12 *Spatial representations of island worlds*

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'Where are you going?'
'From whence do you hail?'

These are English translations of everyday greetings commonly exchanged among consociates living in Pacific Island societies.[1] They elicit in response placenames, directional indicators or relational positions and facilitate a continual process of keeping track of one another's movements and activities within culturally constructed territories. Masquerading as simple conversational openings or polite social acknowledgements, these discursive mechanisms have vital, potentially serious interactional consequences (Duranti 1994). No less is at stake in these exchanges than positioning oneself in recent moments in terms of cosmological, social and material orders.

Locating oneself or others in territorial webs of significance is not unproblematic. Nor is study of the significance of places and spatial orientation straightforward. In contemporary anthropology both space and place are contested notions. The world's populations are taking shape as often in diasporas and doctrinal allegiances as in localised communities. However paradoxical, it may be this very tension between locale and identity that has re-awakened anthropological interest in the connections between the physical world and its human occupants. Whatever the impetus, perspectives on space and place are rapidly multiplying in contemporary scholarship (Basso 1996; Bennardo 1996; Bloom, Peterson, Nadel & Garrett 1996; Feld & Basso 1996; Gupta & Ferguson 1992, 1997; Levinson 1992, 1996; Senft 1997; Stewart 1996).

The present volume contributes importantly to this effort in two major regards. It adopts a regional perspective on cultural topography. An Oceanic orientation to space and place is proposed. The premise here is that properties of island geography, Oceanic linguistic devices and Pacific culture histories offer candidate tenets for spatial reckoning and landscape

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construction. These resources are selectively adapted and developed in local settings. The result is a series of particular systems in which landscapes are given local meaning, location and direction uniquely configured; and yet which ultimately draw on a set of features attributable to patterns in Pacific island life. This volume is the second collection to include a focus on spatial analyses in Oceania. The initial publication (Senft 1997) is somewhat broader including Austronesian languages from Tonga to Madagascar as well as non-Austronesian languages of Papua New Guinea and Irian Jaya. However, comparing the Austronesian data and contributing authors' observations for Oceania and Indonesia, both books support an argument for regional tendencies evidenced in spatial coordinate systems, grammars, house and village designs, and broader significances of place. As the first world area to receive such attention, Oceania should serve as a valuable precedent for stimulating comparative study within other geographical or cultural groupings.

The book also contributes by demonstrating the advantages of combining linguistic, cognitive and ethnographic approaches to spatial analyses. This emphasis on a multiplicity of data sources converges with the spirit in which Senft (1997) compiled his earlier volume calling for an interdisciplinary approach to space in order to enable adequate comparative study while simultaneously providing the details of specific spatial logics. Bennardo's collection shows that as independent lines of evidence are combined the potential to identify alternative logics increases. The possibility is strengthened that complexities of socio-spatial reference will be recognised in alternative principles, repertoires of designs and locational devices specific to expressive modes, domains or strategic interests. In larger, comparative frameworks, triangulating complementary data sources sharpens scholarly assessment of fundamental issues such as the relativity/universality of human-space interactions, the autonomy of syntax, or regional patterning.

In order to develop implications from this current volume and to consider a general conclusion the chapters need to be seen to constitute a common project. The shared endeavour here is to reveal for the Austronesian peoples of Oceania significant processes and logics by which three-dimensional space is constructed: culturally, linguistically and/or cognitively. This effort integrates the diverse aims of recent anthropological approaches to space and place by focusing on the mechanisms for co-constructing with topography, the logics, landmarks and strategies that embue social life with local meaning. Structural approaches emphasise frames of reference, perceptual salience and cultural values in outlining the coordinates of a spatial system. Practice approaches emphasise principled arrangements of space in activity or artefact design and the strategic manipulation of these spatial dimensions in social interactions.

Bennardo's volume, building on Senft's (1997) before it, offers an holistic approach unifying space and place as mutually constitutive in the essential meaning-making activities of human life. Chapters connect people and their geography by tying perceptual salience to the construction of conceptual worlds, prioritising frames of reference put to use in distinct activities, suggesting the complementarity of speech, music, gesture and other nonverbal expressive systems for co-creating local contexts, uncovering cosmological orders in mundane affairs and artefacts, as well as recognising regional patterns in a diversity of spatial grammars and cultural practices. I turn now to the specific contributions of the book with a view toward ultimately revisiting these general issues and reflecting on where we go from here.

