To the Editor: Dr. Manaut and colleagues’ important contribution to the *Journal* is equaled only by the dedication they showed in collecting their data in an exemplary manner, as seen in their report. However, this work needs a wider perspective to make it even more useful to practitioners in our fields. As summarized in their tables and comments, the much-touted increased “plasticity” of the child's brain finds no representation in a transfer of speech (faculty) from an epileptic hemisphere to the sound one sitting next door, neither wholly nor in part—a nail in the coffin of “pathologic left-handedness” (see below). To quote them directly, “The fact that the proportion of interference between epileptic discharge and linguistic interference in epileptic children is similar to that in adults suggests that the higher plasticity in children’s brains is not inducing the transfer of language to the nondischarging hemisphere” (p. 509). This conclusion makes their report complementary to another large-scale investigation on similar patients who underwent the intracarotid amytal procedure (Wada test). There, Risse et al found the rate of bilateral language representation to be merely 0.5% (page 129). 

Given the uncertainties of the Wada test, that is, a crossing over of the injected material in more than 50% of cases, the uneven distribution of it, and the likelihood of a didaschitic effect of the material, one becomes more confident that bilateral representation of language faculty was a fruitless speculation from the start. The results reported by Manaut et al are consistent with the above statement. Both reports, therefore, point to the existence of a stable (hard-wired) anatomy underpinning the faculty of speech and of laterality of movement control, as shown below. Both reports contain data that indicate the inseparability of the spoken and comprehension components of speech. Manaut et al make the case that a regular electroencephalogram, under circumstances reported by the authors, is superior to the Wada test in ensuring the preservation of “the eloquent cortex” should the need for surgery arise—more so when the reported incidence of (b)lateralism of speech in the Wada has varied between two extremes (ie, 0.5-65%). The contribution of the Wada test to the understanding of laterality of movement control in humans, however, stems from the fact that it causes a reversible paralysis of one hemisphere. In that context, it has been shown that “the loss of deftness” seen in the limbs sitting underneath the anesthetized major hemisphere is the same as “the loss of litheness” affecting the nondominant side of the body after callosal section (the difference being bilaterality of the symptom when the callosum is available). It is the callosal traffic’s directionality, therefore, that determines handedness, that is, a mannerism shared by humanity, a code for an individual’s motor control. Because I have given details of this matter elsewhere I will repeat here only those aspects of the theory that are relevant to Manaut et al’s patients, who were all right-handed. According to the one-way callosal traffic scheme, the propositional speech is just one act among many voluntary actions, the control of which is lateralized. All volitional activities share this feature, ie, a callosum-width delay in initiating movements on the left, as documented in moving the eyes (to the left, in right-handers), moving the left side of the mouth as we speak, moving the vocal cords, diaphragm, and muscles of deglutition. The common denominator of any activity of such effectors is a nondominant delay imposed on them, commensurate with interhemispheric transfer time. This delay reflects the fact that the bihemispherically distributed neuronal aggregate responsible for voluntary movements is activated (located, controlled) in the major hemisphere. This is the newly discovered anatomic definition of the major and minor hemispheres and of handedness (features we are born with).

The meaning of the authors’ conclusions, therefore, is that the existence of a seizure focus in the major hemisphere of humans does not cause a shift in the laterality of an individual’s callosal traffic. The one-directional callosal traffic scheme, therefore, gives us confidence in the veracity of their conclusion, while it welcomes their contribution as additional evidence in its favor. The
theory also predicts that any generalization of epileptiform activity should occur from the left to the right hemisphere and not vice versa. 

When the latter occurs, it denotes a neural left- but a behavioral right-hander, a rarity worth looking for. I would appreciate an answer concerning these aspects, if available.

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REFERENCES


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