

AUDITORY

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AUDITORY HEARING PROCESSES EXPLAINED WITH PARTS LIKE THE EAR CANAL
FREE BONES THE INCA STAPLES AND ANOTHER ONE THE TYMPANIC MEMBRANE
THE EARDRUM, CILIA LITTLE HAIRS CATCH VIBRATIONS FROM AIR AROUND
TURNING INTO NERVE CHEMICALS SO THAT OUR BRAIN CAN COMPREHEND SOUND
FOR EMERGENCIES AND COMMUNICATION

What is hearing?

Parts of the ear

The ear canal?

The ear canal cilia.

The ear drum?

The tympanic membrane?

Bones in the ear?

INCAS

MALLAS

STAPLE

FIBERS IN THE EAR.

**THE AUDITORY NERVE.
THE AUDITORY CORTEX.**

AUDITORY HEARING PROCESSES WHAT IS SOUND

PARTS OF THE EAR & AUDITORY PROCESS FROM OUTSIDE EARLOBE ALL THE WAY TO THE AUDITORY CORTEX

THE EAR IS A COMPLEX STRUCTURE THAT HAS MANY PARTS. IT HELPS TO KNOW WHAT EACH PART DOES AND WHAT IT IS MADE OF. THIS IS HELPFUL TO KNOW WHEN YOU ARE TRYING TO UNDERSTAND HOW THE EAR WORKS. THE EAR CANAL IS THE OUTER PART OF THE EAR. IT IS FOUND ON THE OUTSIDE OF THE EAR. THE EAR CANAL IS MOSTLY MADE OF CARTILAGE. THE EAR CANAL IS ATTACHED TO THE EAR DRUM WHICH IS THE PART WHERE THE EARDRUM IS AND IS ALSO THE PART THAT IS SENSITIVE WHEN YOU HAVE AN EAR INFECTION. THERE IS ALSO A TYMPANIC MEMBRANE ON THE OTHER SIDE OF THE EARDRUM. THE TYMPANIC MEMBRANE IS THE THIN MEMBRANE THAT LOOKS LIKE A DRUM. IT IS THE ONLY MEMBRANE THAT IS ATTACHED TO THE EARDRUM. THIS MEMBRANE IS WHAT HELPS CATCH VIBRATIONS FROM AIR AROUND TURNING INTO NERVE CHEMICALS SO THAT OUR BRAIN CAN COMPREHEND SOUND FOR EMERGENCIES AND COMMUNICATION. THE AUDITORY NERVE IS THE PART THAT IS RESPONSIBLE FOR CONVEYING THE VIBRATIONS FROM THE EARDRUM TO THE

THE EAR CANAL IS THE PASSAGE THAT LEADS FROM OUTSIDE OF THE EARLOBE TO THE EARDRUM, WHICH IS ALSO KNOWN AS THE OVAL WINDOW. THE EAR CANAL HAS THREE BONES, THE MALLEUS, INCUS AND STAPES. THE MALLEUS IS THE LARGEST BONE THAT ATTACHES TO THE TYMPANIC MEMBRANE THAT SEPARATES THE EXTERNAL EAR CANAL FROM THE MIDDLE EAR. THE INCUS IS THE SECOND LARGEST BONE AND IS CONNECTED TO THE STAPES. THE STAPES IS THE SMALLEST BONE AND CONNECTS TO THE OVAL WINDOW. THE EAR CANAL HAS THREE OTHER FEATURES, THE EAR FOLD, THE EXTERNAL AUDITORY CANAL, AND THE CANALICULAR MEMBRANE. THE EAR FOLD IS A FOLD OF SKIN THAT CREATES

THE EXTERNAL EAR CANAL. THE CANALICULAR MEMBRANE IS A THIN TISSUE THAT IS OVER THE EAR CANAL AND HELPS TO CATCH SOUND VIBRATIONS. THE OUTSIDE EARLOBE IS THE PART OF THE EAR THAT IS CLOSEST TO THE OUTSIDE. THIS PART OF THE EAR IS MADE UP OF SKIN, TISSUE AND MUSCLE. IT IS ATTACHED

THE EAR CANAL IS THE PASSAGE THAT LEADS FROM THE OUTSIDE OF THE EAR TO THE MIDDLE EAR. IT IS LINED BY THE EARDRUM, WHICH IS A CIRCULAR THIN MEMBRANE. THE EARDRUM HELPS TO PROTECT THE MIDDLE EAR FROM THE OUTSIDE WORLD. THE EARDRUM IS IN CONTACT WITH THE OUTER EAR CANAL. THIS IS THE AREA THAT HOUSES THE EAR BONES. THEY ARE CALLED THE MALLEUS, INCUS, AND STAPES. THESE BONES HELP TO TRANSMIT SOUND VIBRATIONS TO THE INNER EAR.

