

Domain-driven Documentation: The Case of Landscape

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Abstract

It is becoming increasingly evident that the field of language documentation and the documentary multimedia resources it produces rely on expanding their relevance and usability to disciplines beyond linguistics in order to increase their chances of being sustainable in the long term. This paper argues that more attention should be paid to the needs and interests of such disciplines in language documentation schemes. One way of doing so is to set out from fundamental domains of human experience in designing documentation programs, domains which are of immediate concern to disciplines such as geography, biology, history, anthropology, and so on. Particular focus is placed on the domain of landscape, explored in two documentation programs coordinated by the author. In addition to providing clear interdisciplinary arenas of inquiry, such domain-driven approaches also offer excellent opportunities for efficient collection and construction of the comprehensive records of linguistic practices stipulated by current documentation initiatives.

1. Background

Conventional language documentation strives to create comprehensive records of the linguistic practices of speech communities (Himmelman 1998: 166; cf. Gippert et al. 2006). In practice, this involves collection and analysis of as wide an array of language genres as possible. Indeed, this has been a general and fundamental principle since language documentation was first promoted as a discipline in the late 1990s and continues to shape the priorities of funding programs and thus the agendas of projects. Implicitly, and sometimes explicitly, any narrowing down of the documentary objective has been viewed as problematic for the overarching goal of comprehensive documentation. The reason is obvious: documentation agendas driven by specific theories or subareas of linguistics will inevitably place emphasis on specific linguistic levels, categories, or structures, or on specific genre types which are convenient for getting to any such levels, categories, or structures. Clearly this would be at the expense of comprehensive documentation, for which the priority should be to capture all aspects of language with extreme urgency, as languages are rapidly dying out.

But conventional, comprehensive language documentation has a paradoxical downside: it, too, is narrow. The broad collection of language genres may cater well to a wide range of linguistic interests and approaches, but without further consideration given to the content of a documentary corpus, such a resource will be of limited use to the non-linguist. In fact, it runs the risk of being dreadfully restricted. A biologist, geographer, or historian interested in indigenous knowledge and belief systems will be lucky to

easily find anything of analytical use in a corpus collected only according to the ideal of a comprehensive record of linguistic practices. This limitation is particularly problematic because it seriously restricts the reusability of these documentary resources and thereby hampers their future development. It is not a secret that interest in secondary exploitation of existing language documentation corpora has so far been lukewarm, at best. Designing them to become interdisciplinary meeting places and workspaces, rather than just language repositories, is one way to ensure sustained interest into the future. However, this would seem to require some reassessment of how documentary projects and resources are conceived. In particular, greater attention would need to be paid to the interests and requirements of other disciplines, with potential effects on the fundamental principles of documentation.²

In this short paper I will discuss the potentials of language documentation driven by domains which are relevant to disciplines other than linguistics. I will reflect on the interdisciplinary aspects and experiences of two major schemes of documentation which I have been fortunate enough to be involved in, both of which can be characterized as ‘domain-driven’.³ Pursuing domains is not unusual in language documentation. Indeed, funding programs have supported a number of documentation projects which have used this approach with great success.⁴ Still, the approach has so far not been clearly formulated or theorized, nor promoted, as a viable method for making language documentation at large more efficient, scientifically interesting, and outreaching, and while continuously evolving.

2. Domain-driven documentation

Here, a domain is to be understood as an experiential sphere of universal relevance which is highly likely to be a target of human representational strategies. Such domains do not presuppose language-specific or cross-linguistic applicability in the sense that they can be categorially identified in every language and be straightforwardly compared across them. Indeed, they need not (and frequently do not) surface as well-defined and basic semantic domains in individual languages. But they encompass phenomena which are so fundamental and universally relevant that every human, and every human community, will be likely to have some means of representing them

2 Holton (2012) provides a more upbeat assessment of the usability of existing archives for disciplines beyond linguistics, citing examples of recent interest among non-linguists in ethnobotanical, historical, and musicological aspects of legacy language collections in the Alaska Native Language Archive. What these examples clearly show is that language documentation has the ability to attract an interdisciplinary audience and that further efforts to involve other disciplines at an early stage in the documentation process are likely to increase the relevance and usability of the resulting resources.

