PSYCHOLINGUISTICS

SIXTH LECTURE

CONTRALATERAL BRAIN FUNCTION

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- Much has been said about the relation of brain and language. However, based on the findings of modern research it is proved that language is processed and located in the left hemisphere of human brain. Biologically the right hemisphere controls and processes the activities and happenings taking place to the left of the body while the left hemisphere controls and processes the events and happenings taking place to the right side of the body.

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- Since language related issues are processed in the left hemisphere, the sounds coming via right ear are processed much better than those coming via left ear. This is termed as Contralateral Brain Function which was tested time and again through a specific test, called DICHOTIC LISTENING.

DICHOTIC LISTENING

- Dichotic listening is a sound testing technique in which a listener is provided sensory inputs (speech sound) of similar sound via earphones simultaneously.
- For example: GIRL AND CURL via left and right ears respectively. When asked which word did they listen, they reported to have heard the word that they were provided via RIGHT EAR because the impulse coming via right ear directly goes to the left hemisphere (Language Centre).

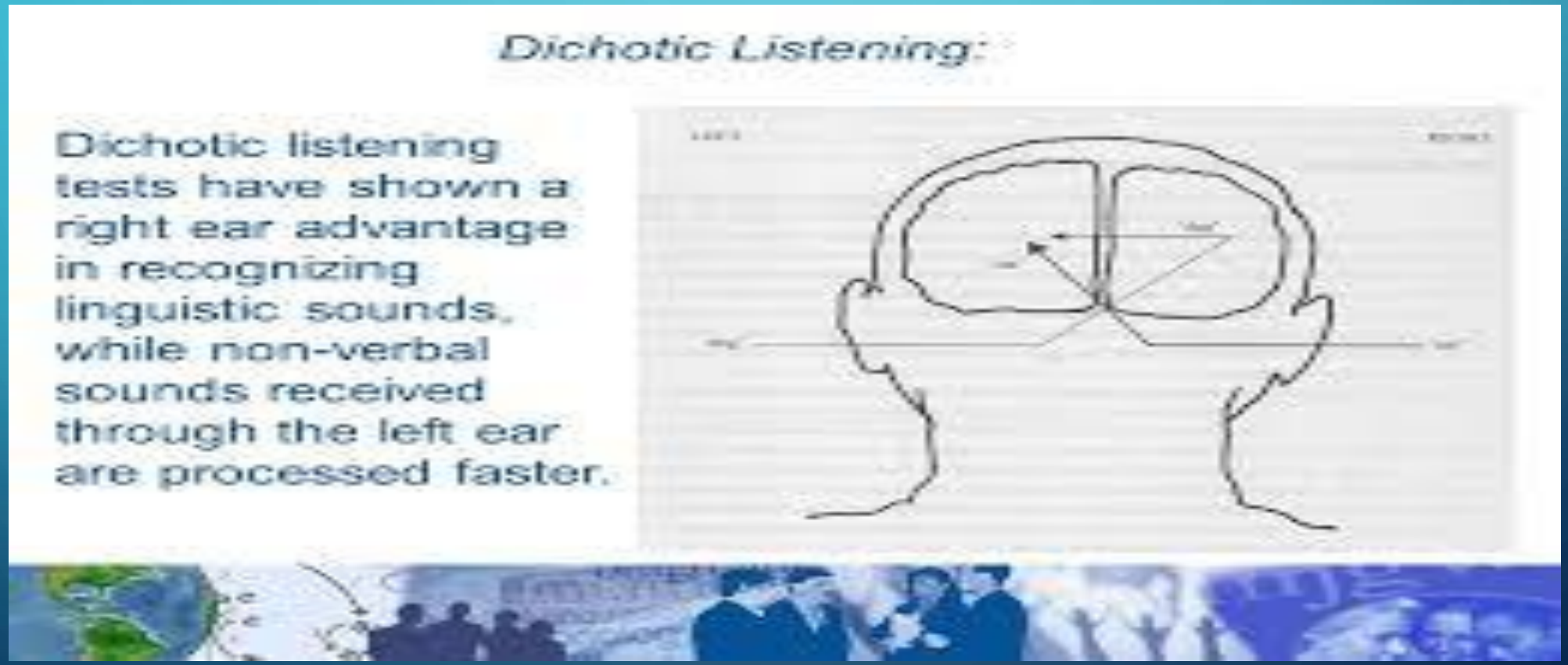
THE RIGHT EAR ADVANTAGE

- During Dichotic listening test a number of participants were given sensory impulse via earphones simultaneously. They were provided Ga and Ba via right and left ears respectively. After the process ended the respondents reported that they heard GA as provided by the right ear. The reason is that what is listen via right ear directly go to the left hemisphere where exist the language centre

