

Expression of Traditional Knowledge in Lingual Units Puger Fishermen's Community, Jember: Antropolinguistic Review

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Abstract

This research aims to identify and describe the form of local knowledge reflected in language, which is manifested in the lingual units used in speech. Anthrop linguistics is an appropriate method for identifying the correlation between language and the cognitive and knowledge systems possessed by the Puger fishermen community. Lingual units in speech become a database as they become a means of storing, perpetuating and passing on a society's cognitive and knowledge systems. Ethnographic analysis of communication is used to obtain the socio-cultural contextuality behind the speech in the Puger fishermen community. The contextuality behind the birth of speech can provide appropriate ethnosemantic meaning in accordance with the socio-cultural perspective of the community. Ethnosemantic meaning produces a classification system that shows the ability of Puger fishermen to recognize patterns of change and determine patterns of natural phenomena that occur. This classification system is the basis for determining the form of local knowledge of the community. Based on the analysis of lingual data in speech, lingual units were obtained in the form of nouns and verbs in speech which describe the close correlation and intensity of their interaction with the sea. Local knowledge of Puger fishermen can be identified in the form of 1) knowledge about waves, 2) knowledge about water, 3) knowledge about fishing gear, and 4) knowledge about fishing techniques. Mastery of these knowledge determines accuracy and speed in making decisions to safeguard and maintain the continuity of their lives.

1. Introduction

The mindset that continues to develop and the diversity of paradigms move like a pendulum ¹ creating a two-value orientation ² and a polarizing paradigm ³. The paradigm and lifestyle of modern society are seen to leave anxiety and residue of unresolved problems. This is motivated by the inability of modern knowledge to solve various life problems completely. At least this anxiety is reflected in the article on the Naciones Unidas page entitled ⁴ which specifically reviews how the traditional knowledge of indigenous people can benefit everyone and how it can help us achieve the Sustainable Development Goals. This shows the opposition and dialogical relation between traditional and modern knowledge.

In the midst of modern medical developments, UNESCO considers it is important to maintain traditional medicine as a cultural heritage for the future in the health sector ⁵. This is proven by studies of ethical guidelines in making policies to protect traditional medicine in the western world ⁶, protection of intellectual property rights and patent rights on indigenous knowledge of traditional medicine in and outside India ⁷. The presence of Vriksha-Ayurveda as a document containing a complete summary of plant knowledge about plant physiology, horticulture, pathology and medicine ⁸ shows the strength of indigenous knowledge about the medical world.

Several studies show that indigenous knowledge is still an option amidst the rapid development of modern technology. The use of indigenous knowledge in the field of healing and health in the following studies shows that indigenous knowledge has an important position in the modern medical world; Combination of traditional herbal and modern medicine for the treatment of hemorrhoids in the western Himalayas ⁹, ethnobotany as phytomedicine in

¹ Anang Santoso, *Studi Bahasa Kritis: Menguak Bahasa Membongkar Kuasa* (Bandung: Mandar Maju, 2012).

² S.I. Hayakawa, "Orientasi Dua Nilai," in *Bahasa, Pengaruh, Dan Peranannya*, ed. Maruli H. Panggabean (Jakarta: PT. Gramedia Pustaka Utama, 1981), 73–91.

³ David E. Cooper, *Filsafat Dan Sifat Bahasa*, ed. Abdul Syukur Ibrahim, Cetakan I (Yogyakarta: Pustaka Pelajar, 2018).

⁴ "Traditional Knowledge – an Answer to the Most Pressing Global Problems?," 18th Session of the United Nations Permanent Forum on Indigenous Issues (UNPFII), n.d.

⁵ Alex Riordan and John Schofield, "Beyond Biomedicine: Traditional Medicine as Cultural Heritage," *International Journal of Heritage Studies* 21, no. 3 (2015): 280–99, <https://doi.org/10.1080/13527258.2014.940368>.

⁶ Yuria Celidwen et al., "Ethical Principles of Traditional Indigenous Medicine to Guide Western Psychedelic Research and Practice," *Lancet Regional Health - Americas* 18 (2023): 1–9, <https://doi.org/10.1016/j.lana.2022.100410>.

⁷ Gunjan Deshpande, "Traditional Knowledge and TWAIL," *Indonesian Journal of International Law* 19, no. 3 (2022): 399–424, <https://doi.org/https://doi.org/10.17304/ijil.vol19.3.3>.

⁸ Laxmi B. Ranavavare and Sanjay Chitnis, "Technology from Traditional Knowledge - Vrikshayurveda-Based Expert System for Diagnosis and Management of Plant Diseases," *Journal of Ayurveda and Integrative Medicine* 15, no. 1 (2024): 1–10, <https://doi.org/10.1016/j.jaim.2023.100853>.

⁹ Sakshi Dhiman, Rohit Kumar Nadda, and Prerna Bhardwaj, "Medicinal Herbs from Western Himalayas for

Bappeta district, Assam, India ¹⁰, ethnomedicines of the Oromo people in the Oromia region, Ethiopia ¹¹, the use of insects as traditional and therapeutic medicine which supports the success of treatment ¹², and the use of Duanwu tea as a treatment in Southwest Zhejiang, China ¹³.

Several studies also show the importance of protecting indigenous knowledge in regional governance ¹⁴ and rivers based on ethnoecology and ethnotechnology ¹⁵, nature conservation in Europe ¹⁶ by providing space to indigenous communities ¹⁷ in managing marine biological resources as a shared territorial area ¹⁸. Contribution of indigenous knowledge in the form of co-management of the Sápmi Laponia traditional cultural heritage in Sweden and management of the Suttésája sacred area ¹⁹, management and conservation of frankincense trees in Northeast Somalia ²⁰, the use of information technology to disseminate indigenous knowledge in farming communities in developing countries ²¹ and infographics containing Indonesian knowledge in the Blitar

Hemorrhoids Treatment: A Review Correlating Traditional Knowledge with Modern Therapeutics," *Pharmacological Research - Modern Chinese Medicine* 9 (2023): 1–18, <https://doi.org/10.1016/j.prmcm.2023.100334>.

¹⁰ Dip Kr Bhattacharjya et al., "An Ethnobotanical Survey on Phytomedicines Based on Traditional Knowledge in the Barpeta District, Assam, India," *Journal of Ayurveda and Integrative Medicine* 14, no. 4 (2023): 1–8, <https://doi.org/10.1016/j.jaim.2023.100763>.

¹¹ Meskerem Bogale, J. M. Sasikumar, and Meseret C. Egiu, "An Ethnomedicinal Study in Tulo District, West Hararghe Zone, Oromia Region, Ethiopia," *Heliyon* 9, no. 4 (2023): 1–15, <https://doi.org/10.1016/j.heliyon.2023.e15361>.

¹² Wahengbam Deepanita Devi et al., "Edible Insects: As Traditional Medicine for Human Wellness," *Future Foods* 7, no. June 2022 (2023), <https://doi.org/10.1016/j.fufo.2023.100219>.

¹³ Yue Ma et al., "A Study on the Characteristics of Songyang Duanwu Tea, a Classic Traditional Knowledge of Southwest Zhejiang, China," *Trees, Forests and People* 15, no. December 2023 (2024): 1–8, <https://doi.org/10.1016/j.tfp.2023.100484>.

¹⁴ Sam Grey and Rauna Kuokkanen, "Indigenous Governance of Cultural Heritage: Searching for Alternatives to Co-Management," *International Journal of Heritage Studies* 26, no. 10 (2020): 1–23, <https://doi.org/10.1080/13527258.2019.1703202>.

¹⁵ S F Ng, "Ocal Know Wledge of f Lampun Ng People in Tulan Ng Bawan Ng : An Ethn Noecologi Ical and E Ethnotech Hnological l Study Fo or Utilizat Tion and Conservat Tion of Ri Ivers," in *International Conferen Nce on Humanities and Social Sciencess*, ed. Universiti Sains Malaysia. Doi:, vol. 91 (Elsevier, 2013), 113–19, <https://doi.org/10.1016/j.sbspro.2013.08.408>.

¹⁶ Zsolt Molnár et al., "Social Justice for Traditional Knowledge Holders Will Help Conserve Europe's Nature," *Biological Conservation* 285 (September 2023): 110190, <https://doi.org/10.1016/j.BIOCON.2023.110190>.

¹⁷ Mercedes McLean et al., "Connecting Conservation & Culture: The Importance of Indigenous Knowledge in Conservation Decision-Making and Resource Management of Migratory Marine Species," *Marine Policy* 155, no. August 2022 (2023): 1–9, <https://doi.org/10.1016/j.marpol.2023.105582>.