3 This paper builds on a presentation given by the author at the 3rd International Conference on Language Documentation and Conservation, Honolulu, February 28 – March 3, 2013. I am grateful to Susan Penfield and the National Science Foundation for inviting me to this event. The research programs reported in this paper received generous support from the Max Planck Society, the Volkswagen Foundation’s DOBES program, and the European Research Council under the European Union’s Seventh Framework Programme (FP7/2007-2013) / ERC Grant agreement n° 263512. I also gratefully acknowledge the support of the Lund University Humanities Lab. Special thanks to Clair Hill, Nicole Kruspe, Konrad Rybka, and two reviewers of LD&C for their comments on an earlier version of this paper.

4 Aung Si’s project Documentation of the language and biological knowledge of the Solega (ELDP, <http://elar.soas.ac.uk/deposit/0150>), Maia Ponsoy’s A culturally informed corpus of Dalabon (ELDP, <http://elar.soas.ac.uk/deposit/0071>), and Hans-Juergen Sasse et al.’s Iwaidja project (DOBES, <http://dobes.mpi.nl/projects/iwaidja/>) are some of the many examples of highly successful, domain-driven documentation. Programs targeting ethnobiology and music are particularly well represented.

in language and thought, and will find the subject matter to be of central importance to their lives. This makes them particularly interesting not only because they provide convenient dimensions for in-depth language exploration (see further below), but also have specific potential for cross-linguistic comparison of representational strategies.

Much work in cognitive and linguistic anthropology relies on such domains. For example, a long tradition of research on folk categories has focused on domains like plants and animals (Berlin 1992; Atran & Medin 2008), color (Berlin & Kay 1969; Kay et al. 2010), and anatomy (Brown 1976; Majid et al. 2006). More recent work in the language and cognitive sciences (especially out of the Language and Cognition Group at the Max Planck Institute for Psycholinguistics) has extended the cross-cultural comparison to include domains such as space (Levinson 2003; Levinson & Wilkins 2006), landscape (Burenhult 2008a; Mark et al. 2011a), and the senses (Levinson & Majid 2014), as well as event-based domains like material destruction (Majid & Bowerman 2007), caused motion (Narasimhan & Kopecka 2012), and reciprocity (Evans et al. 2011).

Modern language documentation initiatives are of course aware of the significance of such basic domains as highly interesting and relevant targets of documentation, especially since they are often closely associated with endangered indigenous knowledge systems of various kinds (cf. Evans 2009). For example, the contributions in the *Oxford Handbook of Linguistic Fieldwork* (Thieberger 2012) cover a range of areas suitable for documentary attention, from astronomy and music to food and mathematics, and underline their potential for interdisciplinary collaboration.

But the language documentation community faces two major challenges in this regard. First, how does one reconcile a thematically wide-ranging approach with the prescribed comprehensive documentation of linguistic practices and genres without losing further depth? Clearly, any project aiming to cover as many genres as possible in as many domains as possible runs the risk of becoming superficial, to linguists and non-linguists alike. Second, how does one reconcile the documentary goal with the intellectual ambitions of the collaborating disciplines? Unless there is something to gain, why would the non-linguist invest time, energy, and brainpower in language documentation? And unless the collaborating disciplines are allowed to define aspects of the documentary agenda, how will linguists be able to make the most of the collaboration? So far, interdisciplinary collaborators have mainly served as auxiliaries, and their participation has hardly produced significant scientific game changers in their home disciplines. I will argue here that documentation agendas, which set out from a specific domain, are apt to deal with both of these challenges, and below I list some major advantages of, and justifications for, this approach to language documentation.

First, domain-driven documentation is conceptually convenient for the researcher and, in particular, for his or her language consultants. As mentioned, domains (as defined here) are typically cognitively and linguistically accessible and relevant to speakers, and they are coherent and interesting topics of conversation (whereas, say, serial verb constructions or phrase-level prosody are less likely to be of community-wide interest). They therefore tend to form natural ontologies or dimensions for scientific inquiry in the field, into which one can go quickly in-depth, and around which different analyses and data types can be organized at leisure. Importantly, domains are excellent for maximizing community involvement in the research process, and they even allow consultants to take the intellectual and procedural lead. They are also more likely to attract future community

interest in the resulting documentary resource(s). Needless to say, these characteristics make for an efficient research program and the possibility of collecting large amounts of data in a short time. So even if the domain as such is not one's primary research interest, it may still well serve as one's best gateway to the relevant data.

