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Article

Human-cattle Relations in Selected Chinese News Discourse: A Corpus-assisted Ecolinguistic Analysis

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A B S T R A C T

In the context of modernity, profit-driven and unethical practices, such as artificially increasing beef weight and enhancing its visual freshness to meet consumer expectations, have led some traders to inject water into live cattle. Such practices not only violate animal ethics, undermine animal welfare, and disrupt species ecology but also prompt people to reconsider human–cattle relations in China. This study aims to explore 'human-cattle relations' in the Chinese context textually and visually, specifically, to examine the interspecies ethical issues involved in 'human-cattle relations' in China. This study draws on a self-compiled corpus of cattle representations in selected Chinese news discourse covering a period of six years (2020–2025) through the lens of the Hallidayan approach, Stibbe's ecosophy and Kress and van Leeuwen's visual grammar. A corpus-assisted and qualitative analysis was used to reveal more profound interspecies ethical issues. Qualitative findings further identify discursive patterns associated with industrial fatalism and technocratic optimism, whereby industrialized cattle farming is represented as a normalized pathway to economic development, while technocratic optimism is positively evaluated in relation to productivity and animal welfare. The results show that industrial fatalism and technocratic optimism can simultaneously shape the discursive representation of cattle welfare, with the former normalizing the inevitability of industrial exploitation, and the latter promoting technological solutions that appear to enhance animal well-being while leaving underlying structures of commodification largely unchallenged. The findings suggest that industrial fatalism and technocratic optimism frequently represent cattle as passive objects. The "water-injected live cattle" incident is not merely a cattle welfare issue, but also a problem concerning interspecies' ecological ethics and the imbalance in human-cattle relations.

I. INTRODUCTION

According to the report, cattle dealers transported cattle to the site every day and injected them with water to increase their weight and obtain excessive profits. It was estimated that nearly 50 litres of water were injected into each animal, increasing its weight by nearly 100 jin (approximately 50 kilograms). After being injected with water, the cattle were immediately transported to the Nancheng Branch of Dongguan Food Co., Ltd. The report further raised the following questions: How were the water-injected cattle from Dongguan able to enter a licensed slaughterhouse? Who was the water-injected beef sold to? (*People's Daily*, 2023).

As an interdisciplinary field combining ecology and linguistics, ecolinguistics investigates the dynamic interactions between language and ecological systems. Grounded in M.A.K. Halliday's foundational premise, language does not merely reflect the experiential world; it actively constructs, naturalizes, and mediates human perceptions

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of the surrounding world. The primary task of ecolinguistic inquiry is to uncover the underlying ecological philosophies, worldviews, and values embedded within discourse by studying how linguistic choices structure human understanding of non-human animals and environmental systems (Halliday, 1992; Haugen, 1972; Stibbe, 2021). This theoretical framework incorporates three major paradigms within the discipline: Einar Haugen's Haugenian approach, which metaphorically compares the interaction between a language and its speech community to that between a biological organism and its physical environment (Haugen, 1972); Halliday's non-metaphorical Hallidayan approach, which analyzes how specific lexico-grammatical structures discursively construct environmental realities and interspecies hierarchies (Halliday, 1992, 1994); and Arran Stibbe's "cognitive approach", which investigates the "stories we live by" to encourage ecologically beneficial discourse, critique destructive narratives, and reform ecologically ambiguous representations (Stibbe, 2021).

Animal welfare is a very important research issue in ecolinguistics. With the rapid expansion of the animal industry, people are increasingly concerned about animal welfare. In particular, for animals raised for food, increasing attention is being paid to both slaughter methods and their conditions prior to slaughter. Cattle are a key livestock species in China, with beef a relatively high-value source of meat. Compared with pork, beef commands a higher market price, shaped by husbandry practices, agricultural conditions, and supply dynamics, which together contribute to notable price fluctuations.

In the past, most cattle in China were primarily used as draught animals. It was not until the 1970s that systematic improvement of indigenous yellow cattle began, focusing mainly on five major breeds: Luxi cattle, Qinchuan cattle, Nanyang cattle, Jinnan cattle, and Yanbian cattle. In terms of breeding, Huaxi cattle represent the first beef cattle breed independently developed in China, while the Simmental breed has been the principal imported variety. At present, Simmental cattle account for the largest share in commercial beef farming enterprises. In fact, Huaxi cattle can be understood as an important branch of the Simmental breed, representing a specialized beef line derived from it. Although China ranks among the world's major beef-producing countries, its per capita beef consumption still falls short of the global average, currently reaching only 7.3 kg (*Guangming Daily*, 2023).

Understanding contemporary human–cattle dynamics requires examining the historical and socio-cultural evolution of bovine domestication in China. Archaeological and genetic evidence indicate that taurine cattle were introduced into northern China from West Asia during the late Neolithic period (approximately 4,500 years ago). By the pre-Qin period, cattle had become institutionalized within the traditional framework of the "Six Livestock" (liuchu 六畜), serving as essential draft animals for agricultural production, sources of food, and ceremonial sacrificial offerings. Over millennia, Chinese cattle populations evolved through the admixture of taurine and indicine lineages, embedding animals deeply within agrarian production systems, state governance, and symbolic cultural meanings.

Historically, cattle were revered in traditional Chinese agrarian culture as indispensable companions and draft partners in subsistence farming. However, the post-1970s expansion of agricultural modernization and market economies fundamentally reconfigured this relationship. Cattle have been systematically repositioned from mutual agrarian dependence into standardized units of production within an industrialized meat industry. Under this modern productivist logic, cattle are discursively reconstructed as economically productive and technologically manageable commodities, frequently marginalizing animal sentience and rendering animal welfare issues invisible.

Previous research mainly focuses on representations of non-human animals related to the omission of animals in discourse (Stibbe, 2012), the use of the relative pronoun "who" for referring to animals (Chau & Jacobs, 2021; Gilquin & Jacobs, 2006) and the personal pronouns "he/she" (Sealey & Oakley, 2013), the involvement of animals in the passive voice (Kahn, 2001), conceptual metaphors (Goatly, 2006), modal verbs (Sealey & Oakley, 2014), euphemisms (Trampe, 2017), puns (Poole, 2022), children's literature (Hookoomsing, 2021), a digital simulation game (Poole & Spangler, 2020), the representation of forest conservation practices in an Indonesian tribe (Prastio et al., 2023), how Okri's language techniques enhance the

agency of non-human elements, portraying them as active and deliberate participants within their ecosystem, using systemic functional linguistics and ecolinguistic analysis (Ogungbemi, 2024), and the animal as an independent presence, not merely as an object but as a possible subject of vision in cinema (Lunardi & D'Este, 2025).

In China's news discourse, intensive production is normalized as necessary and beyond meaningful challenge. Technocratic optimism refers to an ideological orientation that places strong faith in science, technology, and expert-led governance as positive forces capable of addressing social, economic, environmental, and ethical challenges. In ecolinguistic discourse, this orientation may contribute to the representation of intensive animal experimentation, genetic modification, and industrial farming as technological solutions to practical or production-related challenges. It may also render the potential suffering and interests of Non-human animals less visible when technological innovation is primarily evaluated in terms of its benefits to humans.