CONT…

- while the sound heard via left ear first goes to the right hemisphere and whence from it enter into the left hemisphere via CORPUS CALLOSUM that links the two hemispheres. This process is termed as the Right Ear Advantage.
- SEE THE PICTURES GIVEN

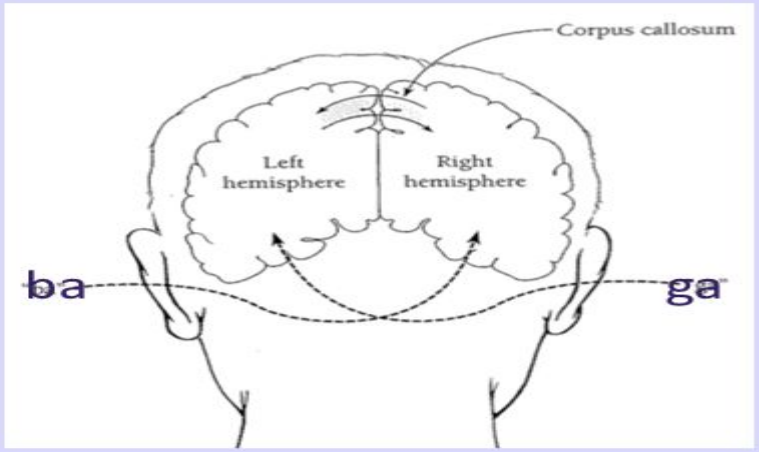
LOOK AT THE FIGURES



LISTENER HEARD THE SOUND (GA) VIA RIGHT EAR AND (BA) VIA LEFT EAR

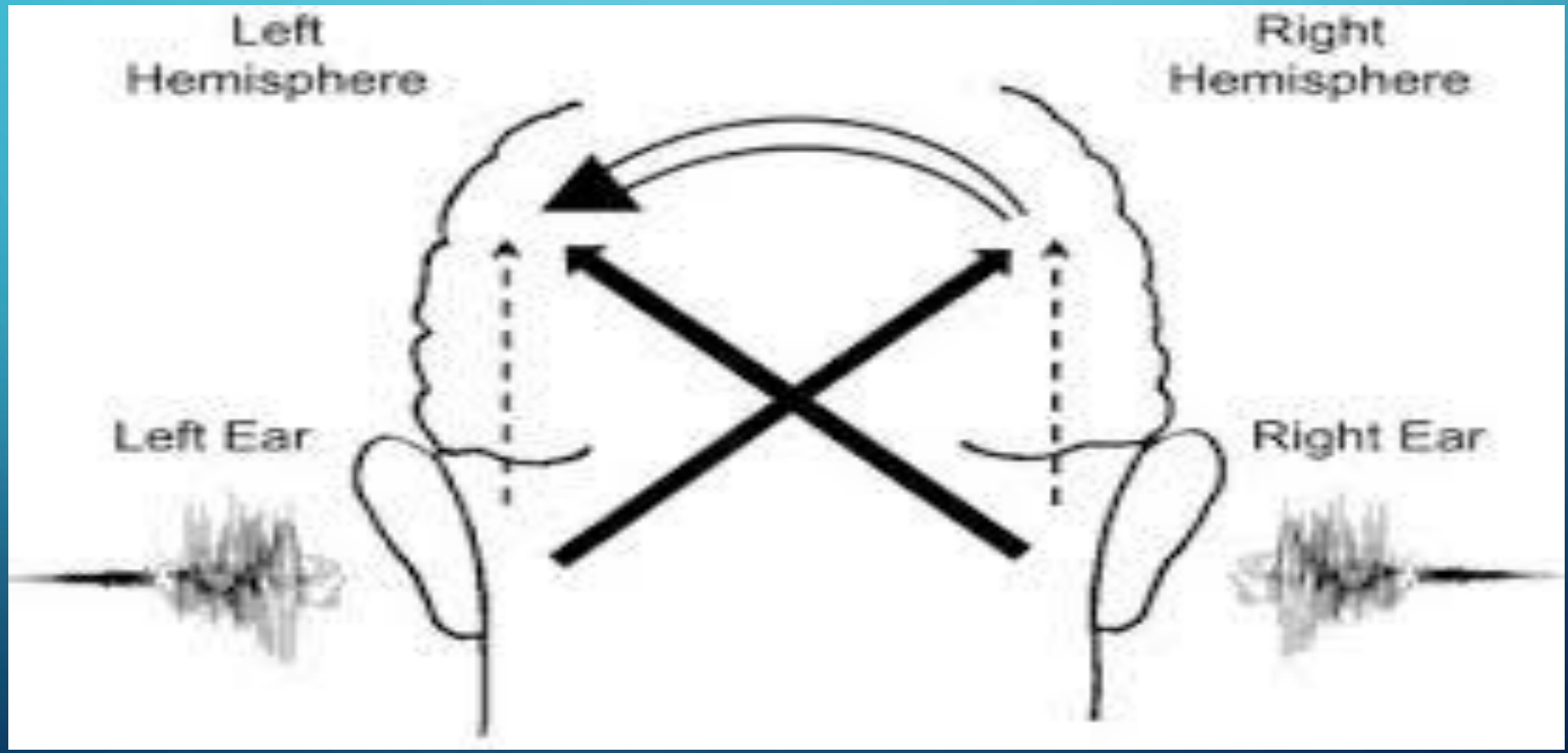
Where is language located?
Left hemisphere evidence