Second, a seemingly narrow domain is not necessarily at odds with the principle of 'comprehensive record of linguistic practices'—quite the opposite. Chosen and delimited with care, a domain-driven agenda can be perfectly capable of (and even ideal for) accommodating a wide variety of communicative events and data types, from elicitation and interviews, exclamations and conversations, to stories, myth, ritual, poetry, and song. Again, a domain-driven agenda may in fact be the most efficient way of getting to many of these genres, and reaching the goal of a comprehensive record of linguistic practices. Similarly, domains harbor structural and semantic phenomena of relevance to the linguistic system as a whole, and offer lines of inquiry which are culturally entrenched and likely to provide exciting new perspectives on the language and culture. They have the potential to offer those scientific 'scoops' of which language documentation is in such need.

Third, an explored domain can form a suitable underpinning for exploration of other domains. Domains are of course not conceptually monolithic and will have connections to other aspects of community experience, leading naturally into other culturally relevant phenomena. For example, a documentary agenda with a focus on plants and animals can be regenerated to include, e.g., subsistence techniques, food and eating, perception, ritual and cosmology, place and landscape, and so on. Thus, as a starting point for driving, regenerating, and diversifying a documentary agenda in culturally embedded ways, domains have particular potential.

Fourth, domain topics are often immediately relevant to other disciplines. This is because scientific branches and fields typically operate along similar fundamental dimensions of human experience. Life forms and biotopes are dealt with by biologists and ecologists, landscape by geographers, human motion by biomechanists, food by nutritionists, and so on. Domains therefore represent arenas which facilitate interdisciplinary communication and collaboration. Accordingly, they may also be our best chance of exploiting external expertise to enrich documentation programs and regenerate and expand documentation as a field.

Finally, domains are eminently documentable in their own right, often urgently so. The indigenous ontologies and knowledge systems which tend to associate with domains often have a more critical level of endangerment than the languages themselves. For example, in processes of acculturation, assimilation, modernization, displacement, and environmental degradation, traditional knowledge of the environment is usually the first to go. For any discipline with an interest in recording human diversity, this aspect of disappearing intangible heritage is just as important as the linguistic systems.

This reasoning may seem intuitive and unremarkable—as noted, much modern documentary work is already carried out more or less according to such principles. But the fact is that the domain-driven approach has so far not been clearly formulated or theorized, nor promoted, as a viable method for conducting efficient, high-yield language documentation of relevance far beyond linguistics as such. The following sections outline our experiences of documentation in the context of the domain of landscape.

3. Landscape: A fundamental domain?

The geophysical environment (i.e. ‘landscape’) shows all the signs of being a domain of fundamental concern to human existence and experience, and is thus very promising as a frame for language documentation. Every member of our species inhabits a landscape, and landscapes have a profound influence on our lives—how we subsist, move around, find our way, and make our home. Landscape forms a constant scene for our actions, thoughts, and beliefs. It provides us with large and immovable entities and surfaces, with spatial and temporal constancy and large-scale three-dimensional complexity, thereby forming a very distinct conceptual domain with its own spatial properties. Landscape is the spatial backdrop for cognitive development in children. It was also the spatial backdrop throughout the cognitive evolution of our species. We have special brain systems for remembering individual places (Burgess et al. 1999) and for distinguishing landmarks from other kinds of places (Janzen & van Turenout 2004). So, with the possible exception of the human body, it is difficult to imagine a domain more fundamental to human cognition.

But, despite its universal character and relevance, landscape has the additional interesting quality of being highly variable. Thus, landscapes vary as to their profile, geology, hydrology, and vegetation. Their features can be hilly or flat, concave or convex, solid or soft, arid or soaked, open or forested. Deserts, rainforests, arctic icescapes, oceans, mountain meadows, steppes, savannahs, and the constructed landscapes (or ‘cityscapes’) in which more than half of humanity now lives, are just some examples of landscape diversity. Humans are unique as a species in having colonized all of these geographical and ecological niches. Human cognition and language have therefore had to confront and represent an astounding diversity of spatial backdrops. The brain systems which handle our memory for places and identification of landmarks must be flexible and general enough to map onto features which can be highly specific to a particular environment. That a fundamental domain like landscape is so variable implies that it is a rewarding area for the study of variation in human representational systems. It is special in that it places a demand on human language and cognition not only for universal attention, but also for maximal plasticity in representation.