Although prior ecolinguistic scholarship has extensively examined non-human animal representations regarding the discursive omission or erasure of animals, grammatical choices such as relative pronouns and passive voice constructions, and conceptual metaphors in Western factory farming contexts, a significant research gap persists in the current literature. Existing scholarship remains overwhelmingly centered on Western economic and cultural settings, offering limited empirical insight into how official state-level news media in non-Western nations discursively construct livestock welfare amidst national agendas of rural revitalization, agricultural modernization, and poverty reduction. To address this gap, this study examines how 'human-cattle relations' are portrayed in a specialized corpus using a self-compiled corpus of 39 Chinese-language news reports from *People's Daily* (19) and *Guangming Daily* (20) covering the period from 2020 to 2025. The discursive construction of cattle and the ideological undercurrents influence these representations within the ecolinguistic framework. The primary research objective is to explore the textual and visual construction of human–cattle relations in the Chinese context and examine the interspecies ethical issues embedded within contemporary livestock reporting by answering two central research questions: (1) How are human–cattle relations represented in China's news discourse? and (2) How do industrial fatalism and technocratic optimism shape the discursive construction of cattle welfare in selected Chinese news discourse?

II. METHODS

Data

To examine human-cattle relations from an ecolinguistic perspective, this study employs a targeted mixed-methods approach combining corpus-based analysis with qualitative interpretation (Poole, 2022; Poole & Micalay-Hurtado, 2022; Poole & Spangler, 2020). Drawing on Hallidayan transitivity, appraisal theory, Stibbe's ecosophy, and Kress and van Leeuwen's visual grammar, the analysis focuses on how human–cattle relations are discursively constructed and how particular ecological values and ideologies are represented. A specialized corpus of 39 Chinese-language news reports was collected from *People's Daily* (19) and *Guangming Daily* (20) covering the period from 1 January 2020 to 31 December 2025. Both *People's Daily* and *Guangming Daily* are China's most important official media outlets; they have a wide audience, including government officials, intellectuals, entrepreneurs, students and other classes. The findings are interpreted within the specific context of the selected news reports rather than generalized to China's national news discourse as a whole.

Using the search term 牛 ("cattle") in article headlines, relevant Chinese-language news reports were retrieved from the official websites *people.cn* of *People's Daily* and *gmw.cn* of *Guangming Daily* through their search interfaces. The initial search yielded 85 items. These items were subsequently screened manually for topical relevance based on the following criteria: (1) the report primarily concerned cattle, cattle farming, cattle-related production, or human–cattle relations; (2) cattle constituted a central topic rather than being mentioned only incidentally; and (3) the report contained sufficient textual content for discourse analysis. Reports that were unrelated to cattle, contained only incidental references to cattle, or duplicated previously retrieved items were excluded. Republished reports or substantially identical versions of the same report were also removed to avoid over-representing particular

news events or sources.

The final Chinese corpus consisted of 39 news reports, comprising 16,256 tokens and 4,896 types, with a type/token ratio (TTR) of 0.301. The corpus was analyzed using KH Coder 3 (Higuchi, 2016, 2017). The use of 牛 ("cattle/cow/yak") in headlines was adopted as a transparent and reproducible retrieval criterion because the study focuses specifically on representations of cattle and human–cattle relations.

As illustrated in Figure 1, the co-occurrence network of "human–cattle relations" in Chinese-language news discourse was constructed by examining the contextual relationships among high-frequency lexical items, which served as the selection criterion. By integrating measures of statistical significance with patterns of textual co-occurrence, the approach makes certain that the network records important lexical connections in the conversation. The top sixty pairs of strongly co-occurring words, as determined by KH Coder 3, are the subject of the analysis. The Jaccard coefficient was used to determine co-occurrence at the paragraph level. Included were words with a minimum document frequency (DF) of 1 and a minimum term frequency (TF) of 10. The 60 word pairings with the strongest correlations were kept for examination after the Jaccard coefficients were normalized. Nouns, verbs, and adjectives are among the word classes that are filtered by POS; other word classes are not included in this study because of their minor importance.

Analytical frameworks and procedures

The analytical framework of this study is a combination of the Hallidayan approach, Stibbe's ecosophy and Kress and van Leeuwen's visual grammar. The transitivity system is the main content of the Hallidayan approach in ecolinguistics and the main semantic way of discourse construction. As a semantic system, the transitivity system is a means of representation of the experiential function in the ideational meta-function proposed by Halliday (1967; 1968). Halliday (1994) categorizes the meta-function into three types: textual function, interpersonal function, and ideational function. Appraisal resources are an expansion of the interpersonal function at the lexico-grammatical levels. The researcher will select the transitivity system and attitudinal resources as the analytical framework for this study.

The transitivity system centers on the process, participant, and circumstance components of clauses, dividing human experience into six process types: material, mental, behavioral, verbal, relational, and existential. As part of the Hallidayan strand of ecolinguistics, this framework helps reveal how discourse constructs and naturalizes social realities. The transitivity system from the perspective of ecolinguistics classifies world experience through grammar, differentiates the ecological attributes of experiential patterns, and helps to reveal the ecological characteristics of various participants, such as whether they are represented as "others" or objects with prominent passive characteristics.

A crucial component of functional grammar is the meta-function. Halliday (1994) categorizes the metafunction into three types: textual function, interpersonal function, and ideational function. According to Martin's theoretical framework (2005), Appraisal resources consist of three subsystems: Attitude, Engagement, and Graduation. Among them, Attitude is the core, while Engagement and Graduation serve Attitude, and each subsystem can be further subdivided. Through Appraisal resources, one can discern the speaker's intended attitudes, meanings, and values expressed in the language.

Attitudinal resources refer to the judgments and appreciations made towards human behavior, text, discourse, and phenomena after being influenced psychologically. Emotion (Affect), Judgment, and Appreciation are three subsystems under the Attitude system (Martin & White, 2005). Emotion is related to the field of psychology and is used to express the language user's personal emotional response to events. Judgment is linked to the field of ethics and involves evaluations of others and actions based on institutionalized social rules. Appreciation is associated with aesthetics and encompasses evaluations of natural objects, artifacts, phenomena, and the like (Martin & White, 2005).

The visual analysis draws on Kress and van Leeuwen's (2006) framework of visual grammar, which distinguishes representational, interactive, and compositional meanings. Representational meaning is examined through the depiction of non-human animals, their activities, and their relationships with other depicted elements. Interactive meaning is considered through visual

features such as camera angle and distance, where relevant, while compositional meaning is analyzed in terms of information value, salience, and framing. The visual findings are then interpreted through the lens of ecolinguistics (Stibbe, 2021) to explore how the representation of cattle may construct, reinforce, or challenge particular stories about human–cattle relations.

As Stibbe summarizes, the ecosophy for ecolinguistics is one word: Living! He outlined seven elements of this ecological view: valuing living, wellbeing, now and the future, care, environmental limits, social justice, and resilience, and they are of equal importance (Stibbe, 2021, pp. 14-15). Living, equality, harmony and sustainability will always constitute the ecosophy guiding the development of human–animal relationships (Yang, 2026).

RESULTS

Figure 1 shows the co-occurrence network of the corpus. This network visualization maps the semantic and discursive structure of China's beef cattle industry, with node size indicating frequency and colors representing sub-discursive clusters. The overall network reflects the development of the cattle industry, reflecting a utilitarian relation between humans and cattle.