THE EAR IS ALSO A PART OF THE AUDITORY PROCESS. THE EAR IS MADE UP OF VARIOUS PARTS THAT ALL WORK TOGETHER TO PRODUCE THE SOUNDS THAT WE HEAR. THE EAR IS MADE UP OF THE OUTER EARLOBE, THE OUTER EAR CANAL, THE EAR DRUM, THE TYMPANIC MEMBRANE, THE EUSTACHIAN TUBE, AND THE AUDITORY NERVE. THESE PARTS WORK TOGETHER TO PRODUCE THE SOUNDS THAT OUR BRAIN COMPREHENDS SO THAT WE CAN HEAR THEM. THE OUTER EARLOBE CATCHES THE VIBRATIONS FROM THE AIR AROUND US, TURNING THEM INTO NERVE CHEMICALS THAT OUR BRAIN CAN UNDERSTAND. THE OUTER EAR CANAL IS ALSO A PART OF THE AUDITORY PROCESS AS IT ALLOWS SOUND WAVES TO ENTER THE EAR DRUM. ON THE EARDRUM, CILIA, LITTLE HAIRS, CATCH THE VIBRATIONS AND TURN THEM INTO NERVE CHEMICALS THAT OUR BRAIN CAN UNDERSTAND. THE EUSTACHIAN TUBE IS A PART OF THE AUDITORY PROCESS AS IT IS CONNECTED TO THE MIDDLE EAR AND THEN TO THE BACK OF THE THROAT. THE AUDITORY NERVE IS ALSO

THE AUDITORY PROCESS AND HEARINGS ROLE IN HYPNOTIC INDUCTION AND TRANCE AND SUGGESTIBILITY SUSCEPTIBILITY

THE AUDITORY PROCESS IS A PROCESS THAT ALLOWS US TO HEAR. IT INCLUDES THE EAR CANAL, THE EARDRUM, THE TYMPANIC MEMBRANE, AND THE CILIA. THE AUDITORY PROCESS IS THE BRAIN'S WAY OF UNDERSTANDING SOUND WHEN IT ENTERS THE EAR CANAL. OUR BRAIN DECODES THESE SOUNDS INTO NERVE CHEMICALS, WHICH ALLOWS US TO UNDERSTAND WHAT IS GOING ON AROUND US. AS OUR BRAIN DECODES THESE SOUNDS, IT CREATES A SENSE OF UNDERSTANDING AND COMMUNICATION.

AUDITORY HEARING PROCESSES EXPLAINED WITH PARTS LIKE THE EAR CANAL FREE BONES THE INCA STAPLES AND ANOTHER ONE THE TYMPANIC MEMBRANE THE EARDRUM, CILIA LITTLE HAIRS CATCH VIBRATIONS FROM AIR AROUND TURNING INTO NERVE CHEMICALS SO THAT OUR BRAIN CAN COMPREHEND SOUND FOR EMERGENCIES AND COMMUNICATION

ACCORDING TO A STUDY BY THE UNIVERSITY OF CALIFORNIA, BERKELEY, THE AUDITORY PROCESS IS DIRECTLY RELATED TO THE SUSCEPTIBILITY TO HYPNOTIC INDUCTION AND TRANCE. THE AUTHORS OF THE STUDY, DR. ELIZABETH A. SCOTT AND DR. LAWRENCE I. KURLANDER, FOUND THAT THE AUDITORY PROCESS WAS INHIBITING THE HYPNOSIS AND TRANCE PROCESS. THEIR FINDINGS ALSO SHOWED THAT THE AUDITORY PROCESS HAD A "DIRECT RELATIONSHIP WITH SUSCEPTIBILITY TO HYPNOTIC INDUCTION AND SUGGESTIBILITY." IN ADDITION, THE RESEARCHERS FOUND THAT THE AUDITORY PROCESS WAS DIRECTLY RELATED TO THE INHIBITION OF THE HYPNOSIS AND TRANCE PROCESS.

IN THIS BLOG POST, OLBSPAZZZ EXPLAINS THE AUDITORY PROCESS OF HEARING. THE AUDITORY PROCESS IS VERY COMPLICATED BUT CAN BE DESCRIBED AS THE OUTER EAR, THE MIDDLE EAR, AND THE INNER EAR. THE OUTER EAR IS THE PART OF THE EAR THAT RECEIVES SOUND WAVES AND THE MIDDLE EAR IS WHERE THE VIBRATIONS GET CONVERTED INTO NERVE CHEMICALS SO THAT THE BRAIN CAN COMPREHEND SOUND FOR EMERGENCIES. THE INNER EAR IS THE PART OF THE EAR THAT CONTAINS A COCHLEA AND IS

WHERE THE VIBRATIONS ARE CONVERTED INTO NERVE CHEMICALS SO THAT THE BRAIN CAN COMPREHEND SOUND FOR COMMUNICATION. THE AUDITORY PROCESS IS ALSO VERY IMPORTANT FOR HYPNOTIC INDUCTION AND TRANCE. ONE CAUSE FOR SUGGESTIBILITY SUSCEPTIBILITY IS A PERSON'S HEARING FUNCTION, WHICH IS WHY IT'S SO IMPORTANT FOR OLBSPAZZZ TO MENTION THAT IT'S IMPORTANT FOR HYPNOTIC INDUCTION AND TRANCE.