These and other characteristics make landscape a candy store for linguistics. For example, language is seriously put to the test when it comes to the delimitation and lexical labeling of geographical entities, since such entities seldom have clear boundaries, with interesting repercussions for conceptualization in general. Furthermore, landscape is an interesting domain for the identification of structured sets of lexicon, semantic fields, and relations, with possible grammatical reflexes and consequences. Landscape is also a fundamental scene for proper naming (place names) and offers opportunities to study how such naming is ontologically related (or not) to common nouns in the form of terms for geographic features. In addition, motion verbs, locative verbs, topological relations, spatial frames of reference, deixis, metaphor, loanwords, and a number of other semantic and grammatical categories and phenomena, are advantageously explored in a landscape context.

Importantly, however, our current understanding of landscape categorization suggests there is little evidence for a universal, linguistically definable and recurring semantic domain that we can call landscape (Burenhult & Levinson 2008). That is, not every language shows language-internal evidence in the form of lexical ‘unique beginners’ or

relations, or structural patterns, which form systems that neatly correspond to the realm of physical geography. Instead, languages vary tremendously as to their approach to the domain. Some do indeed treat it as lexically fundamental, and have systems of basic terminology organized under an overt generic category of ‘land’ or ‘landscape’. For others, however, linguistic representation of landscape is secondary in the sense that other, landscape-external linguistic dimensions form the primary means of mapping the domain, e.g., metaphor drawn from other domains (Burenhult 2008b), or patterns of word formation characteristic of the language system as a whole (O’Meara & Bohmeyer 2008). The one landscape-related linguistic category which so far appears to show the greatest degree of universality and stability across languages is that of place names—these are potentially a candidate category for a cross-linguistically valid definition of the domain (Burenhult, in progress a). But even place names vary enormously in their structural, semantic, and referential properties.

Again, however, all languages are forced to deal with landscape in some way or other, and in that sense the domain is certainly fundamental. And the variation in how languages cope with landscape makes it a particularly interesting observatory for exploring linguistic representation.

4. ‘Landscape-driven’ documentation

This section describes aspects of landscape-related documentation on the basis of work carried out in two research programs: the language documentation project *Tongues of the Semang*,⁵ supported by the DOBES program 2005–2011, and *Language, Cognition and Landscape (LACOLA)*,⁶ funded by the European Research Council 2011–2016, both coordinated by the author. The experiences conveyed are predominantly from my own fieldwork among the Jahai, an Austroasiatic-speaking group of rainforest foragers in the Malay Peninsula.

4.1 Conceptual and procedural rewards In our projects, landscape has provided a convenient baseline for the collection and organization of documentary data. First, the inherent spatial properties of landscape offer an immediate and highly intuitive ontology for organization of data of any type. Every data point (such as the location of a video recording or an elicitation session) can be given Global Positioning System (GPS) coordinates, situating all parts of a data set in relation to each other in large-scale space.⁷ Whether or not a particular type of data pertains directly to landscape, it is still always spatially identifiable and accessible for spatial analysis, e.g., in Geographic Information Systems (GIS) of different kinds. So, even if data collection is not primarily targeting landscape as such, a spatially tagged dataset will be of potential use to anyone interested in landscape or spatiality at large. Spatial coordinates are therefore an invaluable form of metadata (see, e.g., Berez 2013; cf. Gawne & Ring 2016). The idea that landscape is an ever-present backdrop to human experience certainly applies to data organization experience as well.

⁵ <http://dobes.mpi.nl/projects/semang/>

⁶ <http://projekt.ht.lu.se/lacola>

⁷ One exception is legacy data whose exact place of collection has not been recorded and whose geo coordinates are therefore unknown.

Second, landscape has been a reasonably uncomplicated domain to work with in the sense that its representational categories usually refer to phenomena which have magnitude and permanence and are perceptually of easy access. In one respect, this makes it a far less problematic domain to explore referentially than plants and animals, for example, whose correct identification is notoriously challenging and time-consuming for the obvious reason that real referents are usually not readily available (although semantic boundaries are typically less clear in landscape than among life forms). However, documenting landscape has required a higher degree of mobility on the part of the researcher and consultants, compared to some other domains.