The study employed a manual annotation procedure to examine the discursive representation of human–cattle relations in a specialized corpus of 39 news reports. A total of 710 clauses relevant to human–cattle relations were identified and annotated. The clause was adopted as the primary unit of analysis for transitivity analysis, while evaluative expressions within the selected clauses served as the units of analysis for Appraisal analysis.

The annotation was guided by Halliday's transitivity framework and Martin and White's Appraisal framework. For transitivity analysis, the selected clauses were classified according to process types. For Appraisal analysis, evaluative expressions concerning cattle and human–cattle relations were identified and categorized according to the relevant appraisal resources.

To ensure the reliability of the coding, an inter-coder reliability test was conducted. The author invited a PhD student as a second coder who was trained using the coding scheme, and 50% of the data were randomly selected for independent coding. The schemes for annotating the data are as followsreflected on Figure 2 and Figure 3:

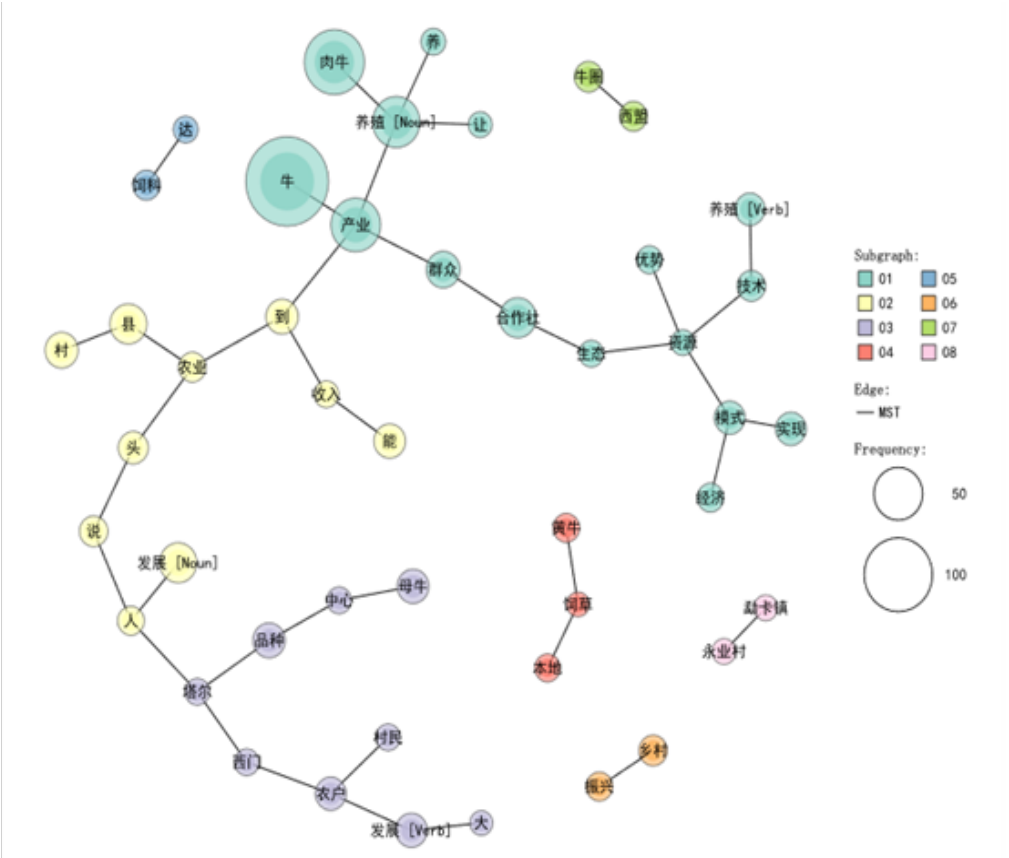


Figure 1. Co-occurrence Network of the Corpus

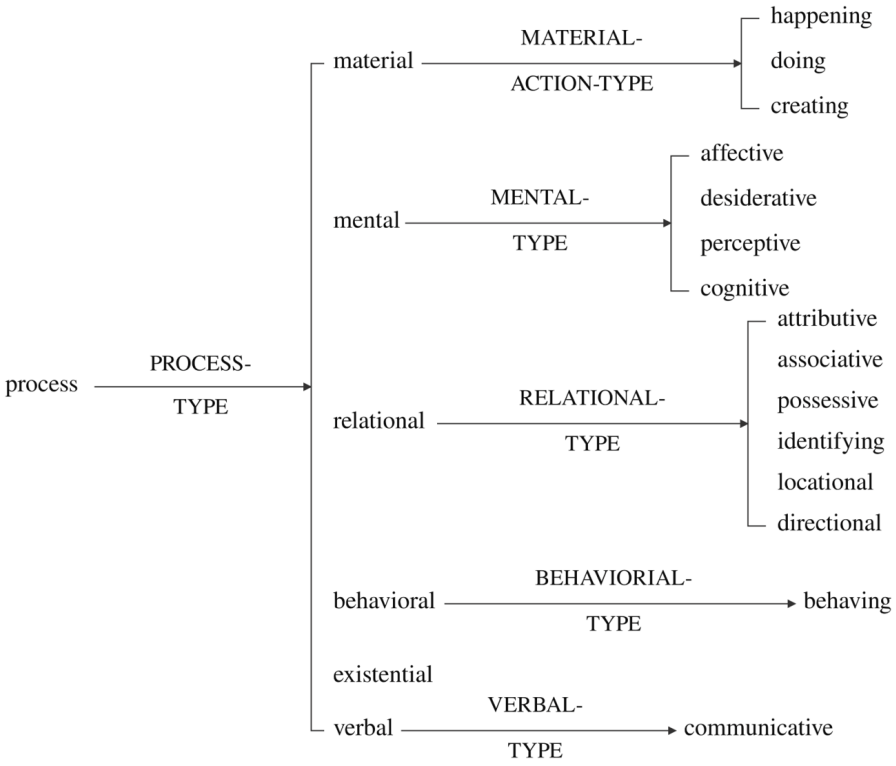


Figure 2. Scheme for process type annotating (Halliday, 1994; He et al., 2021)

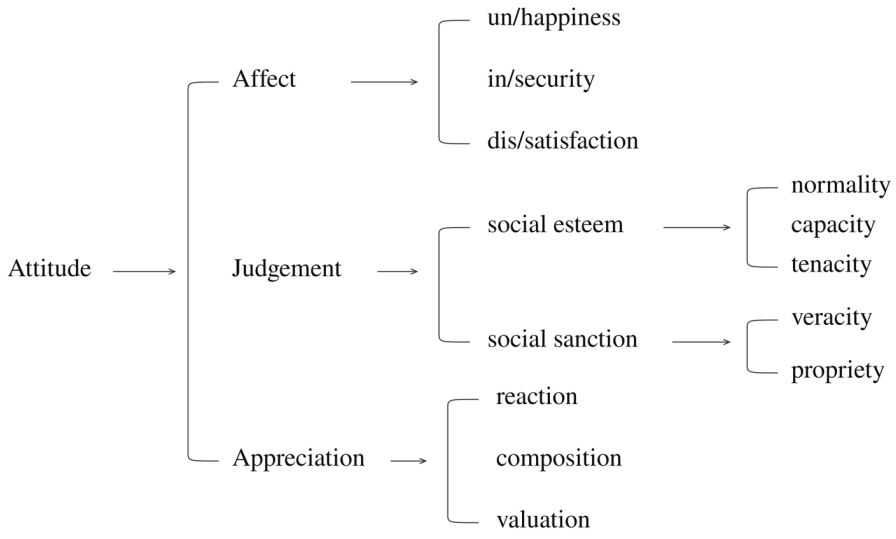


Figure 3. Scheme for attitude annotating

Then, Cohen's Kappa was calculated to assess the level of agreement. The result showed a Kappa value of 0.82, indicating a high level of agreement (Cohen, 1960).