¹⁸ Marjo K. Vierros et al., "Considering Indigenous Peoples and Local Communities in Governance of the Global Ocean Commons," *Marine Policy* 119 (2020): 1–13, <https://doi.org/10.1016/j.marpol.2020.104039>.

¹⁹ Grey and Kuokkanen, "Indigenous Governance of Cultural Heritage: Searching for Alternatives to Co-Management."

²⁰ Abdirisak Abdulkadir Ibrahim, "Local Knowledge and Attitudes of Frankincense Communities in Northeastern Somalia," *Global Ecology and Conservation* 48, no. Desember (2023): 1–11, <https://doi.org/https://doi.org/10.1016/j.gecco.2023.e02748>.

²¹ Ebenezer Osei Jones, "Indigenous Knowledge Management Practices in Subsistence Farming: A

Regency regional library ²².

In another aspect, indigenous knowledge is understood as values that are used by the community as a value system ²³, in the Punakawan symbol in Javanese society ²⁴, respect for ancestors in the tradition of ceremonies honoring monkey ancestors ²⁵, and and the Keduk Beji ceremony in the Tawun community, Ngawi Regency ²⁶. Folklore is used as a strategy for mitigating and managing the risk of tsunami disasters in Indonesia and Japan ²⁷. Local wisdom is also used in fishery practice of the Nicobari tribe ²⁸, diversification of *masibi* fermented milk in Zambia ²⁹, and *dadih* in the people of West Sumatra ³⁰.

The term indigenous knowledge is also found in several studies apart from the two terms above. The locality aspect is displayed in the decolonization strategy and adaptation to climate change in the communities of Nawi Village in Fiji, Thai Binht Village in Vietnam, and Basey Village in the Philippines ³¹ with indigenous knowledge in the concept. Likewise, indigenous knowledge in the policy of protecting indigenous people for sustainable development ³² can be seen in the

Comprehensive Evaluation," *Sustainable Technology and Entrepreneurship* 3, no. 2 (2024): 1–8, <https://doi.org/10.1016/j.stae.2023.100058>.

²² Yuni Pratiwi, Elok Rizki Khusnul Khotimah, and Lidya Amalia Rahmania, "Blitar's Indigenous Knowledge Promotion through Local Content Collections at Blitar Public Library," *Jurnal Kajian Informasi & Perpustakaan* 10, no. 2 (2022): 107–22, <https://doi.org/10.24198/jkip.v10i2.30315>.

²³ Sukarno, "Politeness Strategies, Linguistic Markers and Social Contexts in Delivering Requests in Javanese," *Indonesian Journal of Applied Linguistics* 7, no. 3 (2018): 659–67, <https://doi.org/10.17509/ijal.v7i3.9816>.

²⁴ Afendy Widayat and Ghis Nggar Dwiadmojo, "The Javanese Philosophy behind the Panakawan Characters : An Ethnolinguistic Analysis of the Play Semar Mbangun Kahyangan," *Indonesian Journal of Applied Linguistics* 13, no. 2 (2023): 343–57, <https://doi.org/https://doi.org/10.17509/ijal.v13i2.63094>.

²⁵ Sifa Destry Fauzia, Wakit Abdullah, and Dwi Purnanto, "Tradition of Sesaji Rewanda at Goa Kreo as Local Wisdom," *Indonesian Journal of Applied Linguistics* 12, no. 1 (2022): 247–57, <https://doi.org/10.17509/ijal.v12i1.46537>.

²⁶ Kifan Wigranto, Taufik Dermawan, and Dwi Sulistyorini, "Fungsi Mantra Kenduri Dalam Upacara Adat Keduk Beji," *Satwika : Kajian Ilmu Budaya Dan Perubahan Sosial* 7, no. 2 (2023): 295–307, <https://doi.org/10.22219/satwika.v7i2.26383>.

²⁷ Peter Mikulecký et al., "Dealing with Risks Associated with Tsunamis Using Indigenous Knowledge Approaches," *International Journal of Disaster Risk Reduction* 86, no. February (2023): 1–21, <https://doi.org/10.1016/j.ijdrr.2023.103534>.

²⁸ T. Ravikumar et al., "Subsistence Fishing Methods of Nicobari Tribes Using Traditional Knowledge," *Journal of Marine and Island Cultures* 5, no. 1 (2016): 79–87, <https://doi.org/10.1016/j.imic.2016.05.002>.

²⁹ Himoonga Bernard Moonga et al., "Towards Valorisation of Indigenous Traditional Fermented Milk: Mabisi as a Model," *Current Opinion in Food Science* 46, no. August (2022): 1–7, <https://doi.org/10.1016/j.cofs.2022.100835>.

³⁰ A. D. Fuad, "Ekspresi Jati Diri Bangsa Dalam Kekayaan Kuliner Nusantara: Telaah Antropolinguistik," in *Seri Studi Kebudayaan li Indonesia Sebagai Ruang Imajinasi*, ed. Ary Budiyo et al. (Malang: Prodi Antropologi, FIB Universitas Brawijaya, 2018), 169–78.

³¹ Justin See et al., "From Absences to Emergences: Foregrounding Traditional and Indigenous Climate Change Adaptation Knowledges and Practices from Fiji, Vietnam and the Philippines," *World Development* 176, no. December 2023 (2024): 1–13, <https://doi.org/10.1016/j.worlddev.2023.106503>.

³² Elizabeth Sumida Huaman and Jonnelle Walker, "Beyond Sustainability: Indigenous Knowledge Systems for Locally and Globally Renewing Earth Relations," *International Journal of Educational Development* 103, no. September (2023): 1–4, <https://doi.org/10.1016/j.ijedudev.2023.102935>.

conservation of national parks between governments and indigenous communities in Isiboro National Park in Bolivia ³³, and land management based on adaptation strategies to seasonal changes in the Sahel ³⁴.

Integration between modern medical treatments and indigenous knowledge-based practices is offered in the form of reconciliation of western health and indigenous communities in Canada ³⁵, cultural approaches in health management in Canada ³⁶, and culture-based environmental pollution solution in Northern Ontario, Canada ³⁷, also comprehensive identification of 12 forms of indigenous knowledge in the Dayak, Malay and Chinese communities in Sintang ³⁸.

The research above uses three terms, namely traditional knowledge, local wisdom, and indigenous knowledge. The three terms used are oriented towards studies that explore and display the orientation and local potential possessed by a community in protecting, utilizing and encouraging the realization of policy, treatment, conservation and environmental management based on institutional social potential in determining territorial authority. The existence of local knowledge must be protected in order to collaborate with modern knowledge so that noble cultural heritage can be passed on to modern generations. This knowledge will influence the formation of a person's identity and existence in a competitive global society ³⁹.

This research takes a different perspective and study from the research above. This research highlights the local aspect of traditional knowledge typical of Puger fishermen and uses lingual units in speech as an entry point in describing the cognition and knowledge systems of Puger fishermen ⁴⁰. The use of

³³ Andrea Baudoin Farah, "Meanings of Indigenous Autonomy: Between Identity, Authority, and Integration," *Geoforum* 148, no. December 2023 (2024): 1–17, <https://doi.org/10.1016/j.geoforum.2023.103916>.

³⁴ Robert Zougmore, Alcide C. Segnon, and Philip Thornton, "Harnessing Indigenous Knowledge and Practices for Effective Adaptation in the Sahel," *Current Opinion in Environmental Sustainability* 65 (2023): 1–7, <https://doi.org/10.1016/j.cosust.2023.101389>.

³⁵ Sahr Wali et al., "Learning from Our Strengths: Exploring Strategies to Support Heart Health in Indigenous Communities," *CJC Open*, 2023, <https://doi.org/10.1016/j.cjco.2023.06.005>.

³⁶ Shailah Beaudry, Elsie Duff, and Erin Ziegler, "2-Spirit Indigenous Health Care and Cultural Humility," *The Journal for Nurse Practitioners* 20, no. 2 (2024): 1–5, <https://doi.org/10.1016/j.nurpra.2023.104892>.

³⁷ Daniela Galatro et al., "A Non-Hierarchical Syncretic Framework to Assess Environmental Contaminants by Interdisciplinary Integration of Geoscience Methods and Culturally-Centred Indigenous Knowledge Exchange Approaches," *Societal Impacts* 3, no. December 2023 (2024): 1–6, <https://doi.org/10.1016/j.socimp.2023.100035>.