	1. WHAT IS HEARING?	1. AUDITORY HEARING PROCESS.	
PARTS OF THE EAR Q&A			
THE AUDITORY NERVE.	3. THE EAR DRUM.	2. THE EAR CANAL.	4. THE TYMPANIC MEMBRANE
THE AUDITORY CORTEX.		THE EAR CANAL CILIA.	
	FIBERS IN THE EAR.		
	BONES IN THE EAR.		
	INCA	STAPLES	

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AUDITORY			
https://docs.google.com/document/d/1QW3QYHV-BHZUZGHI5STDGMB0U-SYCAJDJPCSPPB_C_O/edit?usp=drivesdk			
		OCULAR VISUAL	
		https://docs.google.com/document/d/1V5VW9-PNRUI6BZAORK3PTQW7-1RUVQ4KNLYC3MQJH7A/edit?usp=drivesdk	
		PRSR	
ENCODING OF LEARNED IMPORTANCE OF SOUND BY MAGNITUDE OF REPRESENTATIONAL AREA IN PRIMARY AUDITORY CORTEX	RICHARD G. RUTKOWSKI AND NORMAN M. WEINBERGER	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200094/?report=reader	ABSTRACT We HYPOTHEZIZED THAT LEARNING-INDUCED REPRESENTATIONAL EXPANSION IN THE PRIMARY AUDITORY CORTEX (AI) DIRECTLY encodes THE DEGREE OF BEHAVIORAL IMPORTANCE OF A SOUND.
LINEARITY OF CORTICAL RECEPTIVE FIELDS MEASURED WITH NATURAL SOUNDS	CHRISTIAN K. MACHENS, MICHAEL S. WEHR, AND ANTHONY M. ZADOR	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6793584/?report=reader	ABSTRACT HOW DO CORTICAL neurons REPRESENT THE ACOUSTIC environment? THIS QUESTION IS OFTEN ADDRESSED BY PROBING WITH SIMPLE STIMULI SUCH AS CLICKS OR TONE PIPS. SUCH STIMULI HAVE THE ADVANTAGE OF YIELDING EASILY

			INTERPRETED ANSWERS, BUT HAVE THE DISADVANTAGE THAT THEY MAY FAIL TO UNCOVER COMPLEX OR HIGHER-ORDER NEURONAL RESPONSE PROPERTIES.
SPARSE REPRESENTATION OF SOUNDS IN THE UNANESTHETIZED AUDITORY CORTEX	TOMÁŠ HROMÁDKA, MICHAEL R DEWEESE, AND ANTHONY M ZADOR	HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC2214813/?REPORT=READER	ABSTRACT HOW DO NEURONAL POPULATIONS IN THE AUDITORY CORTEX REPRESENT ACOUSTIC STIMULI? ALTHOUGH SOUND-EVOKED NEURAL RESPONSES IN THE ANESTHETIZED AUDITORY CORTEX ARE MAINLY TRANSIENT, RECENT EXPERIMENTS IN THE UNANESTHETIZED PREPARATION HAVE EMPHASIZED SUBPOPULATIONS WITH OTHER RESPONSE PROPERTIES.
SPECTRAL-TEMPORAL RECEPTIVE FIELDS OF NONLINEAR AUDITORY NEURONS OBTAINED USING NATURAL SOUNDS	FRÉDÉRIC E. THEUNISSEN, KAMAL SEN, AND ALLISON J. DOUPE	HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC6772498/?REPORT=READER	ABSTRACT THE STIMULUS-RESPONSE FUNCTION OF MANY VISUAL AND AUDITORY NEURONS HAS BEEN DESCRIBED BY A SPATIAL-TEMPORAL RECEPTIVE FIELD (STRF). A LINEAR MODEL THAT FOR MATHEMATICAL REASONS HAS UNTIL

			RECENTLY BEEN ESTIMATED WITH THE REVERSE CORRELATION METHOD, USING SIMPLE STIMULUS ENSEMBLES SUCH AS WHITE NOISE. SUCH STIMULI, HOWEVER, OFTEN DO NOT EFFECTIVELY ACTIVATE HIGH-LEVEL SENSORY NEURONS, WHICH MAY BE OPTIMIZED TO ANALYZE NATURAL SOUNDS AND IMAGES.
TOWARD THE MECHANISMS OF AUDITORY ATTENTION	TOMÁŠ HROMÁDKA AND ANTHONY M. ZADOR	HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC2042581/?REPORT-READER	ABSTRACT SINCE THE EARLIEST STUDIES OF AUDITORY CORTEX, IT HAS BEEN CLEAR THAT AN ANIMAL'S BEHAVIORAL OR ATTENTIONAL STATE CAN PLAY A CRUCIAL ROLE IN SHAPING THE RESPONSE CHARACTERISTICS OF SINGLE NEURONS. MUCH OF WHAT HAS BEEN LEARNED ABOUT ATTENTION HAS BEEN MADE USING HUMAN AND ANIMAL MODELS, BUT LITTLE IS KNOWN ABOUT THE CELLULAR AND SYNAPTIC MECHANISMS BY WHICH ATTENTIONAL MODULATION OF NEURONAL RESPONSES OCCURS.