$$\kappa = \frac{P_o - P_e}{1 - P_e}$$

Formula of Cohen's Kappa (P_o: observed agreement, P_e: expected agreement)(Cohen, 1960)

The study began by compiling a list of words that were frequently found in the "cattle corpus" using AntConc. A stopword list from Buckley et al. (1993) was used to remove non-content keywords from the data and avoid distorted results from frequently appearing but less important words (Sarica & Luo, 2021). The final coding was then checked and consolidated before the quantitative analysis, the results of which are shown in Tables 1 and 2.

The distribution of process types reveals a predominantly production-oriented representation of human–cattle relations in the sampled news discourse. Material processes account for the

Table 1. Distribution of Process Types and Main Aspects in Human–Cattle Relations in the Selected News Corpus

Process type	Frequency, Percentage	Main Aspects (frequency)
Material process	462, 65.1%	cattle's productive actions (96) cattle herders' farming practices (106) government's incentive measures (86) cattle's production capacity (84) advances in animal husbandry technology (90)
Relational process	116, 16.3%	policy support for the cattle industry (95) new models of beef cattle farming (21)
Behavioral process	10, 1.4%	cattle's manners (10)
Mental process	11, 1.5%	cattle herders' emotion (11)
Existential process	96, 13.5%	the output value of the cattle industry (96)
Verbal process	15, 2.1%	cattle herders' experiences of achieving prosperity through cattle raising (15)
Total	710, 100%	

Note. Percentages may not sum to 100% due to rounding.

Table 2. Typical Attitudes Towards Cattle in 'Human-cattle Relations' in Selected Chinese News Discourse

Appraising items	Affect	Judgement	Appreciation	Appraised
1. (音乐) 让奶牛放松 *(music helps the cows relax)*			+security	奶牛(cows)
2. 顺利产奶 *(produce milk smoothly)*		+capacity		奶牛(cows)
3. *"娇贵"("requiring careful tending")*			+valuation	奶牛(cows)
4. (日产奶) 最高的一头*(the highest-yielding cow in terms of daily milk production)*		+capacity		奶牛(cows)
5. 再次成功受孕 *(successfully conceived again*)			+capacity	能繁母牛(breeding cows)
6. 适应性强 、 耐粗饲 、 耐高寒 、 抗病力强 *(strong adaptability, tolerance to coarse feed, resistance to severe cold, and high disease resistance)*		+capacity		三河牛(Sanhe cattle)
7. 乳肉兼用型优良品种 *(an excellent dual-purpose breed for both dairy and beef production*)			+valuation	三河牛(Sanhe cattle)
8. *"老乡" ("fellow villager")*	+happiness			三河牛(Sanhe cattle)
9. 缺乏竞争力 *(lack competitiveness*)			-valuation	三河牛(Sanhe cattle)
10. 不压称, 长得慢, 育肥成本高 ,养殖数量越来越少*(are relatively light in weight, grow slowly, have high fattening costs, and are being bred in decreasing numbers*)			-valuation	三河牛(Sanhe cattle)
11. 体格大 、生长快、产肉性能高、肉质好 *(large body size, rapid growth, high meat yield)*		+capacity		西门塔尔牛(Simmental cattle)
12. 肉质好 *(excellent meat quality)*			+valuation	西门塔尔牛(Simmental cattle)

largest proportion (462 instances, 65.1%), mainly concerning cattle herders' farming practices, cattle's productive actions. This pattern foregrounds agricultural activities, institutional support, and technological development, positioning cattle farming within a broader framework of agricultural modernization. Relational processes (116 instances, 16.3%), particularly those concerning policy support for the cattle industry, further highlight the role of government policies in facilitating industrial development, while existential processes (96 instances, 13.5%), all related to the output value of the cattle industry, emphasize its economic significance. In contrast, behavioral (10 instances, 1.4%) and mental processes (11 instances, 1.5%) occur relatively infrequently, suggesting that cattle's behavioral characteristics and cattle herders' emotional experiences receive comparatively limited attention in the identified categories. Verbal processes (15 instances, 2.1%), which concern herders' experiences of achieving prosperity through cattle raising, further associate cattle farming with economic improvement and rural livelihoods. These patterns suggest that

human–cattle relations are primarily constructed through the lenses of production, agricultural development, and economic value, potentially foregrounding cattle's instrumental significance within agricultural systems. However, whether this orientation marginalizes animal welfare or ecological considerations requires further examination of the linguistic contexts and representations of cattle in the corpus.

The evaluative patterns in the table provide partial support for industrial fatalism by presenting productive efficiency and market competitiveness as taken-for-granted standards for valuing cattle. Expressions such as "(日产奶) 最高的一头 *(the highest-yielding cow in terms of daily milk production)*," "再次成功受孕 *(successfully conceived again)*," and "乳肉兼用型优良品种 *(an excellent dual-purpose breed for both dairy and beef production)"* positively evaluate animals through their productive and reproductive contributions, whereas *"*缺乏竞争力 *(lack competitiveness)"* and "育肥成本高 *(high fattening costs)"* devalue commercially undesirable characteristics. This contrast privileges an industrial logic in which cattle are expected to deliver increasing economic returns, potentially narrowing the space for alternative human–animal relations. When productivity-oriented evaluations coexist with references to leisure and *"*老乡*" ("fellow villagers")*, this raises the question of whether animal welfare is valued independently or solely as a way of increasing production. When surrounding stories portray expert-led breeding and management as workable solutions serving the interests of regular farmers, these patterns may also lead to technocratic optimism.

Based on the data analyzed, there are five prominent themes on cattle. The five themes were identified through a combination of corpus-assisted analysis and qualitative coding of transitivity types and attitudinal resources. Initially, co-occurrence analysis identified clusters of frequently associated terms and contextual patterns across the corpus, offering an early map of recurrent themes in human–cattle relations. We then qualitatively analyzed relevant concordance lines and news articles to evaluate contextual meanings and identify recurring semantic patterns. By integrating these quantitative co-occurrence results with qualitative findings, we established five thematic categories grounded in both statistical corpus patterns and their contextual nuances. Ultimately, analyzing these five themes reveals complex social implications that extend far beyond traditional cattle-breeding practices.

Highlighting Cattle as Productivity

At the core, high-frequency nodes such as *"*牛*" (cattle),* 产业*(industry), "*养殖*" (breeding),* and *"*肉牛*"(beef cattle)*, together with social actions including "养*"(breed) and "*让*"(promote/help/make)* and social actors including *"*群众*" (the public)* and *"*合作社*" (farmers' cattle-breeding cooperative)*, form a tightly connected hub, highlighting a productivity-centered discourse and reflecting that cattle breeding plays a significant role in China's rural revitalization strategy and in boosting farmers' income and enhancing the living standards of farming households. Among them, beef cattle in particular reflect the current dominant role of cattle as a source of protein and an economic livestock species, with human–cattle relations primarily characterized by a consumption-based relationship.