³⁸ Adriana Gandasari et al., "Indigenous Knowledge Dataset of Dayak, Malay and Chinese Communities in Sintang Regency, West Kalimantan, Indonesia" 53, no. April (2024): 1–16, <https://doi.org/https://doi.org/10.1016/j.dib.2024.110147>.

³⁹ D Stephen and D Edwards, "A Wisdom Way Of Being To Transform The Heart Of Humanity," *IFAC-PapersOnLine* 51, no. 30 (2018): 739–43, <https://doi.org/10.1016/j.ifacol.2018.11.204>.

⁴⁰ Gary B. Palmer, *Toward A Theory of Cultural Linguistics* (United States of America: University of Texas Press, 1996).

anthropolinguistic methods will provide a different perspective and nuance to the study because this research makes language into a database as the lingual units of language become a way to express and reflect the cognitive and knowledge systems of the Puger fishermen community ⁴¹.

Language manifested in lingual units will provide guidelines and instructions for finding the form of the knowledge system of Puger fishermen ⁴² as the framework in the study of literary works, which is understood as a conceptual memory of community knowledge, can be seen as an integrated part of the knowledge system ⁴³. Lingual units provide these instructions through a symbolic classification system in Javanese society ⁴⁴, a natural classification system ⁴⁵ resulting from componential analysis of lingual features ⁴⁶ possessed by certain lingual units which show the skills of Puger fishermen in identifying patterns of behavior in responding to life problems.

The characteristics of the lingual units of speech of the Puger fishermen community are realized from the interaction of Javanese and Madurese language contact in the context of the Pendalungan community, resulting in elements of borrowing, changes in meaning, and the formation of lingual units typical of Puger fishermen. The meaning of these lingual units is influenced by socio-cultural factors ⁴⁷ as occurs in shifts and changes in the meaning of Arabic loan words in Sundanese ⁴⁸, and cultural representation and meaning in the rituals of the Osing Banyuwangi community ⁴⁹. Apart from the context of the Pendalungan community, these characteristics are also influenced by geographical factors on the southern coast which is far from urban areas, which

⁴¹ Alessandro Duranti, "An Historical Perspective on Contemporary Linguistic Anthropology," *Teaching Anthropology: Society for Anthropology in Community Colleges Notes* 7, no. 2 (2000): 20–24, <https://doi.org/10.1525/tea.2000.7.2.20>.

⁴² Farzad Sharifian, "Cultural Linguistics," *Ethnolinguistic* 28 (2017): 33–61, <https://doi.org/10.17951/et.2016.28.31>.

⁴³ Katarzyna Stadnik, "Language as a Memory Carrier of Perceptually-Based Knowledge. Selected Aspects of Imagery in Chaucer's Knight's Tale and Troilus and Criseyde," *Studies in Logic, Grammar and Rhetoric* 41, no. 54 (2015): 127–41, <https://doi.org/10.1515/slgr-2015-0024>.

⁴⁴ Koentjaraningrat, *Kebudayaan Jawa Seri Etnografi Indonesia No 2* (Jakarta: Balai Pustaka, 1984).

⁴⁵ William A. Foley, *Anthropological Linguistics: An Introduction* (United States of America: Blackwell Publishers Inc, 2001).

⁴⁶ Ward H. Goodenough, "Componential Analysis and the Study of Meaning," *Language* 32, no. 1 (1956): 195–216.

⁴⁷ Devina, "Cross-Linguistic Influence of Propositional and Lexical Semantics Errors in Indonesian Learner Texts," *Indonesian Journal of Applied Linguistics* 11, no. 3 (2022): 527–38, <https://doi.org/10.17509/ijal.v11i3.36618>.

⁴⁸ Husnul Qodim, Fajar Rohandy, and Eri Kurniawan, "Arabic Lexicon in Sundanese Language: An Ethnolinguistic Study on the Pilgrimage Ceremony of the Indigenous People in Dukuh Village," *Indonesian Journal of Applied Linguistics* 12, no. 2 (2022): 361–73, <https://doi.org/10.17509/ijal.v12i2.45195>.

⁴⁹ Imam Suyitno et al., "The Cultural Meaning in Ritual Traditions for the Character of Osing People Banyuwangi, Indonesia," *The Qualitative Report* 28, no. 7 (2023): 2058–74, <https://doi.org/10.46743/2160-3715/2023.6156>.

gives rise to lingual features only found in Puger. These factors also influence the formation of individuals who are agile in their behavior and tend to use high intonation and direct language in communication.

The importance of the sea for Puger fishermen forms a dialogical interaction relationship which the fishermen try to maintain well. The sea for Puger fishermen is like the second world after land. Their close relationship with the sea which occurs continuously with long intensity forms sensitivity and intuitive instincts towards patterns that occur in the sea. These intuitive sensitivities and instincts are codified in a cognitive system and transformed into knowledge that is used in everyday life. This argument makes lingual units in language a solid data base in this research, because these lingual units are the methods and strategies of Puger fishermen, apart from being a reflection of their identity expression, are also a sketch of the knowledge they possess like the quantity and quality of water in the proverb ⁵⁰ and botanical metaphors in Madurese society ⁵¹.

The traditional knowledge system of Puger fishermen is reflected in lingual units which express attitudes patterns in response to changes that occur. Linguistic units are not only seen as independent and meaningful forms of behavior, but these units consist of a set of meanings in the socio-cultural context of society. Lingual units contain meaning features produced by Puger fishermen's ability to provide differentiating features to each lingual unit. The closeness of Puger fishermen to waves will produce an identification pattern which is stated in the names of each part of the wave formation stages. Knowledge in identifying each part of these stages will determine the safety and success of Puger fishermen in sailing.

Lingual units indicating water movement are the result of identification and recognition of patterns and movements of the surface water. Puger fishermen are able to recognize the form of movement and the causes. The causes of water movement will be a consideration in expressing it in lingual units and will influence the decisions and attitudes taken by Puger fishermen. In this domain, lingual units will describe a classification system based on distinguishing features in the form and causes of water movement on the sea surface as is the skill of the Sarolangun people in identifying and classifying types of medicinal plants and treatment spells ⁵² and beauty terminology in the metaphor of

⁵⁰ Yoga Yolanda, Djoko Saryono, and Taufik Dermawan, "Quantity and Quality of Water in Indonesian Proverbs : Cognitive Semantics Study," *International Journal of Multidisciplinary Research and Development* 5, no. 5 (2018): 184–89.

⁵¹ Yesaya Agan and Taufik Dermawan, "Metafora Botanis Dalam Kumpulan Puisi Pengantar Kebahagiaan Karya Faidi Rizal Alief: Kajian Ekostilistika," *JoLLA: Journal of Language, Literature, and Arts* 2, no. 8 (2022): 1065–78, <https://doi.org/10.17977/um064v2i82022p1065-1078>.

⁵² Roekhan, Yuni Pratiwi, Imam Suyitno, Bambang Prastio, Ahsani Maulidina, Marzuki, "Ethnomedicine of the Sarolangun Malay Community: An Ecolinguistic Study on Medicinal Plant and Healing Incantations

Javanese society⁵³.

Puger fishermen also have a variety of lingual units for referring to techniques for using fishing gear which also functions as a reflection of the knowledge system and mastery of Puger fishermen in creating a classification system in this domain. Linguistic units that express the technique of using fishing gear are a form of strategy and behavioral patterns of Puger fishermen to increase catches and efficiency strategies by utilizing existing natural resources.

The four domains above are the focus of traditional knowledge of Puger fishermen which is reflected in lingual units. The use of lingual units that reflect traditional knowledge is obtained from ethnographic analysis of communication by analyzing the socio-cultural aspects that are present in communication events. Analysis of the meaning components of each lingual unit will provide criteria for natural distinguishing features that describe the traditional knowledge system of Puger fishermen⁵⁴. These two analyzes will lead to the theory of relativity which concludes that the lingual units of language are a reflection of the cognition and knowledge system of the Puger fishermen community.

2. Research Method

This research uses an anthropolinguistic method which postulates that language is a mirror of the culture and that speaking is a cultural activity⁵⁵. Language as a reflection of culture means a person's native language defines the way he perceives and interprets his world⁵⁶. The second postulate that language is a mirror of the society is a perspective in viewing the Puger fishermen community as a speech community⁵⁷ in which language can differ from each other without limit and in unpredictable ways⁵⁸. The third postulate is that the classification

Ethnomedicine of the Sarolangun Malay Community : An Ecolinguistic Study on Medicinal Plant and Healing Incantations," *Cogent Arts & Humanities* 11, no. 1 (2024): 1–25, <https://doi.org/10.1080/23311983.2023.2294586>.

