Improving Historical Linguistic Research: Ethical Considerations, Biases and Critical Thinking Skills: A case-study focused on Mahican.

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Mahican is a slumbering Eastern Algonquian language attested by a small number of source materials, and only a mere handful of published scholarly works have been devoted to its study. Mahican examples will be used to illustrate certain qualitative and quantitative aspects of linguistic data relevant to the production of robust research findings. Issues concerning small linguistic datasets and variable quality data will be highlighted. Culturally-sensitive ethical approaches from the perspective of an indigenous researcher will be explored, particularly for the case when a linguist is hired to participate in an indigenous language revitalization program.

Background. Using the same sources, two researchers reconstructed Mahican with markedly divergent results. One was an enrolled Stockbridge-Mohican tribal member who elicited advice and corrections from Mahican experts, Carl Masthay and Ives Goddard. The other was a student in linguistics who declined to consult with others and failed to complete his graduate program. Lessons relevant to Algonquian historical linguistics may be drawn from a comparative look at the two different ways the language was analyzed.

Data Quality. Data produced and/or collected by people continually fluctuates. Biological processes and life experiences influence what we see, hear, think or say. Disciplines such as linguistics, medicine, psychology and aviation science rely on such data. Interpersonal variability can influence the collection, analysis and interpretation processes of research projects, rooted in the personal background and ultimate agenda of the researcher. Contributions by others are needed to confirm, correct, or invalidate inital scientific research efforts of any one person.

Quality Control. Even the best of studies have a mathematical probability of displaying patterns attributable to a random occurrence. Critical thinking skills must therefore be employed by both researchers and readers of published studies to recognize common flaws such as conflicts of interest, unconscious cognitive biases, and illusions. The analysis of small datasets collected non-randomly is particularly relevant to historical Algonquian research.

Language Ethics. Flawed language research harms indigenous communities and breaches linguistic ethical principles. Conscious and unconscious data manipulation occurs in many scientific disciplines. Exaggeration of findings (spin) is common among published medical research papers. Manufactured fraudulent data, resulting in paper retraction, has contributed to undermine the general population's perception of the quality of scientific research, and pollutes the knowledge base.

Conclusion. Suggestions for improving the quality of research for Algonquian languages will be proposed.

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