Extract 1.

> 近年来，五河县武桥镇充分利用资源优势和产业优势，把肉牛养殖作为群众增收致富的"引擎"，不断扩大肉牛养殖规模，进一步拓宽农民增收致富渠道，带领群众奔向"牛日子"。（《五河县武桥镇:发展"牛"产业奔向"牛日子"》，人民日报，2024-11-18)
>
> In recent years, Wuqiao Town in Wuhe County has made full use of its resource and industrial advantages by positioning beef cattle farming as an "engine" for increasing local incomes. By continuously expanding the scale of beef cattle production, it has further broadened channels for farmers to grow their income and led local residents toward a more prosperous life—the so-called "better days driven by cattle." ("Wuqiao Town in Wuhe County: Developing the 'Cattle Industry' and Moving Toward a Better Life ('niu-driven days')", *People's Daily*, November 18, 2024).

Extract 1 illustrates how cattle farming is discursively constructed as a driver of rural economic development through transitivity patterns, evaluative expressions, and metaphorical framing (Goatly, 2006). The local administrative authority, represented by *"*五河县武桥镇*" (Wuqiao Town in Wuhe County)*, functions as the Actor in a series of material processes (Halliday, 1994), including *"*利用*" (utilize), "*扩大*" (expand), "*拓宽*" (broaden),* and *"*带领*" (lead)*. These processes foreground human institutional agency in organizing and expanding

cattle production, while cattle themselves are not represented as independent Actors. Instead, they are incorporated into the nominalized economic activity *"肉牛养殖" (beef cattle farming),* which is positioned as an *"引擎" (engine)* for increasing local incomes. This metaphor constructs cattle farming as an instrumental force driving economic development, reinforcing its productive and economic significance. For appraisal resources, expressions such as *"资源优势" (resource advantages), "产业优势" (industrial advantages),* and *"增收致富" (increasing income and achieving prosperity)* invoke positive appreciation of cattle farming through its association with economic value and development. The expression *"牛日子" (niu-driven days),* a wordplay linking cattle with improved livelihoods, further reinforces this positive evaluation by presenting cattle farming as a pathway to prosperity. These evaluative choices construct an affirmative narrative of agricultural expansion and economic progress.

This framing may reflect an anthropocentric orientation, as the economic contributions of cattle farming are foregrounded while the experiences, welfare, and agency of cattle remain unaddressed in the extract. However, this does not necessarily demonstrate that the news report explicitly endorses the exploitation of cattle. Rather, it suggests that the representation privileges the instrumental value of cattle farming over other possible understandings of human–cattle relations. When considered alongside similar patterns across the corpus, such representations may contribute to the discursive legitimization of cattle's commodification within the selected news reports. The long history of cattle domestication in China has consistently embedded cattle within a production-oriented discursive framework, thereby obscuring their status as sentient beings with individual survival needs and erasing the slaughter process of cattle raised for beef (Stibbe, 2012).

Highlighting Technocratic Enhancement of Cattle

Cattle welfare is increasingly mediated through technological interventions, which foreground comfort and efficiency while obscuring structural conditions of exploitation. Surrounding this core, the green cluster links *"资源" (resources), "技术" (technology), "生态" (ecology),* 模式*(model)* and *"经济" (economy)*, suggesting a narrative of modernization and sustainable development through technocratic and ecological framing. Technocratic optimism refers to confidence in science, technology, and expert-led governance as drivers of progress. In contrast, Morozov's (2013) concept of technological solutionism critiques the tendency to reduce complex social problems to technical challenges that can be solved through technological interventions. Thus, this study uses technocratic optimism to identify positive representations of technological development, while drawing on technological solutionism to examine whether such representations oversimplify complex problems or overlook broader ethical and ecological considerations. 'Human-cattle relations' are finally reduced to a technocratic relationship; due to the influence of various forms of extreme ecological politics, humans are increasingly compelled to resort to technological solutionism.

Extract 2.

> 从西北农林科技大学获悉，该校国家肉牛改良中心主任昝林森团队联合相关科技企业, 成功研发"中国黄牛1号"50K育种芯片并正式对外发布。该液相芯片是团队继2021年1月成功开发首款中国黄牛高密度SNP (单核苷酸多态性) 固相芯片并打破肉牛育种芯片国际垄断后,在牛分子育种技术领域取得的又一重大突破。(《牛分子育种领域获重要突破》，光明日报, 2025-07-22)。
>
> It was reported that Northwest A&F University's National Beef Cattle Improvement Center, led by Professor Zan Linsen and his research team in collaboration with relevant technology enterprises, has successfully developed and officially released the "Chinese Yellow Cattle No. 1" 50K breeding chip. This liquid-phase chip represents another major breakthrough in the field of bovine molecular breeding technology. It follows the team's earlier achievement in January 2021, when they successfully developed the first high-density SNP (single nucleotide polymorphism) solid-phase chip for Chinese yellow cattle, breaking the international monopoly on beef cattle breeding chips. ('Major Breakthrough Achieved in Bovine Molecular Breeding', *Guangming Daily,* July 22, 2025).

This extract presents cattle as highly technologized biological resources within a technocratic and nationalist discourse of scientific advancement. The focus is placed on institutional actors (a leading university, research center, and expert team) and technological artefacts such as *50K*育种芯片*(50K breeding chip), SNP(*单核苷酸多态性*)*固相芯片*(SNP(single nucleotide polymorphism) solid-phase chip)* and 液相芯片 *(liquid-phase chip)*. This focus constructs cattle primarily as genomic data to be optimized. The repeated emphasis on 突破 *(breakthrough)*, 成功

研发 *(successfully developed)*, and 打破.....国际垄断 *(breaking international monopoly),* the last two of which are material processes, frames bovine reproduction and genetics within a competitive innovation narrative, linking animal breeding research to national scientific strength and global technological sovereignty (Forte, 2025).

This discourse intensifies the abstraction and commodification of cattle, where their bodies are fragmented into molecular units for manipulation and improvement. The human–cattle relations are thus mediated through biotechnology, shifting from direct use and consumption to a deeper level of genetic control and engineering, further reinforcing an anthropocentric ideology in which non-human animals are instrumentalized for scientific and economic goals. The beef cattle industry is imagined as a system that can be continuously optimized, and animals are incorporated into an "improvable future."

Through the systematic backgrounding of ecological interdependence and the erasure of animal agency, this discourse constructs a technocentric ecological imaginary that legitimizes human dominance and reconstitutes nature as a domain for technological manipulation, rather than a multispecies space of co-existence (Stibbe, 2012).

Highlighting Rural Revitalization and Poverty Alleviation

The yellow cluster connects *"农业" (agriculture), "县" (county), "村" (village),* 收入*(income),* and 发展*(development),* reflecting a policy-oriented discourse of rural revitalization. The beef cattle industry, including the yak sector, has fully developed into a distinctive pathway for rural and impoverished regions to achieve prosperity, with cattle being strongly embedded in a narrative of industrial development and poverty alleviation.

Extract 3.