Chapters two to five focus on linguistic expressions for representing relations in space. Austronesian languages are shown to provide complex and overlapping lexico-grammatical resources including directionals, nouns, case markers and prepositions used selectively for

reference to location, orientation and path of movement. In the cases of Alune and Ambae, where the logic of spatial reference is probed, three absolute axes are identified. The contrasts of land/sea, up/down and transverse anchor grammatical distinctions strengthening earlier claims for these coordinates as principle dimensions of Oceanic spatial reckoning (Senft 1997). Local particulars in the grammars of spatial reference result from the interactions of this absolute system with other dimensions of contrast, and from the unique configuration of lexico-grammatical resources selected within each language to convey spatial information.

A striking feature of spatial reference in Oceania is the interaction of these absolute axes with the deictic system (Senft 1997 esp. Ozanne-Rivierre 1997). Alune, Ambae and Tongan/Niuean all illustrate this pattern although in distinctive ways. In each case directional particles are used to construct spatial descriptions with respect to the main participants in speech events (speaker and hearer). The absolute axes appear to be imported into the speech event and adapted to facilitate reference to the deictic centre, addressee or some third location. While spatial descriptions are in principle independent of deictic contrasts (Levinson 1996; Palmer this volume), Oceanic languages frequently conflate these systems in the grammar of directional particles by establishing a deictic perspective as one canonical use of the absolute axes. While Alune and Ambae incorporate all three absolute axes into their respective systems of directional particles, Tongan and Niuean appear not to use the land/sea contrast in this aspect of the grammar. In their attention to the absolute frame of reference underlying spatial descriptions and the deictic directional grammars, these early chapters provide evidence for some constraints and variability in verbal spatial descriptions for Oceanic languages.

Individually the papers go on to take distinctive approaches to the spatial grammars they respectively describe. Florey and Kelly open their discussion by presenting the logic that ideally structures spatial reference for speakers of Alune, an Austronesian language of eastern Indonesia. They note four zones of experience ranging from the everyday village and its surrounds to the island territory, to the larger region and to more distant realms.

The core system used for everyday interaction is a set of six directionals based on three contrasting, absolute axes: land/sea, up/down and transverse. For reference to each zone beyond the local area a single term from this set uniquely denotes position or directed movement. Case marking and deixis augment the directional system for reference in local space. The scalar influence on spatial reference is another frequent characteristic of Oceanic grammars (Blust 1997; Bowden 1997).

Having modelled the idealised system, Florey and Kelly go on to examine its use in discourse. What they discover is fascinating. Speakers have adapted the prescriptive features of the language in conventional manner to further contextualise, clarify and disambiguate information presented in narrative and spontaneous discourse. In doing this, zones are discarded and unbounded practices emerge. Combinations not prescribed in the ideal descriptions do occur. Some of these discursive practices are motivated by changes in the social context while other innovations serve functions such as disambiguation or increasing precision. This analysis of the interaction of structural logics with situated requirements for successful communication should inspire further examination of the complexity of spatial reckoning.

Hyslop's study of spatial reference on Ambae continues this emphasis on the complexity of communicating location, direction and movement in Oceanic languages. Ambae speakers rely on the same set of absolute parameters for primary linguistic expressions. Also as with Alune,

zones of increasingly broad territorial coverage influence the semantics of the grammatical distinctions creating pronounced polysemy for spatial indicators.

In local space, the directional terminology opposes land/sea (usually conflated with up/down) to a transverse axis. The local topography is precipitous and this feature of the environment motivates the tendency for 'up' to be conflated with 'landward', and 'down' with 'seaward', although in appropriate contexts the two axes can be distinguished. Directional terms take on new significance in the context of the larger island. The vertical axis is associated with the regularised line of the coast that runs southwest ('down') to northeast ('up'). The grammatical marker denoting the transverse axis is used in reference to travel or location across the island, orthogonal to the long axis. This system shifts again in the next larger zone when nearby overseas locations or movements are referred to. In the zone of neighbouring islands, north and west are to the lee of Ambae and specified as 'down' while south and east are to windward and 'up' (see Keating this volume). Only one island positioned on the long axis extending out from Ambae is noted as 'across'. More distant foreign sites and paths are referred to exclusively as positioned in an upward direction from the local context.