⁵³ Kusubakti Andajani et al., "Exploring Terminology of the Beauty Jamu and the Beauty Metaphor of East Java Women-Indonesia: An Eco-Linguistics Study," *Cogent Arts & Humanities* 10, no. 2 (2023): 2268387, <https://doi.org/10.1080/23311983.2023.2268387>.

⁵⁴ Heddy S A Putra, "Ethnoscience A Bridge To Back To Nature," in *E3S Web of Conferences*, vol. 249 (EDP Sciences, 2021), 1–9, <https://doi.org/https://doi.org/10.1051/e3sconf/202124901002>.

⁵⁵ D E Conduta Na and Crise Hipertensiva, "Conversation as a Cultural Activity," in *A Companion to Linguistic Anthropology*, ed. Alessandro Duranti, First publ (United Kingdom: Blackwell Publishing Ltd Library, 2004), 169–96.

⁵⁶ Benjamin Lee Whorf and John B. (John Bissell) Carroll, "Language, Thought, and Reality : Selected Writings," 1956, 278.

⁵⁷ John J. Gumperz, "The Speech Community," in *Linguistic Anthropology : A Reader*, ed. Alessandro Duranti, Second Edi (Oxford: Blackwell Publishing Ltd, 2009), 66–73.

⁵⁸ Alessandro Duranti, "Ethnography of Speaking: Toward a Linguistics of the Praxis," in *Language: The Socio-Cultural Context*, ed. Frederick J. Newmeyer, Volume IV (New York: Cambridge University Press, 2008), 210–28, <https://doi.org/10.1002/9780470758434.ch2>.

system in society shows the knowledge system of that society ⁵⁹.

The three propositions above are guidelines in determining the reflection of traditional knowledge in lingual units. The members of the Puger fishermen community consist of a multi-ethnic community which form a heterogeneous society with a pendalungan culture; there is no dominant culture so that intercultural dialectics will occur and form a new culture and become a spoken community on the southern coast of Java. This characteristic of a multi-dimensional speech community makes this research use communication ethnography to investigate the use of certain lingual units in accordance with the social and cultural context of Puger fishermen.

Linguistic units are not structures that are independent in meaning, but structures that cannot be separated from the socio-cultural context of Puger fishermen. Ethnosemantic analysis functions to look for the distinguishing features that Puger fishermen have assigned to each of these lingual units. These features reflect the skills of Puger fishermen in creating a classification system based on patterns that they have stored in their cognitive and knowledge systems. A classification system that has been clarified and validated collectively by the Puger fishermen community can be used as a basis for taking actions and making decisions quickly and accurately.

Respondents

The South Sea coastal area of Puger District, Jember Regency is administratively divided into two villages, Puger Wetan and Puger Kulon. Respondents in the two villages were selected by considering the dominant Javanese and Madurese communities in each village. The following consideration is that the increasingly complex heterogeneity of language use will produce diverse lingual units in speech so that the lack of data in Puger Wetan Village will be covered by lingual data from Puger Kulon Village, and vice versa.

Respondents were chosen by considering the adequacy of data in each domain. The selection of respondents in each village was based on ethnicity to find the possibility of expressing lingual units from the two languages. The second category is determined by the profession of net fishermen and line fishermen to obtain linguistic units that express their knowledge in using fishing tools and techniques at sea. The third category of respondents are fishermen who use pakesan, station, speed, coketan and skoci fleets to obtain specifications of the tools and techniques used by these groups.

Instrument

The instruments in this research are created based on indicators at each stage

⁵⁹ John Leavitt, "Ethnosemantics," in *The Routledge Handbook of Language and Culture*, 1st Editio (Routledge, 2014), 51–65, <https://doi.org/10.4324/9781315793993-12>.

of data collection. Observation and interview guidelines are the basis for determining the form of observation and questions that will be asked to each respondent. The list of questions is prepared based on data requirements for each knowledge that has been formulated in the interview guide, as well as a list of events that need to be observed.

To ensure the validity of the data that has been obtained, data validation guidelines are needed in the form of data validation techniques, which were carried out in three ways, i.e. comparing the information obtained from respondents with the results of observations, comparing the information with the results of video documentation or other research, and lastly comparing lingual unit data with a dictionary in order to obtain a valid meaning, so that possible changes in meaning can be identified.

Analysis guidelines refer to speech and componential analysis. Speech analysis functions to provide a socio-cultural context in the use of certain lingual units in speech. Speech analysis can provide adequate context in determining the use of certain lingual units in speech. Componential analysis functions as a guide in determining the distinguishing features of each lingual unit in a particular domain so that the ability of Puger fishermen to classify their experience and knowledge can be seen clearly. The classification system expressed in lingual units is the basis for determining the traditional knowledge of the Puger fishermen community.

Procedures

The research begins by making observations based on previously created observation guidelines, so that data adequacy can be met. Observation results also function as a tool to confirm information obtained from interviews. The next step is to determine the respondents. The results of observations can be used as a basis for determining responses and also this determination is based on recommendations from related parties.

The next stage is the process of extracting information through interviews. Interviews are conducted based on interview guidelines and it is possible that interviews will develop and depart from these guidelines to obtain more varied and in-depth data information. The data that has been obtained is immediately transcribed to avoid bias with the information held by the researcher and to avoid data or information that is out of context. From the results of data transcription, data was tabulated based on domain, form of lingual units, lexical meaning, and meaning based on the socio-cultural context of Puger fishermen. From the data tabulation, data validation was carried out by carrying out the three stages as previously explained.

Data analysis

The data analysis stage refers to predetermined analysis guidelines. The

tabulation of speech data is analyzed using speaking ethnographic analysis to look for considerations outside of language which are also present in determining the form of lingual units used in speech. The following analysis compares the meaning of lingual units based on the cultural context of Puger fishermen with the lexical meaning obtained from the dictionary to obtain a comparison of meanings. This comparison will result in a shift, a change, or a new meaning of certain lingual units.

The next stage of analysis is ethnosemantic analysis. This analysis is carried out by grouping lingual units into domains and revealing certain meanings. This grouping will determine the distinguishing features of each lingual unit that will be the basis for determining a classification system that is reflected in lingual units in certain domains and meanings. The ethnosemantic analysis framework can be seen in the following table.

Table 1. Ethnosemantic Analysis

Lingual unit	Distinguishing Feature 1		Distinguishing Feature 2	
	Component A	Component B	Component A	Component B

The classification system based on distinguishing features is a form of Puger fishermen's knowledge in defining the life experiences and solving their life problems. In the context of this research, ethnosemantic analysis of speech data will be grouped based on the domain of knowledge about waves, water behavior, fishing gear, and techniques for using fishing gear. Linguistic unit data that has been grouped into the four domains will be looked for their distinguishing features, which will be the basis for determining a classification system that reflects the cognition and knowledge system of the Puger fishermen community.

3. Results and Discussion

Anthropolinguistics research is cognitive anthropology research that uses language as a database for viewing and determining the cultural behavior of a society. In scientific terms, anthropolinguistic research is rooted in the theory of cultural relativity presented by Boas, which stated that all cultures were essentially equal but simply had to be understood in their own terms. The theory of cultural relativity was then simplified by Sapir and Whorf in the theory of language relativity. The theory of language relativity views that language structure reflects the way a language speaker views the world.

The development of research on the theme of the relation between language and culture has given rise to terms of linguistic anthropology ⁶⁰, anthropological

⁶⁰ Duranti, "An Historical Perspective on Contemporary Linguistic Anthropology."

linguistics⁶¹, ethnolinguistics⁶², and cultural linguistics⁶³. The different terms are in accordance with the viewpoint and basis of the scientific discipline they are studying and are all rooted in the same historical roots of thought, i.e. the correlation between language and culture.

Research studies with the theme of the correlation between language and culture tend to focus on the lives of indigenous or traditional communities who still maintain traditional cultural patterns and structures in everyday life⁶⁴. Speech culture in traditional societies will display different and unique characteristics when compared to speech traditions in modern societies which tend to be standardized. The uniqueness of the discussion is in the speech traditions of the Madurese people who only know the color blue to express green and blue. The Madurese people's cognitive system uses *deun* (leaves) for green and *langik* (sky) for blue⁶⁵ which is certainly different from the more varied expressions of color in modern society⁶⁶.

Indonesia's territory consists of several islands, making Indonesia a maritime country. The Indonesian sea which is rich in natural resources attracts several communities to stop by, settle and create settlements around coastal areas. Interaction with rough seas influences the formation of fishermen's character in producing capable sailors. The characteristics of community social life and fishermen's lives at sea are formed by the intensity of interactions that occur over a long period of time. For fishermen, the sea is a source of life and hope.