同时, 建立牛冻精改良站点14个, 社会化服务站点7个， 牛冻精改良操作技术人员28人,缩短配种周期, 提高了母牛生产效能, 从养殖环节大大的降低了养殖户配种成本。如今,镇沅通过引良种、建基地, 育龙头、促加工, 抓销售、创品牌, 积极引导群众规模化、产业化发展肉牛养殖产业， 村民养牛的信心也越来越足, 肉牛养殖之路越走越宽, 走出了一条肉牛产业带动群众增收致富的振兴之路。(《云南镇沅: 肉牛养殖让产业振兴"牛"起来》，光明日报，2023-09-27)。

At the same time, 14 cattle frozen semen improvement stations and 7 socialized service stations have been established, with a team of 28 technical personnel specializing in artificial insemination. These measures have shortened the breeding cycle, improved the reproductive efficiency of cows, and significantly reduced breeding costs for farmers at the production stage. Today, Zhenyuan has, by introducing improved breeds, building production bases, fostering leading enterprises, promoting processing, strengthening sales, and creating brands, actively guided local residents toward large-scale and industrialized development of the beef cattle industry. Villagers have grown increasingly confident in cattle raising, and the path of beef cattle farming has continued to broaden, forging a revitalization pathway in which the beef cattle industry drives income growth and prosperity for local communities ('Yunnan Zhenyuan: Beef Cattle Farming Boosts Industrial Revitalization,' *Guangming Daily*, September 27, 2023).

This extract constructs a highly technocratic and development-oriented discourse in which cattle are framed as key components within an optimized production system. The detailed quantification of infrastructure, e.g., 改良站点 *(improvement stations),* 服务站点 *(service sites),* and 技术人员 *(trained technicians)*, foregrounds a logic of scientific management and control, where reproductive processes are accelerated *(*缩短配种周期*, shortened breeding cycle)* and biological capacities are redefined as measurable 效能*(efficiency)* and 成本*(costs)*. In this framing, cows are discursively reduced to productive units whose value lies in enhanced output and cost-effectiveness, while their sentience and welfare remain backgrounded (Stibbe, 2021). At the same time, the broader narrative expands from the micro-level of breeding technologies to a macro-level industrial strategy, emphasizing standard policy tropes such as scaling up, industrialization, branding, and supply-chain integration. This discourse constructs the beef cattle sector as a comprehensive development apparatus that links technological intervention with rural revitalization and income generation. The repeated emphasis on farmer confidence and an increasingly "broad" development path further naturalizes this model as both desirable and inevitable. The discourse exemplifies commodification and instrumentalization, embedding cattle firmly within an anthropocentric prosperity narrative, where their primary significance is economic, and alternative ecological or ethical considerations are largely absent (Forte, 2025).

Rural revitalization and poverty alleviation have long been major issues in Chinese society, in which non-human animals play a significant role. Compared with other poverty alleviation industries, animal husbandry is characterized by a relatively short production cycle and rapid economic returns, enabling impoverished households to obtain cash income within a comparatively short period of time and thereby achieve the policy objective of rapid poverty reduction. According to the World Bank's Poverty and Equity Brief: China (October 2024), approximately 240.6 million people in China were living below the upper-middle-income poverty line of US$6.85 per person per day (2017 PPP) in 2021, representing 17.0% of the population (World Bank, 2024). This socioeconomic context is relevant to the present study because news representations of cattle raising as a means of generating income and promoting rural prosperity can be examined against the broader context of poverty reduction and rural development. However, this statistic serves only as contextual background; the analysis of how cattle raising is linguistically associated with prosperity is based on the corpus evidence.

The stories we live by frequently legitimize human development while obscuring the suffering of non-human animals. As an important national strategy in China, rural revitalization reflects the Confucian people-oriented philosophy of development (Huang & Zhao, 2021). However, when human development comes into conflict with the living conditions of animals, anthropocentric development paradigms tend to subordinate animals to human interests.

Highlighting Standardization of Cattle Breeds

The purple cluster, including *"品种" (breeds)* and *"西门塔尔(牛)" (Simmental)*, emphasizes genetic improvement and standardization, pointing to scientific breeding practices.

Extract 4.

能不能西门塔尔牛的优势来弥补三河牛的劣势，让家乡品种发挥更大的经济效益呢？在当地畜牧专家的帮助下，我开始着手三河牛品种改良。经过多年杂交繁育，我们的三河牛饲料吸收率逐渐提高，生长速度明显增加。原来成年三河牛一般1000斤左右，改良后体重可达1300~1400斤，每头牛的售价也提高到16000~17000元，大大提升了养殖效益。(《从警校生到新农人，他的乡村振兴路"牛"在哪?光明日报, 2023-05-06)

Could the advantages of Simmental cattle be used to offset the shortcomings of Sanhe cattle, allowing the local breed to generate greater economic returns? With the support of local livestock experts, I began working on improving the Sanhe cattle breed. After years of crossbreeding, the feed absorption rate of our Sanhe cattle gradually improved, and their growth rate increased significantly. Previously, an adult Sanhe cow typically weighed around 1,000 jin; after improvement, its weight can reach 1,300–1,400 jin. The selling price per head has also risen to 16,000–17,000 yuan, greatly enhancing farming profitability ("From Police Academy Student to New Farmer: Where Lies the 'Strength' of His Rural Revitalization Path?", *Guangming Daily*, May 6, 2023).

This extract constructs a technocratic and improvement-oriented discourse in which cattle are framed as optimizable assets within a developmental logic of rural revitalization. The opening rhetorical question presupposes a deficit in the local Sanhe cattle and legitimizes intervention through the superior traits of Simmental cattle, thereby establishing a hierarchy between "local" and "improved" breeds. The narrative then foregrounds expert-led, science-based practices—crossbreeding, enhanced feed absorption, and accelerated growth—through which animal bodies are rendered measurable, controllable, and improvable. Quantification (改良后体重可达*1300~1400斤after improvement, their weight increases from ~1,000 to 1,300–1,400 jin;* 售价也提高到*16000~17000元, price increases to 16,000–17,000 yuan*) reinforces a productivist logic, translating biological change directly into economic value. This discourse exemplifies commodification and instrumentalization: cattle are primarily represented as economic units whose worth lies in efficiency and market return, while their sentience, ecological roles, and breed-specific cultural meanings are backgrounded. At the same time, the "improvement" narrative naturalizes genetic intervention and aligns it with a broader prosperity storyline, embedding cattle within an anthropocentric framework of optimization and profit.

This standardization of cattle breeds transforms cattle from living beings into biologically optimized production units. More fundamentally, it reflects how the narratives we depend on have constructed cattle as products that can be modified and upgraded, thereby obscuring their autonomy as sentient beings. This has evidently become a common-sense assumption embedded in the stories we live by (Stibbe, 2021): that people can mold

and manipulate animals through crossbreeding and selective breeding for economic purposes, and "our welfare—since the dawn of time—has been intertwined with the lives of animals" (Derry, 2003).

Highlighting Yellow Cattle, Genetically Optimizable Indigenous Chinese Cattle

Meanwhile, the red cluster associates *"黄牛" (Yellow Cattle), "饲草" (forage),* and *"本地" (local)*, foregrounding Chinese Yellow Cattle, which, as a representative indigenous breed of domesticated cattle in China, have played an important role in agricultural production, providing humans with a variety of products such as meat, milk, and leather (Chen, 2026).