As noted above the absolute distinctions (land/sea, up/down and transverse) are imported into the deictic system. Although discursive requirements seem to modify the original structures less significantly than was the case for Alune, prior knowledge, topographic features—especially distinctions in height—and criteria specific to the immediate zone of relevance do influence utterances. Hyslop also describes a specialised use of the directionals in small-scale space to create an intrinsic reference system.

Hyslop's work reaffirms the absolute axes and zonal influences structuring spatial reference as well as the situated flexibility introduced by Florey and Kelly, features also noted as generally characteristic of many Oceanic languages. What Hyslop's careful research adds is twofold. First, she documents extensive polysemy for elements of spatial grammar and provides a model of the kinds of overlapping systems of reference that might be expected for other languages. This analysis also anticipates arguments, briefly noted in the next chapter by Sperlich and more fully developed in Palmer's work in the next section, for the role of perceptual selection of topographic features in formal grammars of space.

The next chapter by Sperlich offers a detailed look at Niuean spatial reference and a comparative perspective on the two very closely related languages: Niuean and Tongan. The comparison is particularly useful. The outlines of the two systems are similar, yet differences noted caution researchers against the presumption that close language relationships entail identical linguistic means for reference to space. In the context of a regionally organised volume this is an important message reminding investigators of the need to carefully document the distribution of any proposed commonalities.

Sperlich details the role of selected morpheme classes in spatial description. He begins with prepositions including case markers with which he indicates spatio-temporal connotations are habitually conveyed. As others have done he goes on to remark the directional particles used in spatial reference. He also describes the various classes of spatial nouns used in making reference to places and paths and notes how these overlap with or diverge from the Tongan inventory of such nouns. Interestingly the land/sea axis is not singled out in Sperlich's discussion as uniquely important. A contrast between *tutavaha*, '(deep) sea', and *uta*, 'inland', is noted as one of many oppositions available for spatial reckoning. Tongan is structurally similar (Bennardo 1996). The significance of the landward/seaward opposition in contrast with Alune and Ambae is not addressed. Nor is the

absence of this dimension in the grammar of directional deixis discussed. Both topics are worthy of future study. Sperlich's discussion of environmental features that might motivate the Tongan and Niuean systems, especially the brief reference he makes to the path of the sun and directions of the wind, stands with Hyslop's reference to the importance of elevation for Ambae speakers in anticipating Palmer's comprehensive treatment of environmental influences on the language of space.

Sperlich's is the first chapter in the book to make an explicit connection between language and culture. He points out that Polynesians enrich their environments with numerous named landmarks (Krupa 1982; Loeb 1926), and that they personify place in grammar, cultural practices and emotional attachments (see Cook this volume as well). Sperlich goes on to elaborate aspects of the construction of cultural geography. His attention is focused on selective dimensions of the linguistic side of a process of taking identity from the land and reciprocally infusing identities into the landscape (Rodman 1985:68; see also Kanahele 1986; Bonnemaison 1984; Lindstrom 1990; Dominy 1999). This turn in his work anticipates the integration of language and culture through place naming which is the subject of the next chapter.

Cook provides a detailed analysis of the syntactic treatment of locative nouns and placenames as a single class in Hawaiian. He motivates this class semantically—in that both refer to locations; structurally—in that both lack articles; and culturally—in that both are used in metonymical reference for people who reside in a particular place referred to. Cook outlines the contrastive patterns for case marking of personal names versus common nouns in Hawaiian. He goes on to show that both placenames and locative nouns are treated as personal names when they occur as participants to a reported event and are cast as subject, object or stative agent. On the other hand, when places serve as settings—locations, destinations or sources—they are only weakly individuated, and as thus backgrounded, they are marked for case as common nouns (see Hopper & Thompson 1980).

