be used to further delineate the impactful specificities of such systems / processes and their role in neuronal attunement, gene expression in congenital synaesthesia.

On the side of the synaesthetic reactions of the stimulus-response event (so called *concurrents*), due to the largely additional unmotivated, arbitrary nature of their specific sensorial qualities (colours, tastes, etc.) – unlike cross-modal correspondences and meaningful associations – anthropological investigation into the indirect, cumulative (en masse) mediation through learning and experience can also yield valuable scientific outcomes. For example, as some current research results demonstrate, cultural determination can reveal itself through some environmental aspects that can influence the sensory qualities of synaesthetic concurrents – the so called *regulatory factors*. (Root et al., 2021). Similarly, anthropological data can inform research into the yet understudied factors that, probably, condition some particular sensory modality(ies) to host the mental representations of the concurrents, or, to specify, explain the ways of experiencing, i.e., subjectivization of manifestations of congenital synaesthesia (Сидоров-Дорсо, 2010).

From the perspective of socially-driven elicitation and interpretation, through providing ethnographic (cross-cultural) data on the everyday lives of people with various types of synaesthesia, the proposal is aimed to outline a cline of potentialities and implications across the three domains with their circumstances and causalities – from the most/least successful cases in establishing self-identity as congenital synaesthetes, through embracing one’s synaesthesia neutrally, to the least elicited through ignorance or oblivion of their dormant unusual propensities. Implications of these potentialities, latencies and limitations are considered within the frameworks of studying society and culture, illuminating, in the specific example of congenital synaesthesia’s individual differences in perception, how members of social groups are at once shaped by, and are agents of, social life and cultural understanding.

As one example among others, olfactory synaesthesias can be contemplated through questions of why, unlike “interactions” between other practices and synaesthesia types, there are so many more synaesthete perfumers, compared to the synaesthetic chefs, and how congenital synaesthesia actually “teaches and enriches” the western olfactory sensorium. What is really worthy of note here is that having congenital synaesthesia can drastically affect the olfactory system and, on a wider

scale, olfactory cognition. But even more important, through creative practices that address synaesthesia or mimics its imagery, culture-driven industrial perfumery tacitly borrows from congenital synaesthesia, too. In this way, olfactory experience in synaesthetes makes a leap from being dormant, through being interpreted as "Martian smells" to providing valuable knowledge about this *generative experience* for western perfumery/olfactory science and art in general, and anthropology in particular.

Therefore, sensory anthropology and other multidisciplinary social and culture sciences can provide complementary tools and frameworks. Several dissections for analytical and empirical research into congenital synaesthesia can be already outlined – starting from the question of whether at all or to what extent congenital synaesthesia is a culture specific phenomenon, through the matters of synaesthesia-related brain-culture attunement and gene expressivity, as well as resultative specific subjective manifestations (types and varieties), to the issues of culture-based construction of synaesthetes' self-identities, practical application, social value of congenital synaesthesia, etc.

Literature

- Day, Sean. 2016. Synesthetes: a handbook. CreateSpace Independent Publishing Platform.
- Howes, David. 2011. Cultural Synaesthesia: Neuropsychological versus Anthropological Approaches to the Study of Intersensoriality. *Intellectica*, 55, 139-157.
- Fisher Simon E. and Tilot Amanda K. 2019. Bridging senses: novel insights from synaesthesia. *Phil. Trans. R. Soc. B* 374 20190022
- Majid, Asifa, Tessa van Leeuwen & Mark Dingemans. 2009. Synaesthesia: a cross-cultural pilot. In Asifa Majid (ed.), *Field Manual Volume 12*, 8-13. Nijmegen: Max Planck Institute for Psycholinguistics.
- Rey, H.G., De Falco, E., Ison, M.J. et al. 2018. Encoding of long-term associations through neural unitization in the human medial temporal lobe. *Nat Commun* 9, 4372. <https://doi.org/10.1038/s41467-018-06870-2>
- Root, N., Asano, M., Melero, H., Kim, C., Sidoroff-Dorso, A. V., Vatakis, A., Yokosawa, K., Rouw, R. (2021, January 4). Does the color of your letters depend on your language? The influence of regulatory factors in grapheme-color synesthesia across seven languages. <https://doi.org/10.31234/osf.io/y8zuh>
- Sidoroff-Dorso, A. 2010. Synaesthesia, Culture and Neuroimaging, Lecture presented at Department of Medical Electronics, B M S College of Engineering, Bangalore-19, Karnataka, INDIA, 09-21-2010
- Ward, Jamie. 2004. "Emotionally mediated synaesthesia." *Cognitive Neuropsychology*; vol. 21(7): 761 - 772.
- Watson, Ian, 1997. The Common Triggers of Synesthesia are Social Conventions. Available at <http://dx.doi.org/10.2139/ssrn.2533023>
- Сидоров (Дорсо) А.В. 2008. Речь на ощупь, красота на вес: возможное синестетическое обоснование ведущих культурно-феноменологических категорий – в кн: Синестезия: содружество чувств и синтез искусств: материалы международной научно-практической конференции, 3-8 ноября 2008 г. – Казань: Изд-во КГТУ. – с.50-55.
- Сидоров (Дорсо) А.В. Антропология синестезии: универсальные контуры культуры [Электронный ресурс] // Синестезия: [сайт]. URL: <http://www.synaesthesia.ru/intuition.html> (дата обращения: 31.08.2018).
- Сидоров-Дорсо А.В. 2010. Метафора, сенсублизация, синестезия: О естественнонаучных основах метафоры, сенсублизации и синестезии (на русск.) // Галеевские чтения: материалы Международной научно-практической конференции ("Прометей" - 2010), Казань, 2-6 октября 2010. — Казань: КГТУ.