Extract 5.

> 昝林森团队运用生物信息学，对以秦川牛为代表的分布于我国西北、华东、华中、华南、西南、东北等6个地理区系的地方黄牛品种特异性位点进行精准筛选，并整合多年来在生长、肉质、繁殖及抗病等性状相关功能位点的研究成果，成功研发"中国黄牛1号"50K育种芯片，该芯片具有检测成本低、选择准确性高等特点，实现中国黄牛快速、精准、高效选育，为地方黄牛品种保护、定向选育和高效利用提供了强有力技术支撑，也为我国肉牛种业高质量发展注入了新的动力。(《牛分子育种领域获重要突破》，光明日报，2025-07-22)
>
> By applying bioinformatics, the team led by Linsen Zan conducted precise screening of breed-specific genetic loci in indigenous yellow cattle—represented by Qinchuan cattle—across six major geographical regions in China (Northwest, East, Central, South, Southwest, and Northeast). Integrating years of research on functional loci related to traits such as growth, meat quality, reproduction, and disease resistance, the team successfully developed the "China Yellow Cattle No.1 50K Breeding Chip." This chip features low detection costs and high selection accuracy, enabling rapid, precise, and efficient breeding of Chinese yellow cattle. It provides strong technical support for the conservation, targeted breeding, and efficient utilization of indigenous cattle breeds, while also injecting new momentum into the high-quality development of China's beef cattle breeding industry ("A Major Breakthrough in Molecular Breeding of Cattle," *Guangming Daily*, July 22, 2025).

In Extract 5, material processes such as *"筛选(screened)," "整合(integrated),"* and *"研发(developed)"* position researchers as active agents, while cattle are represented through genetic loci and commercially desirable traits. The chip subsequently *"提供...支撑 (provides... support)"* and *"注入...动力 (injects...momentum)"*, foregrounding technological agency. *"成功 (successfully)"* invokes positive Judgement of researchers' capacity, whereas *"检测成本低 (low detection costs),"* *"选择准确性高 (high selection accuracy),"* and *"快速、精准、高效 (rapid, precise, and efficient)"* express positive Appreciation of the technology. These resources support technocratic optimism by presenting molecular breeding as advancing both conservation and productive utilization. They also privilege industrial development as a desirable goal, although they do not independently establish its inevitability or demonstrate industrial fatalism.

This extract constructs a strongly technoscientific discourse in which indigenous cattle are repositioned as genetically optimizable resources within a national breeding strategy. Through the application of bioinformatics, the work of Linsen Zan and his team reframes diverse local breeds—represented by Qinchuan cattle—as collections of 品种特异性位点 *(breed-specific genetic loci)* distributed across multiple geographical regions. This genomic framing abstracts cattle from their ecological and cultural contexts, reducing them to analyzable biological data. The development of the *China Yellow Cattle No.1 50K Breeding Chip* (*"中国黄牛1号"50K*育种芯片) further intensifies this logic by enabling *rapid, precise, and efficient breeding of Chinese yellow cattle* (中国黄牛快速、精准、高效选育) based on economically valuable traits such as growth rate, meat quality, reproduction, and disease resistance. This discourse exemplifies a shift from traditional husbandry to data-driven biological engineering, where living animals are rendered as selectable and editable units within a technological system. While the text emphasizes benefits such as conservation and efficiency, it simultaneously embeds cattle within a framework of instrumentalization and genetic optimization. This reflects a broader ideological alignment between biodiversity management and industrial productivity, in which conservation is closely tied to enhanced utilization, and biological diversity is valued primarily insofar as it can be technologically managed and economically mobilized (Banoub et al., 2021).

Overall, industrial fatalism is examined in this study through recurring linguistic patterns that

represent the industrialization of cattle farming as necessary, desirable, or seemingly inevitable. These patterns include expressions of necessity, positive evaluations of industrial expansion, the marginalization of alternative development approaches, and the backgrounding of cattle's agency and welfare. For instance, Extract 1 employs the metaphor of an *"引擎" (engine)* and expressions such as *"扩大肉牛养殖规模" (expanding the scale of beef cattle farming)* to frame industrial expansion as a means of achieving rural prosperity. While this extract primarily supports a productivist interpretation, its significance for industrial fatalism depends on whether similar representations recur alongside expressions of necessity and the exclusion of alternative perspectives elsewhere in the corpus. Accordingly, industrial fatalism is interpreted as a broader discursive tendency rather than an ideological conclusion derived from any single extract.

The metaphor of the "old yellow cattle spirit" positively evaluates individuals who embody the culturally valued qualities associated with yellow cattle, such as diligence, endurance, obedience, and selfless dedication, and legitimizes these qualities, while simultaneously naturalizing the instrumental positioning of cattle within anthropocentric agricultural discourse.

Images of 'Human-Cattle Relations' in China's News Discourse

Industrial fatalism and technocratic optimism reshape the semantic configurations of cattle; visual images also embed cattle within a confined, continuously upgraded and transformed discursive framework. The four images presented in Figures 4–7 were purposively selected for qualitative visual analysis following the textual analysis of the corpus. Rather than constituting a statistically representative sample, these images were chosen to illustrate salient patterns of cattle representation identified in the textual findings. The selection focused on images that were directly relevant to human–cattle relations and provided sufficient visual detail for examining participant representation, camera angle, and composition. The visual analysis was intended to complement the textual findings by exploring how particular representations of cattle are visually constructed and potentially reinforced.



Figure 4. Standardized Cattle Housing at the 500-head Pinan Cow Breeding Farm in Xinye County. *Guangming Daily*, 22/07/2022



Figure 5. In the Calf-Rearing Area of Ningxia State Farms Helan Mountain Dairy Co., Ltd., Calves Prepare to Feed. *Guangming Daily*, 08/11/2022

These two images construct a highly managed, industrialized representation of cattle production in which animals are spatially organized, standardized, and tightly integrated into human-controlled systems. Figure 4—showing standardized cattle housing in which the cows are aligned in parallel rows and feeding in a synchronized manner against the backdrop of the long, symmetrical cattle shed—emphasizes efficiency, uniformity, and large-scale production, visually reinforcing the idea of cattle as orderly, productive units within a mechanized agricultural environment. The architecture (metal roofing, concrete flooring, feed troughs) foregrounds human design and control, while the animals themselves appear passive and routinized, and it illustrates how Pinan cows are conceptualized in the intensive farming industry and animals are discursively constructed en masse as "livestock," rather than recognized as sentient individuals with intrinsic worth (Stibbe, 2021, p. 320).

Figure 5 shows a calf-rearing area, wherein calves are subjected to disciplinary practices that prepare them for regulated feeding routines (Foucault, 2008), and a high camera angle suggests powerlessness of the subject (Kress & van Leeuwen, 2006). The high camera angle positions the viewer as symbolically more powerful than the represented cattle, thereby constructing an asymmetrical power relationship between the viewer and the represented participants. This visual positioning may reinforce an anthropocentric perspective in which cattle are represented as subordinate to human observation and control. Figure 5 presents individual calf hutches arranged in a neat grid, suggesting biosecurity, precision care, and early-stage management; each calf is isolated yet systematically monitored, reflecting a more individualized but still highly regulated approach to animal rearing.