Echoing Sperlich, Cook goes on to remark the profound cultural significance of place in traditional Hawai'i and refers to the work of others (Kanahele 1986; Luomala 1949; Pukui, Elbert & Mookini 1974; and Pukui 1983) who have previously noted the personification of landmarks and the importance of place for Hawaiians. Ancestry and residence literally 'ground' identity. Everyday experience is understood in the context of historical and cosmological orders associated with a sentient land. The grammar of case marking combines with the mythical origins of Hawaiian life and lyrical references to place in a rich tradition for expressing ties of people with their places.

Ozanne-Rivierre's claim that 'oral texts can often only be properly understood when the spatial context of an utterance is precisely known' (1997:84) is amply supported in these early chapters. A listener or translator must be able to follow references to location and direction imposed on three-dimensional space while also recognising the cultural and conceptual significance attached to place in general and to the mention of specific sites in particular. Texts draw on cognitive preferences, linguistic orders and cultural meanings that independently and in conjunction locate events and suggest their significances.

The three chapters of Section Two (Space in mind) explore cognitive representations of three-dimensional space. Palmer's contribution is fundamental. In comparative study of Oceanic spatial grammars he finds provocative correlations between properties of environments and the logics of absolute frames of reference. Palmer goes on to demonstrate the role of perceptual salience in prioritising spatial coordinates. Without claiming universal patterns in the contrasts made by particular systems, his argument provides a universalist

approach for the investigation of spatial coordinate systems. In achieving this he works out the mechanisms for pursuing research that will elucidate the significance of a general claim which appeared previously in Blust (1997:50): 'Experience is shaped by the physical (and cultural) environment, some parts of which are available to all (e.g. the path of the sun), while others are available only to those who inhabit particular environmental niches'.

In island communities, Palmer argues, the land/sea contrast is perceptually salient and typically (but not exclusively) provides the cognitive anchor for spatial reckoning (for possible exceptions see Keesing 1997; Sperlich this volume; Bennardo 1996). The idealised line of the coast, points of sunrise and sunset, wind directions and the vertical axis may be used as opposing axes, orthogonal to or otherwise complementing the land/sea contrast. Many permutations are possible in building systems of spatial coordinates from the perceptually salient axes. One such possibility is conflation of the vertical axis with the land/sea opposition as illustrated for Ambae where the topography is precipitous.

Palmer distinguishes primary and secondary axes of spatial coordinate systems defining the former as 'directly motivated by a perceptually salient physical world phenomena' and the latter as an axis 'which has no motivating physical world phenomenon ... and which derives its bearing from another, primary, axis'. He also distinguishes vectors and quadrants as alternative forms for systems of spatial reference, and notes the potential for spatial contrasts to be bounded (as in the case of reference appropriate only to particular zones of experience as for Alune and Ambae speakers) versus unlimited in extent.

After examining the data for Longgu, Nemi, Tolai and Kokota, Palmer proposes that the boundary between land and sea motivates a primary landward/seaward axis in Oceanic grammars of spatial reference. Variable features of the Austronesian systems examined include the limits on axial reference; whether or not the transverse axis or another primary axis linguistically distinguishes two poles; the particular features motivating the secondary or alternate primary axes; variations to the system applicable in small-scale or macro-space; variations relative to local geographical features associated with different communities in which the 'same' language is spoken; conceptualisation of the system as one of quadrants or vectors; and cardinal translations. With regard to this last point, he is careful to indicate that translation of Oceanic spatial coordinates into cardinal directions can obscure the differences in logics motivating these distinct coordinate systems.

Palmer goes on to show how spatial reference based on a land/sea axis as documented for long islands is also evidenced on atolls and round islands. Taking the case of round islands, the landward/seaward axis will operate uniquely radiating 'out from the centre of the island, apparently in every direction, crossing a regularised but curved coastline at every point'. Such a radial system is then augmented by additional grammatical means for distinguishing locations, movements and directions. This may be one factor influencing the integral role played by deictic contrasts in the grammar of directional particles for many Oceanic languages. Positioning via deixis offers a set of obvious and immediate, local reference points for fixing events along a particular radius from among the infinite radii of land/sea contrasts available. Landmarks and spatial nouns further serve as resources to disambiguate and increase the precision of spatial reference.

