

Sound and Color Notes

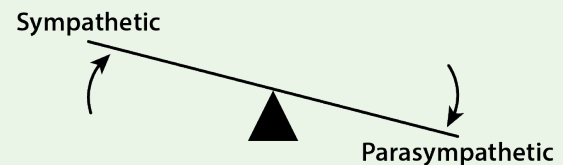
1. *Color acts upon the human body, it is the key touched by man to obtain the appropriate vibration from his creative spirit...* Wassily Kandinsky
2. **The relationship of the chakra system to our modern frequency systems** can be found in the collaborations of Carl Jung and Wolfgang Pauli during which they discussed the relationship of quantum science (the term quantum means to quantify frequencies) to the qualitative experiences of synchronicity and archetypes (the chakras are vibrational archetypes). Their discussions lead Pauli to say that, *“The only acceptable point of view appears to be the one that recognizes both sides of reality—the quantitative (frequency) and the qualitative (elements), the physical (objective) and the psychic (subjective) are compatible with each other and can embrace them simultaneously.”*
3. The **non-image forming pathway** with the optic nerve is a direct pathway to the thalamus, hypothalamus, pineal, pituitary, and pituitary-adrenal axis.
4. Viewing color irradiates a large volume of our **blood**. It is the only area in our body where the vascular system is directly exposed to light.
5. **Nitric oxide (NO)**, as a blood constituent, works to control body stress reactions. NO, which is stored in hemoglobin within blood. The proper viewing of Colored light promotes the rhythmic release of NO, and which relaxes blood vessel walls and regulates autonomic nervous system functions via hypothalamus and pituitary gland.
6. **The frequency range** of audible sound is from 20 Hz to 20,000 Hz. The frequency range of visible light is from 380 trillion Hz to 760 trillion Hz. The frequency range of audible sound is about 10 octaves. The frequency range of visible light is one octave.
7. **Determination Procedure for Color Glass Filters:** Kopp Glass light Transmission specs are used to determine the nanometer frequency of each color and matched with visual correlations of dye-coated polyester gel light transmission charts. The nanometer frequencies are converted to THz and converted to resonant tuning fork frequencies through octave reduction.
8. **The Autonomic Nervous System (ANS) and Color:** The ANS is comprised of the Sympathetic and Parasympathetic Nervous Systems. The colors on the red end of the spectrum; Red, Orange, and Yellow stimulate the sympathetic nervous system. The colors on the blue

end of the spectrum stimulate the parasympathetic nervous system. Green is the color of balance which enhances the effect of different color combinations.



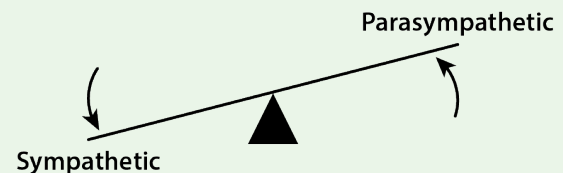
The autonomic nervous system controls the body's internal organs and regulates many over-all body functions such as blood flow, temperature, basal metabolism, muscle tone, and our ability to relax or stay alert and ready for action. The relationship between sympathetic and parasympathetic nervous systems acts somewhat like a teeter-totter: When the activity of the sympathetic nervous system increases, the activity of the parasympathetic nervous system decreases, and vice versa. A loss of balance leads to physical, mental, and emotional imbalances; the nature of these imbalances depends upon which side dominates.

..... Sympathetic Dominance



- Increased Activity
- Alertness
- Hypertense
- Dehydration
- Acid
- Increased Adrenalin
- Increased Oxygen Consumption
- Fight or Flight Response
- Assertive Emotions: Irritability, Annoyance, Indignation, Anger, Rage

..... Parasympathetic Dominance



- Rest
- Hydration
- Sleep
- Alkaline
- Acetylcholine
- Physical Relaxation
- Emotion: Fear, Hurt, Grief, Guilt, Apprehensive, Hesitant
- Accumulation of Energy
- Repair and Regeneration of Tissues

