

The Archive and the Algorithm: Folk Traditions in Hardy's Poetry as a Framework for Understanding AI-based Preservation of Indian Knowledge Systems.

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Abstract

The alarm of scarcity has never been confined to just the fossil fuels and certain extinct species of animals. Because the threat of disappearance in the age of rapid modernization also revolves around traditional and folk knowledge systems across the world. No doubt, India, home to one of the world's oldest and richest knowledge traditions including Ayurveda, folk literature, oral poetry, and indigenous ecological practices is particularly vulnerable to this cultural and intellectual erosion. Therefore, leading with the attempt to save the current paper shall draw upon the poetry of Thomas Hardy, a Victorian era English poet and novelist who witnessed a strikingly similar crisis in rural England, where industrialization was rapidly erasing centuries-old folk traditions, customs, and community knowledge. Hence, Hardy's poems became a literary archive that sensitively preserved folk songs, rural dialects, nature-based wisdom, and community, not just as a historical record but as an active memory. Considering this, the paper shall argue that Hardy's style of preservation that kept his culture remembered and alive, can offer a valuable understanding of how Artificial Intelligence should approach the preservation of Indian Knowledge Systems today. Indeed, because with the emergence of AI, various fields have led towards their unimaginable progress whereas the text-based storage has found a new zenith. But while this there still remains a challenge as to not just store the information as a cold data rather preserve it with its emotions. Therefore, the paper shall try to suggest certain logical and honest ways to provide that. In doing so, this paper contributes to the growing academic conversation on the responsible use of AI in cultural heritage preservation and advocates for a humane, literature-informed approach to governing traditional knowledge in the digital age.

1. Introduction

It has been famously said by intellectuals that a person's identity is not defined by their clothes or possessions but by their behaviour, words, and responses, as these represent the mentality and perception of an individual. Similarly, a community's identity is not seen under the reference of the so-called statuses of its people, but rather through their customs and traditions. The soul of every civilization lies in its core ancient traditions that can still be sensed through its intergenerational adoption. These core customs are known as folk traditions, coming in the form of songs, rituals, oral narratives, and community knowledge. Although at first glance they might seem like mere cultural artifacts, they are not confined to just that rather they are the living repositories of wisdom, identity, and ecological understanding of a particular community.

Their presence in today's world is much like fossil fuels and clean water, not simply because they are raw and close to nature, but because the world is witnessing a crisis of their extinction. This eradication is not a natural occurrence but a result of great disrespect and carelessness shown by

later generations. In the name of modernization, urbanization, and globalization, the world has been cutting ties with its own roots, erasing centuries of accumulated community wisdom. Thomas Hardy emerges as not merely a person who experienced similar feelings, but a man who made a remarkable effort to address this problem. Through his deeply rich poems, he preserved folk songs, rituals, customs, and traditions, ultimately functioning as a literary archive of a disappearing world.

Indian traditional knowledge including Ayurveda, folk literature, oral poetry, tribal practices, and indigenous ecological knowledge constitutes the vast civilizational heritage of India, which has faced the threat of vanishing due to modernization, colonialism, biopiracy, and the absence of systematic documentation. Artificial Intelligence today offers unprecedented tools for documenting and preserving traditional knowledge, however Intellectual Property Rights and ethical governance frameworks are essential to ensure communities retain ownership of their knowledge. Therefore, this paper attempts to acknowledge Thomas Hardy's poetry as a framework for preserving Indian traditional knowledge through the responsible use of Artificial Intelligence, analysing how his method rooted in cultural sensitivity, community voice, and humanistic depth offers a valuable literary framework for how AI should ethically and effectively approach the preservation of Indian Knowledge Systems.

2. Hardy's Poetry as a Literary Archive of Folk Traditions

The nineteenth century also known as Victorian era in England was not merely a period of economic and industrial growth. It was simultaneously a period of profound cultural loss as well. The Industrial Revolution was rapidly transforming rural England, pulling communities away from their ancient rhythms of life. Village communities, folk customs, oral traditions, and agricultural ways of life were disappearing at a pace that left little room for mourning. It was Thomas Hardy who felt this loss most deeply and most personally. As it could be seen in one of his poem "The Darkling Thrush" that captures this sense of cultural desolation with remarkable sensitivity. In the poem, Hardy describes a landscape that is "sharp features" and "dregs" of a dying century, while an aged thrush sings with "joy illimited" against a world that has forgotten how to feel. The contrast between the bird's instinctive connection with nature and humanity's growing disconnection from it reflects Hardy's deep anxiety about what modernization was erasing from human life.