On the basis of his analyses, Palmer argues that the conceptual building blocks of Oceanic spatial coordinates can be reconstructed for Proto Malayo-Polynesian (see also Blust 1997). Each contemporary community has developed a synchronic system in response to features of their geography. This is a profoundly unifying claim that answers Bennardo's call for attention to regional similarities while simultaneously providing a mechanism to account for variability

in spatial description throughout the Pacific. Palmer's argument unites conceptual and grammatical systems providing clear evidence for the motivation of at least some syntactic markers in perceptual/conceptual experience. By drawing attention to nonsyntactic determinants of formal grammatical relations Palmer offers a new vantage point for assessing the autonomy of syntax argument integral to transformational-generative grammar and mandates further research on the interactions of cognitive, linguistic and cultural systems.

Bennardo's chapter goes on to elaborate the evidence for a radial system as an absolute frame of reference for Tongans and probably more widely relevant throughout Oceania. This spatial arrangement is strikingly revealed in hand-drawn maps of the island of Vava'u, an irregularly shaped landmass that is often drawn by local residents as circular with vectors moving out from the island centre to prominent landmarks. Using linguistic, psychological and ethnographic data, Bennardo provides independent lines of evidence for radiality as a significant cognitive principle for the people of Tonga. He demonstrates this principle in the deictic contrasts integral to the language of space, as a possible mechanism in memory for locations and in the cultural patterns of food-sharing and redistribution evidenced for ritual-feasting. This is an exceptionally thorough treatment.

Bennardo's chapter is a particularly interesting case because the evidence suggests the possibility that island geography for at least some purposes may be modelled on the basis of cognitive preference for a radial system. If this is true for Tonga, unlike Palmer's usual cases, Bennardo's work would suggest that primary spatial coordinates may not be derived exclusively from perceptually salient phenomena. Instead the Tongans may construct a representation of their geography (the circular conception of Vava'u) from established conceptual contrasts expressed in the grammar of spatial reference and the logic of cultural practice. This should alert the reader to multiple directions of influence among linguistic, spatial and cognitive systems. By implication the construction of spatial logics and positioning must be understood as nondeterministic, an important qualification to Palmer's articulation of his view at least at times in deterministic terms (MS pages 150-152).

Lehman and Herdrich raise the question of the proper representation for the encompassing system of formal relations within which finer spatial and directional contrasts are made. They oppose point fields and bounded containers as alternative views of space. The former is the notion of space as an unbounded field defined on any point, while the latter is a region contained by a well-defined boundary. The authors demonstrate the advantages of using a point-field perspective to account for Samoan spatial concepts. Of particular interest to these authors is the Samoan tendency to lexicalise centre points and directed movement away from centre while avoiding designating boundaries. This holds, they argue for both spatial units and their metaphoric extensions. Fundamental semantic distinctions and ethnographic practices are elucidated by reference to the defining features (centre, point and vector) of an unbounded, radial, point field. Lehman and Herdrich go on to resolve previously incompatible interpretations of Samoan village organisation in a single integrative model by embedding the otherwise conflicting distinctions of land/sea and front/back within an overarching point-field conception of space.

The orientation of these authors is interesting in light of the radial and bounded representations described in previous chapters. In the future, researchers should investigate these spatial frameworks as alternative possibilities. For example, is the contrast between contained versus unbounded space in discussions by Florey and Kelly, Hyslop and Palmer adequately captured by the presence or absence of a boundary? Might we gain further insight from interpretation of these spaces in light of point-field semantics? Going well beyond

language, Lehman and Herdrich point out it is difficult not to be struck by the parallels of a point-field model with the *etak* system of Micronesian navigation (Bennardo 1998). Hyslop is the only other author in this volume who briefly mentions spatial reckoning at sea. Further attention to this issue may prove useful in deciding the aptness of container or point-field models for Oceania. Historical connections with the Asian mainland are developed in this chapter in the interest of motivating further comparative study of spatial reckoning.

Because the only access we have to cognitive mechanisms is through behavioural expression, these three chapters form an important core to Bennardo's volume. Each explicitly makes connections between conceptual frameworks and their realisations in verbal or other cultural practices. As a result a strong case for the combinatorial approach of the book as a whole emerges in this central section.