Third, in my experience, landscape and places are evident and constantly relevant topics of conversation between the researcher and community members, forming a natural dimension for documentary inquiry. Consultants have quickly grasped the topic and format of questions and, provided they have the knowledge, have typically quantified the categories spontaneously by coming up with new exemplars (especially landforms, place names, and motion verbs). This has enabled a very efficient pursuit of categorical and knowledge systems, and the mutual conceptual structure it has afforded to the researcher and consultant has formed a basis for other aspects of linguistic inquiry and documentation.

4.2 Linguistic practices: Data types, genres In the Jahai context, the landscape topic has lent itself very well to the collection of a number of different data types involving a range of communicative events at different levels of formality, structuredness, and spontaneity. First of all, landscape is a constantly relevant scene of reference in day-to-day conversation, even without prompting. Human activities, experiences, and impressions are ubiquitously discussed against a backdrop of named places, locations, landforms, and, especially, watercourses. Thus, any conversational data will be relevant for studies of landscape representation, and, conversely, landscape and place reference will be central to any analysis of conversation.

Similarly, structured narratives of various kinds are firmly anchored in landscape. Hunting and travel stories, as well as life histories, are always tied to different locations and movement between them. Creation myths are inextricably hooked to every named place, since each place name is eponymous with the creation being whose body transformed into the area or landform in question. Each named place is also associated with a song.

Furthermore, landforms and named places serve as informative locations for on-site interviews and elicitation sessions pertaining to various aspects of expertise and language, from lexical and spatial distinctions to historical, ecological, and cosmological knowledge.

This means that landforms and named places have shown great potential to form the underlying structure for collecting systematic data sets of many types and genres. For (and within) each location (and there are hundreds), the linguist can document conversation, stories, a creation myth, a song, associated knowledge and memories, lexical categories and systems, and so on. If our Jahai experience is anything to go by, domain focus need not be at the expense of documentation of a wide variety of linguistic practices. On the contrary, setting out from a baseline of place and landscape has proved to be an effi

cient method for quickly diversifying data collection and creating a large and systematic data set in a short period.

4.3 A basis for exploring other domains As it is such a conceptually fundamental domain, landscape forms the backdrop for a range of other domains worthy of in-depth documentation, and can provide natural inroads into them. The research programs reported here explore two such connected domains. One is the subsistence targets and techniques of Jahai foraging (the major focus of the *Tongues of the Semang* project). The Jahai basic classification of resources involves three biotope categories which are essentially landscape categories: rivers, forest canopy, and forest floor. All targets of Jahai foraging, be they plants or animals, belong to either of these categories. Subsistence techniques and their associated lexicon are similarly based on this tripartite system (Levinson & Burenhult 2009; Burenhult, in progress b). Consequently, in this case, landscape categories are categorially interlocked with both the ethnobiological classification strategy and the techniques used for extracting resources.⁸

The second connected domain is human locomotion, also primarily explored in the Jahai context. Jahai has a set of motion verbs which encode the landscape features on which the movement takes place, and whether the movement is lengthwise or crosswise (e.g., along vs. across watercourse, along vs. across hillside, etc.; see Burenhult 2008b). These verbal categories map directly onto the landforms labeled by nouns and are in fact highly informative about Jahai landscape categorization and understanding. While this subset of motion verbs is firmly anchored in landscape, others with similar structural and semantic properties are not, e.g., a set of semantically specific tree-climbing verbs (Burenhult 2013a). The landscape motion verbs here provide a stepping stone into a whole new domain of human activity which only partly overlaps with landscape.

5. Interdisciplinary perspectives

A number of disciplines have a long tradition of interest in landscape, such as anthropology, archaeology, environmental psychology, philosophy, and cognitive geography (see, e.g., Bender 1993; Hirsch & O’Hanlon 1995; Tilley 1994; Bell et al. 1996; Mark et al. 1999; and Smith & Mark 2001). The nascent linguistic attention to the domain promises to introduce a variety of new questions and perspectives of inquiry for such disciplines. In particular, there is a growing interest among geographers in the cross-linguistic variation in geographical ontology and conceptualization, and the challenges that this variation poses to issues of geographical scientific classification and existing Geographic Information Systems (Mark et al. 2007; Derungs et al. 2013; Wartmann & Purves 2014).