From normal adults: dichotic-listening experiments



Normal adults have a right-ear advantage

WORDS HEARD VIA RIGHT EAR DIRECTLY GOES TO LEFT HEMISPHERE (THE LANGUAGE CENTRE) WHILE THOSE HEARD VIA LEFT EAR COMES TO RIGHT HEMISPHERE FIRST AND THAN GOES TO LEFT HEMISPHERE



ISLAMIC CONCEPT

- About 1400 years ago Hazrat Muhammad (PBUM) educated the Muslims regarding how to sleep. The Holy Prophet (PBUH) said that one should sleep with the right side down and put hand under the ear. It is because the sound coming via right ear directly goes to language processing area of brain and the stoppage via hand may keep the person undisturbed as compared to the person who sleeps with the left side down while letting the right ear wide open.

IMPORTANT NOTE

- The left hemisphere is superior for linguistic sound only.
- It is not superior for all sorts of sounds.
- Left hemisphere is specified for language and language related sound but not for all sounds.

SPECIFIC LANGUAGE IMPAIRMENT (SLI)

- In a number of cases it is observed that some children who have normal brain (having no lesion in their brain) still remain slower in language learning than normal children.
- These children have specific language impairment.
- Such children have difficulties in function words, their speech reflects omission of grammatical words.

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- The speech of such child will be somewhat like this:
- I study room he came. He said mother calling me I went there.

Instead of:

- I *was* studying *in* room *when* he came. He said *that* mother *was* calling me *and* I went there.

CRITICAL PERIOD HYPOTHESIS

WHAT IS CPH?

- The critical period hypothesis is the subject of long standing debate in linguistics and language acquisition over the extent to which the ability to acquire language is biologically linked to age.

THE CRITICAL PERIOD

- Language learning and acquisition are hot debating issues among linguists, psychologists and educationists. However, they all agree on the role of input in language learning process. Linguistics, beside the role of input, also focus biological factors involved in the process of language acquisition and learning while at a time giving importance to the age factor. Hence, the idea of CRITICAL PERIOD/age becomes the center of attention.

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- The critical period hypothesis says that there is a specific period or age of growth in which full native competence is possible when acquiring a language.
- This period starts from early childhood to adolescence. Though some linguists and psychologists limit it up to 13 year, there is no specification rather it starts with the birth and extends to adulthood.
- The critical period hypothesis has implications for teachers and learning programs in many ways (varied in certain cases)…

CONT…

- …but it is not universally accepted.
- Acquisition theories say that adults do not acquire languages well the way children do it because of external and internal factors, not because of a lack of ability.
- Example:
  Older learners rarely achieve a near-native accent. Many people suggest this is due to their being beyond the critical period.

CONT…

- In the classroom
  A problem arising from the differences between younger learners and adults is that adults believe that they cannot learn languages well.
- Teachers can help learners with this belief in various ways, for example:
- by talking about the learning process and learning styles,
- helping and setting realistic goals,
- choosing suitable methodologies,
- and addressing the emotional needs of the adult learner.

CONT…

- If language input does not occur until after this time, the individual will never achieve a full command of language especially grammatical systems.

HISTORICAL BACKGROUND OF (CP)

HISTORICAL BACKGROUND

Wilder Penfield and co-author Lamar Roberts (1959)

- The first to introduce the CPH
- The main study is neuroscience of language
- Up to the age of 9 can learn multiple languages

ERIC LENNEBERG (1967)

Eric Lenneberg (1967)

- Studied the CPH in his book "Biological foundations of language".
- Children having a certain amount of time to acquire a language
- Until the age of 13 language is present in both hemisphere.