The chapters of Section Three examine spatial arrangements from an ethnographic perspective. Keating illustrates the use of space to encode social hierarchy, a pervasive feature of Pohnpei as well as other Oceanic societies. She presents an inventory of oppositions onto which social inequalities are variously mapped: up/down; left/right; in/out (landward/seaward); east/west; front/back (face/bottom). Many of these oppositions figure prominently in linguistic contrasts discussed in previous chapters. Keating, herself, ties the ethnographic use of space to verbal practices in Pohnpei. Rather than focusing on spatial grammar, however, she notes the use of alternate registers to convey status marking. Status-marked speech is optional and Keating suggests further research into the factors motivating code-switching from marked to unmarked forms would likely reveal the pervasive, situated and strategic negotiation of social difference.

Language use is only part of a larger behavioural repertoire for marking status on Pohnpei. Relative placement on a vertical axis, left/right contrasts, directed gaze and position in the local topography contribute to the available means for expressing hierarchy. Among the many symbolic connections illustrated is the Pohnpeian association of 'east' with 'up' (also noted elsewhere in Oceania) which motivates a 're-imagining of the landscape' such that the easterly region of the island is conceptually above the west, an association derived from social history and ceremonial practices rather than topography. In practice, ritual activities encode status by marking chiefly positions relative to others. Chiefs often face their audience from an inside position looking down and out toward the sea or away from the bush, and in some cases may be obscured or covered by smoke, another symbolic indicator of prestige. Seating arrangements in community feast houses reveal status by contrasting participants' positions and gaze on an inward/outer axis (recalling point-field semantics), differentiating the elevation of seats for community members of distinct statuses, and assigning participants selectively to left and right sides of the arena.

In line with other chapters that have contrasted ideal models with contextual productivity, Keating shows that the symbolic associations are manipulated in practice. In the case she develops, the values for left and right are conventionally inverted in particularly high-status contexts to emphasise prestige. This inversion may be a kind of behavioural code-switching facilitating situated specificity. Keating concludes by re-emphasising the importance of spatial metaphors in conveying hierarchical orders. She also emphasises the potential to manipulate underlying logics and surface forms of these orders for perspectival or contextually specific ends.

Toren's chapter develops the relevance of space for expressing social difference through her case study of Fijians. She provides a compelling analysis of kinship, age, gender and respect as embodied in posture, position and orientation appropriate to material contexts of

interaction. Lived space, patterns of significance that emerge in routine behaviours at home, in the village and on the land, is the expression of relational status in context specific forms. As did Keating, Toren points to the importance of above/below, facing, and land/sea oppositions as spatial metaphors of both equality and hierarchy. Toren gives a child's-eye-view of socio-spatial constructs and documents the child's construction of culturally appropriate senses of social positions and relationships. Children become members of social categories through acquiring the characteristic postures, gestures and interactional patterns that typify relational possibilities. The behavioural repertoires enacted by children (and adults) constitute a subjective dimension of social order. Cultural logic is experienced, felt, expressed and manipulated in manifold configurations of the body and self.

Guernsey Allen, in the last chapter, develops associations between architecture and socio-cultural concepts central to Samoan life. She ties architectural terminology to the family, descent lines, social processes such as conflict and cooperation, and chiefly influence. The tension noted by Keating between hierarchy and equality is present in Allen's discussion as well. The metaphors based on the house are ubiquitous and serve to capture the essences of kinship, village and island life. These metaphors symbolically unite the Samoan principles of sociality with material structures of daily residence, thereby reproducing social and spatial orders in concert in a form constitutive of everyday living. The macrocosm of Samoan life takes shape in the microstructures and spatial relations within the house (Bowden 1997).

Interestingly, Allen is able to tie the house as protective dwelling for the family, to the placenta perceived as protective source for the individual to the land designated *fanua* (a synonym for placenta). This gives additional weight to the proposal in Cook's chapter for integral connections experienced by islanders with their environment, tradition and identity; connections that warrant interdisciplinary study attune to ramifications everywhere from grammar to placenames to posture to ritual exchanges and conventions for drawing. Through these webs of significance, peoples of Oceania are integrally constituted by the very land/sea worlds they construct.