This should strike a chord with core concerns of the language documentation community: GIS are typically developed according to a Western understanding of landscape, forcing an imposed universal ontology onto indigenous names and categories. The ontological mismatches are bound to result in inter-cultural misunderstandings, and imposed systems are certain to put indigenous practices in peril. Documenting ontological variation

⁸ A related example of cross-domain connections is explored by Ewelina Wnuk in her PhD thesis on the relationship between the language of perception and the domain of life forms among the Maniq of southern Thailand. This work builds on her involvement as research assistant in the *Tongues of the Semang* project (Wnuk & Majid 2014; Wnuk 2016).

and developing linguistically and culturally attuned applications of GIS will facilitate inter-cultural communication about spatial representations, and can strengthen indigenous practices and efforts to safeguard them. Here, geographers have taken important steps towards an interdisciplinary agenda: Mark & Turk (2003) and Mark et al. (2007) propose a new ethnoscience of landforms, ‘Ethnophysiography’, and Turk et al. (2012) provide a geographical elicitation guide for field linguists.

The LACOLA project investigated and documented the relationship between language, thought, and landscape in several diverse and endangered language settings (<http://www.lu.se/lacola>). One of its aims was to identify and explore interesting points of connection between geography and field-based linguistics. This was enabled by close collaboration with David Mark’s and Andrew Turk’s Ethnophysiography team and involved a range of methodological and theoretical considerations, as well as joint fieldwork on Navajo (Athapaskan, southwestern United States) and Manyjillyjarra (Pama-Nyungan, Western Desert, Australia). Major points of theoretical discussion included the challenges of defining a landscape domain (cf. Mark et al. 2011b), the basicness of categories across languages as reflected in basic vs. complex terms for landforms, and the ontological relationship between generic landform terms and proper names in the form of toponyms. While these issues only directly pertained to parts of the project’s program of documentation, the exchange resulted in a highly refined descriptive agenda for the individual languages studied by the project (see, e.g., Huber 2013, in press; Rybka 2014, 2016). Importantly, the results not only enhanced the linguistic description and documentation but also spoke directly to the intellectual concerns of the collaborating discipline.

The interdisciplinary discussion within the project also concerned methodology, and especially the pros and cons of Geographic Information Systems as tools for linguistic data collection, analysis, and documentation of indigenous categories. The limitations of Vector GIS (with its closed set of three geometrical categories: points, lines, and polygons) was a major concern, not least considering the potential risk of misrepresentation of such categories. Project case studies piloted various aspects of such GIS application, targeting different linguistic categories for data collection in the field with handheld GPS computers (e.g., place names, landforms, and motion in large-scale space; Burenhult et al., in progress).

The challenges notwithstanding, GIS is a promising tool not only for providing a meta-structure for organizing documentary materials (see §4.1), but also for collecting, understanding, and visualizing indigenous linguistic categories and knowledge systems. Such indigenously informed GIS representations also have potential as analytical environments for investigating a range of linguistic practices pertaining to place and space (Burenhult 2013b).

Furthermore, LACOLA’s domain-driven research program created opportunities for collaboration with still other disciplines with a vested interest in landscape, namely landscape architecture and environmental psychology. Drawing on the project’s access to diverse cultural settings and associated linguistic expertise, a subproject coordinated by landscape architects Caroline Hägerhäll and Åsa Ode Sang investigated human landscape preference from a cross-cultural perspective. Previous preference studies suffered from a sample bias towards Western populations (cf. Henrich et al. 2010), and the project offered a first opportunity to test landscape preference across a culturally and ecologically diverse set of populations (Hägerhäll et al., in progress).

5. Conclusions

The main advantage of domain-driven documentation is its ability to structure the documentary endeavor along culturally embedded yet universally pertinent dimensions of direct relevance and access to both researchers and communities. I have argued here that domain-driven documentation is not only an acceptable way of doing language documentation, but in fact also a particularly efficient and rewarding method for meeting our documentary aims. It is culturally informed; it satisfies the requirements of comprehensive language documentation; it has the potential to produce significant scientific discoveries; and it can be of immediate interest to other disciplines. This last capacity is momentous, because such interest significantly increases the reusability of documentary resources and provides crucial incentives for sustaining and further developing them in the future.

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