The characteristics of fishermen on the south coast of Java will be very different when compared to the characteristics of fishermen on the north coast of Java. These differences are affected by geographic and demographic factors in the composition of the members of each society. Fishermen on the south coast of Java are faced with the character of the southern sea which is known to be harsh and fierce. This condition has formed a different adaptation pattern from fishing communities whose sea conditions tend to be friendly. The characteristics of both are the treasures and richness of cultural behavior in the language of fishermen on the north and south coasts of Java Island in Indonesia which can become a global attraction⁶⁷.

⁶¹ Foley, *Anthropological Linguistics: An Introduction*.

⁶² James W. Underhill, "Ethnolinguistics," in *Ethnolinguistics and Cultural Concepts Truth, Love, Hate and War* (Cambridge University Press, 2012), 17–40, <https://doi.org/https://doi.org/10.1017/CBO9780511862540.003>.

⁶³ Sharifian, "Cultural Linguistics."

⁶⁴ Imam Suyitno, "The Cultural Meaning of Traditional Expressions in Daily Speech of Using Community at Banyuwangi," *Jurnal Humaniora* 29, no. 2 (2017): 215–23, <https://doi.org/10.22146/jh.v29i2.25896>.

⁶⁵ Inyo Yos Fernandez Nurul Fadhillah, Wakit Abdullah Rais, "The Cultural Semantics of Color Naming Concept in Madurese (An Ethnolinguistics Perspective)," in *Proceedings of the Third International Conference of Arts, Language and Culture (ICALC 2018)* (Atlantis Press, 2019), 287–93, <https://doi.org/10.2991/icalc-18.2019.42>.

⁶⁶ Foley, *Anthropological Linguistics: An Introduction*.

⁶⁷ A. Effendi Kadarisman, "LSCAC Conference Proceedings The 4th International Conference on Language,

The Puger fishermen community is a fishing community that lives on the coast of the South Java Sea. The culture and cultural structure of the Pandalungan community can be felt in the Puger fishermen community, because administratively Puger is one of the sub-districts in Jember Regency. Jember Regency, as one of the horseshoe regions of East Java, is an area where two dominant cultures meet which attract each other with equal strength ⁶⁸. The balance of power possessed by the two cultures will gradually create a new culture without losing the identity of the old ones.

For Puger fishermen, the sea is the second world after land. Puger fishermen's close relationship with the ocean influences their perspective and way of seeing the sea. The closeness is symbolized in the lingual unit *glendangan* (wave). Puger fishermen call waves like *lendang* (shawls) which function as accessories attached to Javanese women's clothing. Waves are not seen as obstacles and danger, but as something inherent, close, and a symbol of elegance. Puger fishermen have pride and a means of expressing their identity as sailors who have the courage and intelligence to conquer the waves of the south coast. An illustration of the close relationship between fishermen and the sea can be found in the spoken tradition of Madurese fishermen in the proposition *abantal ombek* (pillowed by waves) ⁶⁹.

Puger fishermen do not perceive and consider waves in the ocean as danger and obstacles that prevent them from making a living. They prefer to be at peace and friendly with the sea. The choice of a peaceful and friendly attitude shapes the sensitivity of Puger fishermen in capturing changes in natural phenomena that occur and they understand them as patterned behavior. These patterns are captured in the cognition system as a knowledge system that guides and serves as a guide for Puger fishermen to identify and classify patterns as a guide to behaving and solving problems quickly and accurately. ⁷⁰.

Puger fishermen capture the phenomenon of wave changes as a naturally patterned cycle. In each stage in the cycle, a designation or definition is given in lingual units. This lingual unit makes it easier for Puger fishermen to determine and identify wave movements. Identification of wave movements is used to determine the success of the fleet going back and forth on the *Pelawangan*, which is the entrance located downstream of the river as the location where river and sea water meet and is a crucial point for Puger fishermen. *Pelawangan*

Society and Culture in Asian Contexts," in *Local Wisdom with Universal Appeal: Dynamics of Indonesian Culture in Asian Context*, 2017, 8–18, <https://doi.org/10.18502/kss.v1i3.720>.

⁶⁸ M. Ilham Zoebazary, *Orang Pandalungan Pengayam Kebudayaan Di Tapal Kuda*, Cetakan II (Jember: Paguyuban Pandhalungan Jember, 2017).

⁶⁹ Mien Ahmad Rifai, *Manusia Madura Pembawaan, Perilaku, Etos Kerja, Penampilan, Dan Pandangan Hidupnya Seperti Dicitrakan Peribahasanya* (Yogyakarta: Pilar Media, 2007).

⁷⁰ Heddy Shri Ahimsa-Putra Sartini Sartini, "Preliminary Study on Worldviews," *Jurnal Humaniora* 29, no. 3 (2017): 265–77, <https://doi.org/10.22146/jh.v29i3.29690>.

is a geographical asset and unique characteristic of the southern coastal region of Puger.

Mentioning the stages of wave change in lingual units is a way that makes it easier for Puger fishermen to transfer knowledge to the next generation of fishermen. The stages are taught as an illustration of a complete cycle represented by lingual units. Through these stages, a break between waves will be marked and a safe zone and duration will be determined for fishermen to pass through.

Puger fishermen must have knowledge about changes in surface water because it really determines the success of obtaining catches. The movement of sea surface water can be caused by wind, currents and the movement of passing schools of fish. Puger fishermen have lingual units that are used to express these three movements. This lingual unit makes it easier for Puger fishermen to behave and make decisions when they encounter changes in surface water movements in the sea. Fishermen who are not equipped with this knowledge will result in decision making errors. Accurate decision making based on the knowledge above must be supported by knowledge of fishing gear specifications. This knowledge is a manifestation of Puger fishermen's skills in identifying and adapting fishing gear to the focus of the catch they are planning.

Puger fishermen continue to maintain their existence as traditional fishermen who maintain environmentally friendly fishing gear. They continue to preserve traditional fishing gear and teach it to the next generation of Puger fishermen as a value system for the maintenance of the biological ecosystem which will determine the existence and guarantee the sustainability of their lives. The existence of this tradition in Puger fishermen community requires them to be able to compete with advances in modern fishing technology. Puger fishermen must be able to survive and exist amidst the incessant exploitation of marine resources on a large scale which has an impact on the increasingly uncontrolled market for marine commodities. Puger fishermen have the ability to innovate and be creative in creating techniques for using fishing gear to maximize catches. The technique of using fishing gear is a manifestation of the knowledge and skills of Puger fishermen in responding to competition in the world of marine commodity markets.

Knowledge reflected in lingual units is essentially the way Puger fishermen classify their experiences and how to respond to changes that occur. This classification is a guide for them in living their lives. Disclosure of the stages of wave creation in lingual units will provide guidance for early warning in preventing accidents at sea. Knowledge about changes in water and knowledge about fish catching tools and techniques will be a guide in optimizing catch results. The following sections describe four traditional knowledge of Puger fishermen which is reflected in lingual units.

Knowledge of Waves

The Puger fishermen's cognitive system does not view waves as something scary and dangerous. They tend to be accommodating to the changing patterns and behavior of the waves on the south coast which are known to be large and violent. Referring to waves as *glendangan* is a form of accommodating strategy to change the stigma of waves as something frightening and dangerous into something familiar to every Puger fisherman.

Skill and accuracy in identifying wave behavior downstream as a place where sea water and river water meet greatly determines the success of Puger fishermen in entering and leaving the sea. Puger fishermen call this place *Pelawangan*, or gateway, which is the door to and fro for Puger fishermen when going to sea and returning from sea. Accidents and sinking of the Puger fishing fleet often occur in *Pelawangan* because they fail to determine a safe position to enter and exit. The Puger fishermen community classifies the stages of wave formation into four stages as can be seen in the following figure:

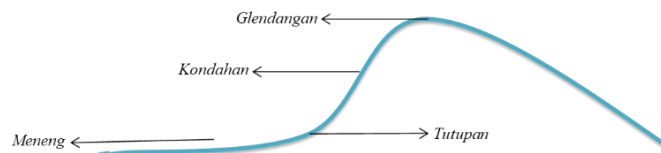


Figure 1. Phases of Wave Formation

The process of wave formation is expressed using four Javanese units, i.e. *glendangan*, *kondahan*, *tutupan*, and *meneng*. *Glendangan* is the peak of a wave which then declines and slopes to become a *kondahan* and ends with a *tutupan* stage as a wave condition which returns to a flat condition which is the final stage of a wave. Puger fishermen do not consider *tutupan* as the end of a wave because to exit or enter the *pelawangan*, *meneng* water condition, which is safe to cross, is needed.