Thomas Hardy was not merely an observer of these changes. He was someone who had grown in the very womb of the natural and rural world he saw disappearing. Born and raised in the rural county of Dorset, his childhood was spent surrounded by folk songs, seasonal customs, village

gatherings, and the quiet but rich oral culture of rural communities. Furthermore, his study of literature and his profession as an architect further deepened his connection with ancient aesthetics, old structures, and historical sensibilities. It is because of this rare combination of personal rootedness and intellectual depth that we find that Hardy became not just a poet but a careful and respectful preserver of folk traditions.

2.1 What Hardy Preserved?

A closer reading of Thomas Hardy's poetry reveals a remarkable range of folk elements carefully embedded within his verses.

First, folk songs and dances find authentic representation in poems such as "The Dance at the Phoenix," where Hardy reconstructs the energy and communal spirit of rural musical traditions with vivid accuracy.

Second, rural rituals and seasonal customs including harvest festivals, May Day celebrations, and community gatherings are lovingly documented in poems like "The May Queen" by Tennyson reflecting the cyclical and celebratory nature of village life.

Third, Hardy gave literary dignity to local dialects and the voices of ordinary rural people, most notably in poems like "The Ruined Maid," where the speech patterns and social realities of rural women are presented with honesty and respect.

Fourth, nature-based wisdom and the ecological knowledge of farming communities find their place in "In Time of the Breaking of Nations," where the simple act of a man harrowing clods is presented as more enduring than war and political upheaval.

Fifth, superstitions, beliefs, and oral narratives forming the invisible texture of community life are richly present in "Voices from Things Growing in a Churchyard," where the dead speak through the plants growing above them, echoing ancient folk beliefs about the continuity of life and nature.

Through, these poems we saw how Thomas Hardy literally acted as an active preserver instead of a passive recorder. Further readings, show that his poems makes the reader live those experiences and situations therefore keeping the emotion not behind the curtain rather right in front of the view. This way Hardy not only preserved a text but captured a cultural soul, ensuring that the emotional, relational, and human dimensions of community knowledge were never lost in the process of documentation. This is what the modern archival theories call as "contextual preservation". This, indeed sets up the stage that no doubt, Hardy can be and should be viewed as a framework for preserving our Indian traditional knowledge via AI in order to not to simply and coldly record it but emotionally and contextually preserved it.

3.Indian Knowledge Systems: Heritage, Crisis and the need for Preservation.

Now we begin the chapter that takes us a step ahead towards the concern of the paper. To have a brief understanding about the traditional knowledge of India, the crisis it faces, its importance and need for preservation. Through this we shall be able to complete the base for analysing how AI using Hardy's framework could actually help in saving from the slow death of a rich tradition.

3.1 What are Indian Knowledge Systems?

Indian Knowledge Systems represent a vast and diverse body of knowledge accumulated over thousands of years of civilizational experience. This includes Ayurveda and traditional medicine with its herbal remedies and holistic healing practices that has not just enriched the theory and practicals of Indians but has contributed globally. Folk literature and oral poetry comprising regional songs, ballads, and narratives passed through generations that has developed the identity of its people. Traditional ecological knowledge rooted in community-based agricultural and environmental practices with an immense importance towards nature and other fellow creations. Sanskrit manuscripts and ancient texts carrying philosophical, scientific, and literary heritage, tribal and indigenous knowledge encompassing unique community practices, rituals, and biodiversity understanding, and geographical knowledge reflected in region-specific crafts, cuisines, and cultural practices. Together these form the living intellectual and cultural soul of India and Indians.

3.2 The Crisis of Disappearance.

Now, while moving ahead towards realizing the issues that stand as a cause for the present crisis of disappearance of this rich culture, we also need to have a very brief look at what has happened. India with its in-depth rich traditional knowledge was colonized for about 190 years, whose in-depth overwhelming and suppressive trend could still be found in its essence. Furthermore, the era of rapid modernization and superficial approach leaves a very little space in the minds of youth to pause and question what they really do? Leading with this we find certain points below as a visible cause for this crisis.

- Urbanization and modernization pulling younger generations away from traditional communities and their inherited practices.
- Colonial legacy leaving centuries of indigenous knowledge systematically devalued, dismissed, and neglected.
- Oral transmission at risk as knowledge existing only in the memories of elders that disappears with them forever.
- Biopiracy by foreign corporations and institutions attempting to patent Indian traditional knowledge without consent or credit, with the deeply troubling cases of turmeric, neem, and Basmati rice standing as prominent examples.

- Absence of systematic documentation leaving vast bodies of knowledge existing informally without any institutional record or legal protection.
- Language loss as regional and tribal languages disappear, silently carrying entire knowledge systems into extinction along with them.

Each of these factors individually represents a serious threat. Together they form a crisis of civilizational proportions, one that demands urgent, sensitive, and community centered attention before what remains is lost forever.