Allen's study resonates with the rest of Bennardo's volume. Her attention to the symbolism of architecture reintroduces the significant dimensions of spatial cognition and spatial reference in language and nonverbal practice. Issues of centre, vector and the problematics of boundaries are recurrent, recalling Lehman and Herdrich's attention to point-field semantics. Family encompassed by architectural space and the individual encompassed by the placenta suggest bounded containment. Perhaps through additional studies on the model of Allen's work, the respective contributions of these larger schemes for representing three-dimensional space may be more clearly articulated and their selective relevance for Oceania discerned.

In summary, Bennardo's volume unites a wide-ranging yet coherent set of contributions. For all their diversity the chapters are well chosen. The authors speak individually and collectively to the promise for triangulating research on language, mind and culture. These chapters transcend the debates opposing interpretive and scientific analyses by focusing on dynamic relations among public acts (verbal and nonverbal), structural logics, and mental representations (Shore 1996) that can be researched through diverse methodologies. Disciplinary traditions aside, study of mental, linguistic or other ethnographic phenomena is demonstrably enhanced in this volume by integrating complementary sets of data and articulating arguments from complementary perspectives.

Taken together the chapters of the volume strongly support the claim that spatial reference, spatial arrangements and spatial concepts are critical components of cultural events and

artefacts. As many have argued recently (Duranti 1994; Basso 1996; Lindstrom 1990; Farnell & Graham 1998), spatial relations are shown to be constitutive of social relations and substantive ideas. Sophisticated means for the analysis of expressions of spatial relations must be available and these chapters provide an inventory of research tools that will prove useful in this regard.

Beyond this general call for increasing, interdisciplinary attention to spatial praxis, Bennardo's volume begins to unify hypotheses relevant to Oceanic spatial reckoning. Palmer's contribution stands out in this regard for he makes a number of claims with respect to the underpinnings of Oceanic spatial coordinates. Of singular importance is his claim for the primacy of a land/sea axis in absolute frames of reference, a position supported directly from evidence for Longgu, Nemi, Tolai, Kokata, Manam, Tokelau, Alune and Ambae. The data presented in other chapters from Tonga, Niue, Samoa and Fiji provide suggestive evidence that the land/sea axis is central to these islanders' systems of orientation although richer descriptions need to be brought into the discussion and exceptions to Palmer's claim (Keesing 1997) need to be examined.

In conclusion, this collection of papers sets out several paradigms for future research. The role of perceptual salience and topographic properties in motivating conceptual logics has been effectively argued. Comparative study should now be informed by the physical and cultural influences noted here and move increasingly toward a universalist approach to spatial reference. This does not mean that explanatory logics sought by researchers will be substantively the same across societies, but rather that interactions of human beings with their environments hold the key to explaining particular coordinate systems. It should be possible to explain the universal process by which perceptual salience selects candidates for the formation of spatial coordinate systems while researchers simultaneously account for particular systems in terms of their unique histories and influences.

Secondly, Oceanic regional studies have been given a huge boost that should inspire continuing investigation. Of highest priority for this world area is clarification of the absolute frames of reference predominating in spatial descriptions and the complementary roles of relative and intrinsic alternatives. It will also be important to address the distribution of spatial referencing tasks over selected resources of Oceanic languages while simultaneously addressing the productive, strategic mustering of these resources in performance.

Bennardo and his colleagues challenge researchers to continue their advances both theoretically and empirically. With respect to theory, the contributions demand improved frameworks within which space and place can be integrally and integratively investigated. With respect to substantive observations, challenges will arise as we follow Oceanic systems of spatial reference now documented or soon to be described. As Pacific islanders continue westernising or modernising in their own terms and increasingly join diasporic movements, spatial analyses will only grow in importance. How will local systems influence the cardinal logics with which they come into contact and vice versa? How will new balances between mobility and residence encourage islanders to reimagine artefacts, places or geographic realms and the values attached to them? How may new forms of multilingualism support new forms of spatiality? What role will space and place play in emerging Pacific identities? The present volume offers a foundation for proceeding.

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