The *meneng* condition will soon be followed again by a new wave that repeats itself. Puger fishermen will start counting and determine that on the count of the n^{th} *glendangan*, *meneng* conditions will be created that will last long enough to pass. Puger fishermen have a lingual unit for referring to this condition, namely *paweh*. Lexically, *paweh* comes from the Javanese verb *aweh* (meaning to give) and the verb is nominalized. *Paweh* is not only interpreted as a safe condition for fishermen to traverse, but has more of a sacred and profane meaning. *Paweh* is a form of granting permission by maritime authorities to fishermen to enter the sea and earn income in the form of abundant catches. *Paweh* is also a form of giving permission to fishermen to return to land with the results for their livelihood. Below is an illustration of the failure of fishermen to leave

Pelawangan which resulted in an accident.

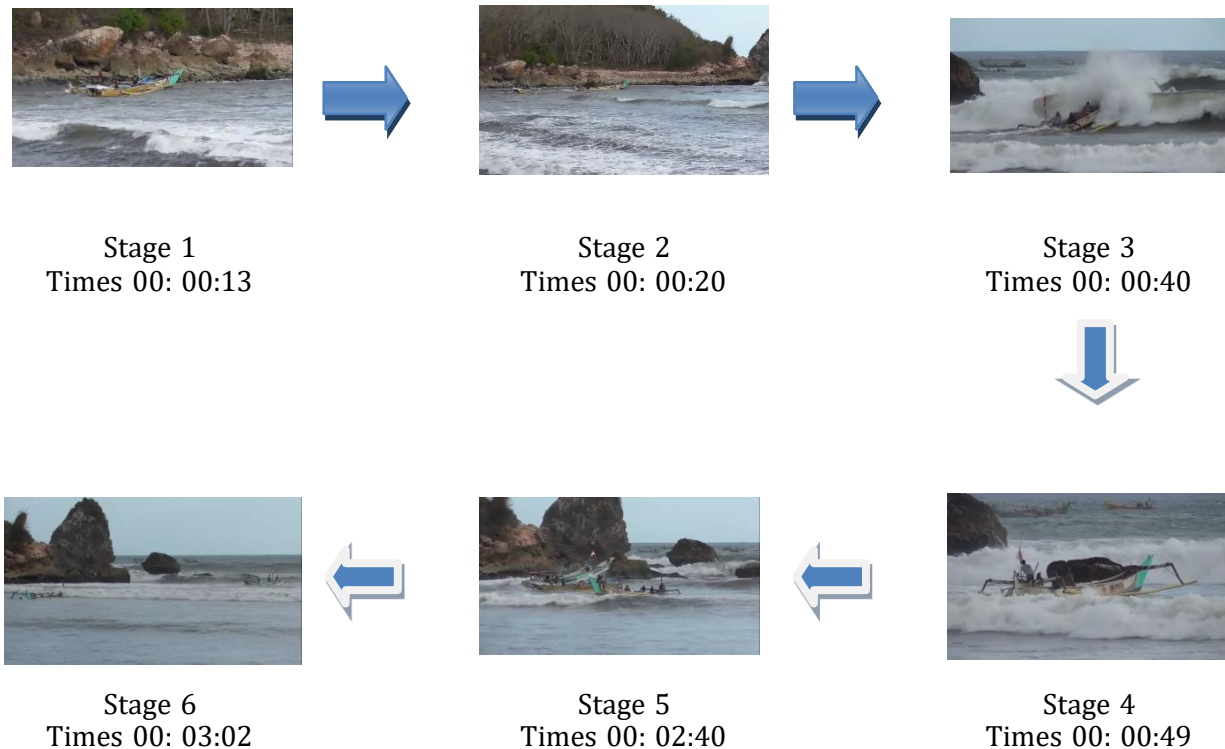


Figure 2. Illustration of Failed to Exit Pelawangan

Source: Puger Abadi, 2020⁷¹

All the fleets that will leave the *pelawangan* will queue in a row and wait a moment and push the engines as hard as they can (full speed) when they get the paweh. Stage 1 shows there are two speed boats or katiran type fleets waiting for the paweh to occur. In the second stage, one of the boats was seen revving the engine and trying to get in and out of the *pelawangan* because they believed they had got the paweh. Stage 3: the boat enters the *pelawangan* and the fleet is hit by waves. Stage 4, the impact of the waves in *Pelawangan* caused the fleet to be pushed back in and failed to get out and resulted in the fleet losing balance and steering control. Stage 5 shows the fleet being increasingly pushed in by the waves and water starting to enter the hull. Stage 6 shows the speed sinking while the other fleet actually manages to pass into the *pelawangan*.

Knowledge about waves in the Puger fishermen community greatly determines the safety and success of a fisherman when going to sea. Not only do Puger fishermen need guts, but mastery of the knowledge to recognize wave pattern

⁷¹ PugerAbadi (2020)

really determines a person's success. Just to get out of the sea, they must be able to make decisions quickly and carefully. Figure 2 above is enough to illustrate how valuable this knowledge is in providing success and safety for Puger fishermen.

Knowledge of Water Movement

Puger fishermen have the skills to capture water movement patterns that determine the success and maximization of catches. The currents above and below the southern ocean, which are known to be strong, will cause water movement on the surface. To describe the movement of surface water, Puger fishermen use three lingual units, namely, *bribik*, *ngontap*, and *gemulak*.

Puger fishermen can determine patterns of water movement on the surface caused by wind, currents, or the movement of schools of fish moving in groups. The movement of the water caught and believed to be the result of the movement of a passing school of fish will determine quick decision making when the net is released. Inaccurate identification of the movement of water will result in misfortune which is commonly expressed by *tawur banyu* (sowing water). *Tawur banyu* is a lingual unit in the form of a phrase which is paradigmatically interchangeable with tawur net. In Puger fishermen's traditions, *tawur banyu* is an expression of disappointment resulting from failure to catch fish caused by misidentification of water movement or due to a broken net being hit by a fish, like inhaling carbon dioxide from a mistake in knowledge ⁷².

Knowledge of surface water movements is an absolute must for net fishermen who work as *penempo*. *Penempo* is one of the professions in the fleet that uses nets and he is the one who determines when the nets are released. This knowledge also applies to fishing fishermen who use *nyandet* or *ngeret* techniques. To obtain this knowledge system, a componential analysis was carried out on the lingual units that express the movement of surface water. The componential analysis is presented in the following table.

Table 2. Ethnosemantic Analysis of Changes in Water Conditions

Condition	Cause			Size				Fish Availability	
	Wind	Wave	Fish	dense-small	dense-big	loose-small	loose-big	Available	Unavailable
<i>Bribik</i>	+	+	-	+	-	-	-	-	+
<i>Ngontap</i>	-	-	+	-	+	-	-	+	-
<i>Gemulak</i>	-	-	+	-	-	-	+	+	-

From the componential analysis of the meaning of the three lingual units above,

⁷² Effendi Kadarisman, *Uncommon Thoughts on Common Things (Dedicated to The English Language)* (Malang: CV. Transkomunika Kencana, 2019).

three distinguishing features are obtained, namely the cause of the movement, the size and form of the movement, and the availability of fish during the movement. *Bribik* is a lingual unit in the Javanese language which meaning cannot be found in Indonesian or English. If you force the meaning of the word you get the meaning of "foam", whereas in Javanese there is a word that shows this meaning, namely *mntuk*. *Bribik* is the movement of water caused by wind or water currents with the characteristic of being dense with a small or relatively small volume and is an indication that there are no fish in that area.

Ngontap is a lingual unit in the Javanese language which is a verb type which lexically means peak. *Ngontap* is often used to describe a person's heightened emotional state. In the context of Puger fishermen, *ngontap* is water movement caused by the movement of schools of fish in a certain area with a dense and large volume of movement which is also an indication of the presence of fish in that area.

Gemulak is a lingual unit in Javanese which means bubbles created when water boils and does not mean boiling. In several cases, it was found that *gemulak* means boiling, whereas boiling in Javanese is expressed with the word *umup*. *Gemulak* is the movement of water caused by the movement of a school of fish with a sparse and large volume due to the fish appearing on the surface so it is likened to water bubbles produced when water boils. Because this movement is produced by the movement of fish, it automatically becomes a guide and knowledge for fishermen when the water is turbulent in a certain area, it will be an indication of the presence of fish in that area.