3.3 Existing Preservation Efforts.

It is not that the responsible people have gone senseless, and don't take any measures to meet this crisis. In response to this issue, India has indeed taken certain important steps. "*The Traditional Knowledge Digital Library*" serves as a pioneering digital database of traditional knowledge, "*the National Manuscript Mission*" works toward digitizing ancient manuscripts, and "*Geographical Indications*" provide legal protection for region-specific knowledge products. However, these efforts remain insufficient given the enormous scale of the crisis. First, because the information is vast like an ocean therefore these steps taken prove to be small enough as they're confined to manual efforts. Second, the information preserved here remains a cold data with minimum touch of context and background emotions.

It is because of these things we ultimately realise the undeniably need for adapting one of the greatest modern developments that is Artificial Intelligence. But keeping in mind that the whole purpose of doing this work is to not just save information, but culture and tradition with the idea of its origin. So that, we might move ahead but tied with our roots.

3. AI as the New Archivist: Possibilities, Limitations and IPR Governance.

Artificial Intelligence brings remarkable possibilities to save from this crisis. It preserves knowledge at a scale impossible for human archivists alone by making cultural heritage globally accessible across geographical and linguistic boundaries, and reduces the permanent risk of loss through distributed digital storages. This is possible because it works across multiple languages and formats, and is able strengthen India's position in international intellectual property disputes by creating verifiable prior art records, further supporting the UN organisations and other various global partnerships. These contributions including others could be seen further in the current chapter.

4.1 AI's Capability as a Cultural Archivist.

Moving ahead we realise that just as Hardy employed his poetic sensibilities as tools of cultural documentation, Artificial Intelligence too today offers a sophisticated set of capabilities that collectively function as a modern archival instrument as it could be seen below.

- Natural Language Processing enables the transcription, translation, and analysis of oral traditions and regional texts, much like Thomas Hardy gave literary voice to the local dialects and rural narratives of Dorset.
 - Machine Learning identifies patterns and connections across vast cultural datasets, mirroring Hardy's ability to find the deeper threads connecting folk customs, seasonal rituals, and community beliefs.
 - Automated Digitization converts manuscripts, oral recordings, and visual artifacts into permanent digital formats, performing at scale what Hardy achieved through individual poetic documentation in his time.
 - Digital Repositories build organized and globally accessible knowledge archives, creating what Hardy's collected works essentially represented for Victorian folk culture.
 - Biopiracy Detection tools monitor and flag unauthorized patenting of traditional knowledge, defending communities the way Thomas Hardy's poetry defended the dignity and ownership of rural folk traditions.
 - Blockchain Integration authenticates ownership and ensures traceability of traditional knowledge records, providing the kind of ethical accountability that was always the moral foundation of Hardy's archival method of presenting the community first and then it's custom.
- Despite these remarkable capabilities, Artificial Intelligence is not without its limitations in the domain of cultural preservation. Just as no photograph can fully capture the soul of a living landscape that Hardy so deeply felt, AI too falls short in archiving a folk song's text without its *"rituals context and emotional resonance"*.

4.2 Hardy's framework as a saviour.

Further, adding to the preservative ways of AI on the pattern of Thomas Hardy, it should be verily noticed that his main focus was on the people first and then what they do. He represented community's voice rather and then talked over it. And it is because of this his preservation was based on his terms and the requirements of the preserved culture, not on the basis of some external dominant trend or agenda. Hence, today we find his poems more alive in terms of folk traditions when compared to his contemporaries.

Therefore, AI can meet its shortcomings based on this pattern itself. The fact that it might loose context and emotional backgrounds, indeed on considering Hardy's style the solution comes as an in-depth impartial education of AI. Because this way it would be easier to involve the

marginalized sections in their culture preservation which shall also prevent it from decontextualization and high and lows shall be taken cared based on their beliefs.

5.Conclusion.

The journey of this paper has been one of drawing a deeply meaningful parallel between two worlds separated by time but united by the same civilizational anxiety of losing what is most essentially human. Thomas Hardy stood in the middle of a disappearing rural England and responded with poetic sensitivity, community commitment, and humanistic depth. India today stands at a similar crossroads, watching its vast and irreplaceable traditional knowledge slowly fade against the pressures of modernization and globalization. Artificial Intelligence offers an unprecedented opportunity to address this crisis. However, just as Hardy understood that preservation without soul is merely documentation, AI preservation must be accompanied by robust Intellectual Property Rights protection to ensure communities are not robbed of what rightfully belongs to them. In this regard three principles must remain absolutely non-negotiable. First, Data Sovereignty, meaning communities must retain full control over their knowledge even after digitization. Second, Informed Consent, meaning no community knowledge should be digitized without the explicit participation and agreement of that community. Third, Benefit Sharing, meaning communities must rightfully benefit from any academic or commercial use of their archived knowledge. Ultimately, the most valuable archive is not the one that stores the most data, but the one that preserves the most humanity. And perhaps the most sophisticated algorithm is one that has learned from Hardy, that knowledge stripped of its human context loses not just its meaning, but its soul as well.

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