Together, the images discursively construct cattle not as sentient beings but as components within an optimized production system, aligning with narratives of modernization, technological progress, and rural industrial development, while simultaneously backgrounding issues of animal agency and welfare (Stibbe, 2012).



Figure 6. In a Cloud-based Ranch, Dairy Cows are Producing Milk on a Rotary Milking Machine, *People's Daily*, 03/04/2024



Figure 7. Wagyu Cattle Use an Automatic Sensor-activated Body Brush for "Massage." *People's Daily,* 24/07/2025

Figures 6 and 7 construct an image of technologically advanced and welfare-oriented cattle farming through both visual and verbal resources. In Figure 6, the rotary milking system, clean indoor environment, and orderly arrangement of dairy cows foreground efficiency, mechanization, and large-scale industrial production, while simultaneously framing the process as controlled and harmonious. The accompanying description—highlighting a "cloud-based ranch" and even suggesting cows "work" to music—adds an anthropomorphic and positive evaluative layer (Martin & White, 2005), presenting the animals as participants in a modern, optimized system rather than subjects of exploitation.

Similarly, Figure 7 depicts Wagyu cattle interacting with an automatic sensor-activated body brush, discursively framed as "massage," which evokes notions of comfort, care, and animal welfare. While this representation foregrounds the potential benefits of technological innovation for cattle well-being, it also reflects the increasing technological mediation of human–cattle relations in modern animal husbandry. This reveals a tension between animal welfare and industrial productivity, as technological interventions may simultaneously enhance cattle comfort and support more efficient livestock management. However, the image alone does not establish whether animal welfare or productivity constitutes the primary motivation for adopting such technologies.

Together, these images contribute to a discourse that emphasizes technological sophistication and animal well-being, constructing an idealized narrative of the cattle industry. However, this representation also selectively foregrounds moments of comfort and productivity while backgrounding or erasing less visible aspects (Stibbe, 2012), such as the constraints of industrial farming and pre-slaughter conditions, thereby aligning with a broader profit-driven logic that normalizes cattle as productive resources under the guise of enhanced welfare.

IV. DISCUSSION

The findings reveal tensions between economic development, technological advancement, and cattle welfare in the selected Chinese news reports. Drawing on the Hallidayan approach, Kress and van Leeuwen's visual grammar and Stibbe's ecosophy, the analysis suggests that cattle are

frequently represented through their economic and productive functions, while their agency and sentience receive comparatively limited attention. The predominance of material processes (n = 462, 65.1%) highlights the emphasis on productive activities, human management, and technological interventions. However, this quantitative pattern does not independently establish anthropocentrism; its ecological significance emerges from the specific participant roles, evaluative expressions, and representations identified through qualitative analysis.

The findings also suggest that productivist representations may contribute to the normalization of industrialized cattle farming. Positive evaluations of economic growth, production efficiency, and technological innovation construct cattle farming as a desirable pathway to rural prosperity, demonstrating evaluation language can be weapons of provoking and legitimating animal killing (Lei, 2025). These patterns can be interpreted in relation to industrial fatalism, particularly where industrial expansion is presented as a necessary or unquestioned development trajectory. Nevertheless, the evidence more directly supports the identification of productivist discourse, while stronger claims concerning industrial inevitability require further textual evidence. This distinction reflects Stibbe's (2021) emphasis on critically examining the stories through which language shapes ecological relationships.

Technocratic optimism constitutes another important dimension of the findings. Representations of breeding technologies and automated cattle-care facilities foreground the potential of technological innovation to improve productivity and animal welfare. However, these representations also reveal tensions between technological care and the continued economic instrumentalization of cattle (Tuyttens et al., 2022).

Theoretically, this study contributes to ecolinguistic research by integrating transitivity and appraisal resources with ecological interpretation to examine how human–cattle relations are linguistically constructed. Practically, the findings suggest that news reporting could adopt more ecologically responsible representations by acknowledging cattle's sentience, welfare needs, and intrinsic value alongside their economic contributions (Steffensen & Fill, 2014). Ecolinguistics represents a shift from the analysis of ecological discourse to the ecological analysis of discourse (Alexander & Stibbe, 2014).

V. CONCLUSION

Across both verbal and visual representations, the cattle industry is constructed as having significant strategic importance for China's modernization, particularly in relation to rural revitalization and poverty alleviation. However, little attention is paid to cattle welfare in its true sense. The research shows that industrial fatalism and technocratic optimism can simultaneously influence the construction of cattle welfare, with the former normalizing the inevitability of industrial exploitation, and the latter promoting technological solutions that appear to enhance animal well-being while leaving underlying structures of commodification largely unchallenged. The findings resonate with international research on the discursive construction of farmed animals. Glenn (2004) demonstrates how factory farming discourse legitimizes industrial practices through linguistic strategies that shape public perceptions of animals, while Stibbe (2012) highlights how animals are frequently erased as sentient beings through linguistic representations. Similarly, the present study reveals that cattle are predominantly constructed through their economic and productive functions, with their agency and welfare concerns often backgrounded. Furthermore, Cook and Sealey (2018) examine how language reflects and shapes human attitudes towards animals. Their research explores how animals are represented as companions, commodities, pests, or prey, and how these representations express particular values and influence human–animal relationships. They combine corpus analysis with qualitative discourse analysis to investigate these patterns. However, unlike these studies, which primarily examine Western contexts, the present research situates these discursive tendencies within China's rural development and agricultural modernization narratives. This contextual distinction contributes to international ecolinguistic scholarship by demonstrating how anthropocentric representations of livestock may be reproduced through locally specific economic and technological development discourses.

The research contributes to a close examination of human–cattle relations from an

ecolinguistic perspective. Together, industrial fatalism and technocratic optimism sustain a discourse in which the structural conditions of cattle exploitation are normalized, while selective technological interventions are foregrounded as evidence of improved welfare (Forte, 2024). Therefore, the news discourse examined in this study predominantly represents human–cattle relations in terms of economic utility and technological management, potentially reinforcing anthropocentric perspectives that position cattle primarily as resources for human benefit.

Let us revisit the live cattle water-injection incident. It is precisely the stories we live by that have embedded cattle within the framings of productivity, technocratic enhancement, rural revitalization and poverty alleviation, standardization, and genetic optimization, while cattle as sentient beings are largely erased.

This study is based on a specialized corpus of 39 news reports drawn from selected Chinese state-level newspapers. Although the corpus allows for a focused qualitative examination of the discursive representation of cattle, its relatively small size and restricted range of sources limit the generalizability of the findings. Therefore, the results should be interpreted as patterns identified within the selected news reports rather than as representative of China's news discourse as a whole. Future research could incorporate a larger and more diverse corpus, including regional newspapers and other media outlets, to explore variations in the representation of cattle across different news contexts.

ETHICS STATEMENT

This study analyzed publicly available news texts and images and did not involve human participants or animal experimentation. Ethical approval was therefore not required.

CREDIT AUTHOR STATEMENT

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DECLARATION OF COMPETING INTERESTS

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

AI USE STATEMENT

The authors used Grammarly to assist with language editing, including improving grammar, clarity, readability, and sentence structure. All scientific content, analyses, interpretations, and conclusions were developed by the authors. The authors carefully reviewed, revised, and verified all AI-assisted suggestions and take full responsibility for the accuracy and integrity of the final manuscript.

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