The mention of water movement in those three lingual units is a form of classification system that describes the Puger fishermen's cognition and knowledge system in recognizing patterns of changes in water. The accuracy of identifying water movements in the sea determines a fisherman's decisions and the consequences they will get.

Knowledge of Fishing Gear

In terms of fishing gear, Puger fishermen can be categorized as traditional fishermen who only use nets and fishing rods as fishing gear. Puger fishermen use three types of nets which are adapted to their respective purposes. *Payang* nets are nets that are released in a circle around the fish and are then pulled by a number of people. In general, the workings of *payang* nets are similar to ring nets. Next is a net that is released vertically to the seabed right in an area frequently passed by fish, so that the fish get caught in the net when passing through it. The way this net works is similar to a gill net. Lastly is the *sethet* net which is specifically intended for catching baby shrimps. In *sethet*, there is a modification to the net, by attaching coconut fibers to several parts which function to attract the attention of the young shrimp to come closer and get

trapped in the net.

The fishing rods used by Puger fishermen are like fishing rods in general, only different in the bait used. Apart from using fish and shrimp bait, Puger fishermen also innovate and modify bait by using male duck feathers and rooster feathers which are arranged properly so that when the bait is used it will emit sparkling light in the water and will attract the attention of fish. Puger fishermen also use fish replica bait made from wood or a synthetic material known as rapala. The specifications for the use of fishing rods and nets can be seen in the analysis of the distribution of component meanings in the following table:

Table 3. Ethnosemantic Analysis of Fishing Gear

Fishing Gear	Fleet						Catch		
	<i>Speed</i>	<i>Coketan</i>	<i>Pakesan</i>	<i>Stasion</i>	<i>Skoci</i>	Shrimp	Small Fish	Medium Fish	Big Fish
Net	-	-	+	+	+	+	+	+	-
Fishing rod	+	+	-		+	-	-	+	+

In the explanation above has mentioned the differences in the names of nets and the techniques used to release the nets, but have not explained the specifications of what fleet will be used and what catch will be caught. In the table above, there are two domains that can be used to differentiate between nets and fishing rods. *Payang* nets are only used by *Pakesan* and *stasion* fleets, gill nets are used by *speed*, *coketan* and *skoci*, while *sethet* nets are only used by *speed* and *coketan*. Small and medium sized fish are the focus of net catches while fishing rods focus on medium and large catches. It is not uncommon for *skoci* to only focus their catches on large sized tuna.

Puger fishermen have the knowledge to recognize the type of tool that suits the focus of the catch they will get. This has been proven that net fishermen will avoid catching large fish because it will result in damage to the net and fishing is only done using fishing rods. This distribution naturally forms segmentation and even distribution of catch focus for the sake of the sustainability of the lives of Puger fishermen. Knowledge of innovating and modifying types of bait is knowledge that fishermen must absolutely possess, because this knowledge influences the maximization of the catch they obtain.

Knowledge of Techniques for Using Fishing Gear

The knowledge commonly possessed by Puger fishermen is knowledge about the use of fishing gear. Being a traditional fisherman amidst the widespread use of modern tools is the choice of Puger fishermen. They are required to be able to compete even though the equipment they use is still quite simple. The use of

human power is still very dominant in the fishing gears used by the community. A brave spirit and submission to the creator make Puger fishermen strong sailors.

Activity and innovation in developing fishing tools and techniques are the main factors that make Puger fishermen continue to exist today. Puger fishermen are able to adapt to changes in natural phenomena that occur and use them as new patterns and structures in developing their cognitive and knowledge systems in fishing. In the minds of Puger fishermen, a teaching is embedded that a good captain is not one who is good at steering a ship, but one who knows the secrets of the sea.

In general, the techniques for using fishing gear in the Puger fishermen community only consist of techniques for using nets and fishing rods. The technique of using nets is divided into two, namely the vertical stocking technique and the circular stocking technique. Techniques for using fishing rods are more diverse compared to techniques for using nets. There are at least five techniques, i.e. *layangan*, *mrawe*, *ngeret*, *candet*, and *netel*. To obtain a comprehensive analysis, the following ethnosemantic analysis of the six techniques for using fishing gear is presented.

Table 4. Ethnosemantic Analysis of Techniques for Using Fishing Gear

Technique	Fishing Gear			Catch			Fleet		
	Net	Fishing Rod	Shrimp	Small Fish	Medium Fish	Big Fish	Speed & Coketan	Pakesan & Stasion	Skoci
Vertical Release	+	-	+	+	+	-	-	-	+
Circle Release	+	-	-	+	+	-	-	+	-
<i>Layangan</i>	-	+	-	-	+	-	+	-	+
<i>Mrawe</i>	-	+	-	-	+	-	+	-	+
<i>Ngeret</i>	-	+	-	-	+	-	+	-	-
<i>Candet</i>	-	+	-	-	+	-	+	-	-
<i>Netel</i>	-	+	-	-	-	+	+	-	+

Based on the componential analysis of the seven techniques above, the distinguishing features of each technique are obtained based on the tools used, the target of the catch, and the fleet used. There are two techniques used in netting, namely vertical stocking and circular stocking. The vertical stocking technique is used for fin and *sethet* nets, while the circular stocking technique is used for ring nets or commonly called *payang* nets by Puger fishermen. The specialty of *sethet* is the shape of the net which is equipped with non-organic bait made from coconut fiber which attracts young shrimp to come closer.

Broadly speaking, fishing techniques can be classified into techniques using bait and without bait. Fishing techniques that use organic bait in the form of fish or shrimp bait and non-organic bait in the form of bait made from feathers and rapala. Fishing techniques by waiting for the bait to be struck by a fish or spontaneous techniques without waiting for the bait to be struck. The distinguishing features of the five lingual units that express fishing techniques can be seen in the following table.

Table 5. Ethnosemantic analysis of techniques for using fishing rods

Technique	Bait		Kinds of Bait		Waiting	
	Yes	No	Organic	Non-organic	Yes	No
<i>Layangan</i>	+	-	+	+	+	-
<i>Mrawe</i>	+	-	+	+	+	-
<i>Ngeret</i>	-	+	-	-	-	+
<i>Candet</i>	+	-	+	+	+	-
<i>Netel</i>	+	-	+	-	+	-

From the ethnosemantic analysis in table 4, it is known that the use of vertical and circular stocking techniques in nets is closely related to the fleet and focus of the catch. The use only focuses on catches in the form of small to medium sized shrimp and fish. Puger fishermen will avoid catching large fish using nets because it will result in damage to the nets they cast. The vertical technique is only used by the *Coketan* and *Speed* or *Katiran* fleets, while the *Pakesan* and *Stasion* fleets will use the circular stocking technique.

Layangan is a noun type of Javanese linguistic unit. Lexically, *Layangan* (kite) means a type of game played using gusts of wind. In the Puger fishermen community, this game has expanded into a technique used to catch fish. The *layangan* technique is only used by lifeboats using kites. The use of this technique is based on the duration and cruising range of the *sekoci* being longer and farther compared to the rest of the fleet. The *skoci* fleet allows the use of almost all types of fishing gear and fishing techniques in Puger because of these two factors. Using the *layangan* technique on the *skoci* (lifeboat) is like flying a kite in general. The string that has been attached to the hook will be attached to the main string and will continue to move in the same direction as the kite is moving. Using appropriate and attractive bait really determines the success of using this technique. Organic or non-organic bait that continues to move along with the movement of the kite and appears to be alive will attract the attention of medium-sized fish to come closer and then grab the bait. Fishermen will wait until their bait is struck by continuing to play with the kite by pulling and tugging to adjust the direction of the wind on the sloop like someone playing a kite.

The *mrawe* technique is a fishing technique that uses a large number of strings with hooks arranged horizontally. The lingual unit *mrawe* is a form of nominalization of Javanese verbs with the suffix [m-]. Lexically *mrawe* means a type of plant which leaves are causing itch, and *mrawe* has changed its meaning in the form of a technique used to get fish in the Puger fishermen community. This technique is applied by pulling the fishing line over a continuously moving fleet. *Speed* and *coketan* are the fleet's choice when applying this technique because they are considered to have flexibility and agility in movement to create livelier bait movements and attract the attention of medium and even large fish. The bait used in this technique can be organic or non-organic bait. The movement of the hook that has been installed with bait is in the same direction as the fleet is moving. Puger fishermen certainly have careful consideration in using this technique in areas that are considered to be places where fish exist. The movement of the fleet makes the bait seem alive and attracts fish to come closer and then grab it. Using lots of baited hooks has a big impact because it can create the effect of a school of moving fish and attract larger fish to come closer. *Mrawe* is also a consideration for increasing catches because the quantity and probability of fish getting caught on the hook is greater.