Bibliography

- Babbitt, Edwin D. *Principles of Light and Color*. New York, NY: Babbitt & Co., 1878.
- Bartram, Lyn, Abhisekh Patra, and Maureen Stone. *Affective Color in Visualization. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (May 2017). <https://doi.org/10.1145/3025453.3026041>.
- Beaulieu, John. *Human Tuning*. Stone Ridge, NY: Biosonic Enterprises, Ltd., 2010.
- Beaulieu, John. *Sound Healing and Values Visualization*. Biosonic Enterprises, Ltd., 2020.
- Beaulieu, John, and David Perez-Martinez. "Sound Healing Theory and Practice." *Nutrition and Integrative Medicine: A Primer for Physicians*. Edited by Aruna Bakhrú. Boca Raton, FL: CRC Press, 2016.
- Beaulieu, John, Thea Keats Beaulieu, and Jerry Wintrob. "Sound, Light, and Color." *Nutrition and Integrative Medicine: A Primer for Physicians*. Edited by Aruna Bakhrú. Boca Raton, FL: CRC Press, 2022.
- Beaulieu, John, George B. Stefano, Elliott Salamon, and Minsun Kimm. "Sound Therapy Induced Relaxation: Down Regulating Stress Processes and Pathologies." *Medical Science Monitor*.
- Benson, Herbert. *The Relaxation Response*. New York, NY: William Morrow and Co., 1975.
- Bor, Daniel, et al. "Adults Can Be Trained to Acquire Synesthetic Experiences." *Scientific Reports* 4 (Nov. 18, 2014).
- Borisenko, G.G., A.N. Osipov, K.D. Kazarinov, and Yua Vladimirov. "A Well-Known Physiological Effect of Visible Frequencies of Light on Blood Is Relaxation of Blood Vessel Walls Mediated by Free NO. Photochemical Reactions of Nitrosyl Hemoglobin During Exposure to Low-Power Laser." *Biochemistry (Moscow)* 62 (1997): 661-774.
- Clark, Linda. *The Ancient Art of Color Therapy*. New York, NY: Simon & Schuster, 1975.
- Clark, Linda, and Yvonne Martine. *Color Breathing*. New York, NY: Berkley Medallion Books, 1976.
- Dyson, M. "Role of the Circulation in the Systemic Effects of Low-Light Therapy. Mechanisms for Low-Light Therapy V." *Proc. SPIE*. Edited by M.R. Hamblin, et al. (2010), 7552, 9-15.
- Gottlieb, Raymond L., and O.D. Wallace. "Syntonic Phototherapy." *Photomedicine and Laser Surgery* 28, (Nov. 2010): 449-452.
- Harrison, J.E., and S. Baron-Cohen. "Synesthesia: An Introduction." *Synesthesia: Classic and Contemporary Readings*. Edited by S. Baron-Cohen and J. E. Harrison (Blackwell Publishing, 1997), 3-16.
- Heyrma, H. *Art and Synesthesia: In Search of the Synesthetic Experience* (Spain: University of Almeria, July 2005), <http://www.doctorhugo.org/synaesthesia/art/index.html>.
- Jewanski, J. "What Is the Color of the Tone?" *Leonardo* 32, no. 3 (1999): 227-228.
- Jung, C.G., and Wolfgang Pauli. *Atom and Archetype, The Pauli/Jung Letters 1932-1958*. Edited by C.A. Meier. Princeton, NJ: Princeton University Press, 2001.
- Kandinsky, Wassily. *Concerning the Spiritual in Art* (New York: Tate Publishing, 2001).
- Keats-Beaulieu, Kathleen. *Journey Through the Color Worlds* (Stone Ridge, NY: Biosonic Enterprises Press, 2016).
- Kyoiku, O., M. Yamakawa, N. Tanaka, H. Muraakami, and S. Hori. "Influence of Sound and Light on Heart Rate Variability." *Journal of Human Ergology* 34 (2010): 25-34.
- LaViolette, Paul A. "Thoughts about Thoughts about Thoughts: The Emotional Perceptive Cycle Theory." *Man-Environment Systems* 9 (Sept. 1979).
- Leiberman, J. *Light Medicine of the Future*. Santa Fe, NM: Bear and Co., 1995.
- Marks, L.E. "On Colored-Hearing Synesthesia: Cross-Modal Translations of Sensory Dimensions." *Psychological Bulletin* 82 (1975): 303-331.
- Masetti, Maggie. *Can You Hear a Black Hole* (Blueshift, NASA Aeronautics and Space Administration, Oct. 2013). <https://asd.gsfc.nasa.gov/blueshift/index.php/2013/10/29/maggies-blog-can-you-hear-a-blackhole/>.
- Pauli, Wolfgang. *Writings on Physics and Philosophy*. Edited by Charles P. Enz and Karl von Meyenn, 259. New York: Springer-Verlag New York, 1994.
- Sagiv, N., and C.D. Frith, "Synesthesia and Consciousness." *Handbook of Synesthesia* (New York, NY: Oxford University Press, 2013), 924-940.
- Simner, J., et al. "Synesthesia: The Prevalence of Atypical Cross-Modal Experiences." *Perception* 35 (2006): 1024-1033.
- Spitler, Harry Riley. *The Syntonic Principle*. Eugene, OR: Resource Publications, 2011.
- van Leeuwen, Tessa M., Wolf Singer, and Danko Nikolic. "The Merit of Synesthesia for Consciousness Research." *Frontiers in Psychology* (2015). <https://www.frontiersin.org/articles/10.3389/fpsyg.2015.01850/full>.