Ngeret is the next lingual unit used to refer to a technique for catching fish using a fishing rod. *Ngeret* is a Javanese language unit of verb type with the meaning "pulling". *Ngeret* in the Puger fishermen's story has an expanded meaning in the form of a fishing technique by pulling a fishing rod in the middle of a school of passing fish. Different from other techniques, not using bait in this technique has implications for the spontaneity of using this technique when schools of fish are seen and the decision to use this technique is only incidental. This technique is the same as using a payang net which will be released directly around schools of fish. Puger fishermen call this technique *diterakno nengtengahe iwak* (thrown in the middle of a school of fish). The effectiveness of using this technique depends on the speed capacity of the fleet to match the speed of fish movement and the driver's ability to maintain consistent fish movement so that fleet acceleration remains under control.

Candet is a lingual verb type unit in Madurese meaning "to pull quickly and suddenly". In Javanese there is an equivalent word for this lingual unit in the form of *sendhal* (pulling or jerking). The word *candet* experienced an expansion of its meaning in the form of a technique for getting fish for Puger fishermen. The application of *candet* is similar to *mrawe*, in terms that the target of the catch and the fleet used are more or less the same. However, in its application Puger fishermen are reluctant to equate this technique with *mrawe*. *Candet* has different technical characteristics both in terms of hook arrangement and techniques to make the bait look as if it lives in the water. *Candet* tends to use non-organic bait, although in certain cases organic bait is still used. The bait movement in the *mrawe* technique is produced by the movement of the fleet

which continues to move forward, while the bait movement in the *candet* technique comes from the pull of the fisherman's hand.

Netel is a Javanese linguistic unit that is a verb meaning to peel off and let go. *Netel* is a fishing technique that focuses on catching fish that live on the seabed and are large in size. The *netel* is applied using two anchors attached to both ends of the main string. A number of hooks are attached to the main string which has organic bait attached to it. At the top, an *umpal* is added which functions as a buoy and a sign where the fishing rod is placed. Bait that has been struck by a fish cannot be immediately withdrawn, because the fisherman does not know if the bait has been struck. Therefore they have to wait the next day to see whether the bait they have placed is caught or not. The fish that grabs the hook will struggle to remove the hook from its mouth which will automatically make the hook stick deeper and make the anchor stick deeper. This tug-of-war that occurs for a long duration will cause the fish to run out of energy and eventually die.

The four traditional knowledges above are a series of knowledge that is inseparable in the lives of the Puger fishermen community. Mastery of these four knowledge is absolutely essential for the survival of Puger fishermen. Knowledge about waves is basic knowledge for a fisherman in recognizing each stage of change in the formation of a wave. This mastery is related to making decisions quickly and precisely whether a fisherman will drive his engine at full power to escape the waves when he enters the sea or for those who will return to land. Knowledge of waves will save them from accidents at sea and serve as an early warning in preventing accidents at sea.

The next three knowledge will determine the success of Puger fishermen in the fishing process. Knowledge about water movement will influence appropriate decision making when tools and techniques are used. Fishing success and maximum results can be obtained only if a fisherman has knowledge about water movements caused by fish, what tools and techniques are appropriate to the target of the catch. Segmentation of the use of different fleets and fishing gear is essentially a strategy of the Puger fishermen community in distributing territorial areas and equal distribution of catches for the sake of sustaining the harmonious life of traditional fishing communities.

4. Conclusion

Research on the correlation between culture and language can be carried out by using cultural behavior patterns as an entry point in describing language or vice versa. This research chooses the second path, i.e. using language as an entry point to understand the cognitive system and traditional knowledge of the Puger fishermen community. Speaking is culture, which is the basis for making speech a database in deciphering traditional knowledge which is reflected in the lingual

units of the Puger fishermen community. The diversity of choices of lingual units used to refer to certain referents shows the ability of Puger fishermen in providing differentiating features to these lingual units.

The traditional knowledge system of the Puger fishermen community is obtained from the close relationship between fishermen and the sea and the interaction process that occurs consistently, making them able to capture these patterns of change and they are able to verify and validate this knowledge collectively. The close relationship between Puger fishermen and the sea forms dialogical interactions and creates an imaginary world of attachment between them and life in the sea. Pelawangan is a symbol of interaction between Puger fishermen and the southern sea. Pelawangan is the gateway that divides the worlds of land and sea which is understood both sacredly and profanely by Puger fishermen. Paweh is a form of dialogical interaction between Puger fishermen and the southern sea. Fishermen who are able to recognize and obtain paweh are interpreted as a form of permission for them to enter the open sea and make a living there.

The process of identifying and classifying the stages of wave formation greatly determines the safety and success of Puger fishermen in entering the ocean and entering land. The four lingual units that express these stages are absolutely understood and mastered by Puger fishermen as a collective knowledge system in determining paweh. The meneng stage became a reference for determining the count on the nth wave, there would be a pause that would allow their fleet to cross the pelawangan and get out of the sea. Likewise, fishermen who want to go out to sea have to pass through the pelawangan. They also have to calculate to determine that on the nth wave there would be a sufficient delay for their fleet to enter. Failure to determine accurate calculations for those who will leave the pelawangan will result in their fleet being crushed by the waves, while for fishermen who want to enter the pelawangan it will result in their fleet being pushed by the waves coming behind them.

Knowledge about the movement and pattern of sea water is knowledge that determines success in maximizing catches. This knowledge determines when the fishing gear is released. A penempo's knowledge is important in determining success in getting abundant catches. Fishermen with fishing rods and nets must have knowledge of water movements produced by the movement of passing schools of fish or caused by currents or wind.

Lingual units in the speech of the Puger fishermen community provide information on their traditional knowledge system in terms of fishing gear and techniques for using them. The development of modern technology in fishing has not made Puger fishermen shift and move away from their local cultural traditions. They are not uprooted from their cultural roots as traditional fishermen who uphold and maintain the traditions passed down by their

ancestors. They still maintain fishing equipment in the form of traditional nets and fishing rods so that the biological ecosystem in the sea can be well maintained. Linguistic units that describe the technique of using fishing gear are not only interpreted as the ability of Puger fishermen to be creative and innovate, but rather as equal distribution and reluctance to monopolize the catch on a large scale. The spirit of sharing that is deeply expressed in the lingual unit *podo kedumane* (same gets) is reflected in their use of fishing gear. Fishermen who use payang nets are reluctant to use other fishing gear, even though skoci in some cases use almost all the fishing gear. This is motivated by the fact that the cruising and fishing areas for skoci are different from those carried out by pakesan, stasion, speed and coketan.

Two lingual units that express fishing gear and seven lingual units that express techniques for using them are a form of Puger fishermen's cognition and knowledge system to maximize catches. The knowledge system is in the form of a classification system which is reflected in lingual units referring to the tools and techniques used. The classification system reflected in lingual units is an adaptation strategy for Puger fishermen in ensuring the continuity of their lives through taking fast and right attitudes and decisions. This is found in the ngeret technique as a strategy adopted by fishermen who use speed and coketan boats to obtain maximum catches by throwing their fishing rods in the middle of schools of moving fish which is usually done by payang net fishermen who use pakesan or stasion boats.

The diversity of lingual units found in speech is the result of the identification process of the changing phenomena that occur in the lives of the Puger fishermen community. These changes will form an orderly and structured pattern and be stored in the Puger fishermen's cognitive system. Each lingual unit spoken not only has lexical meaning, but also contains distinguishing meaning features and also becomes an adaptation strategy in storing and perpetuating their cultural and social system. Mastery of traditional knowledge for Puger fishermen is not only a symbol of the existence and identity of Puger fishermen but also as an early warning in dealing with accidents at sea, especially in pelawangan and overcoming social conflicts. Guaranteeing the welfare of fishermen's lives is maintained by maximizing catches through mastering knowledge about water movement pattern, knowledge of types of fishing gear, and use of fishing gear. Puger fishermen's mastery of traditional knowledge guarantees the continued existence of biological ecosystems in the southern seas. The existence of Puger fishermen community as fishermen who still maintain traditional knowledge who always adhere to Hayuning Bawana (beautifying the beauty of the world) will continue to be maintained and will continue to be passed on to generations of Puger fishermen as long as they still maintain traditional knowledge and uphold noble cultural values.

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