1 Introduction

If one gestures by moving some object so as to leave a trace on another object, one has entered upon marking and drawing. (Bloomfield 1935: 40, emphasis in original)

When we were children we sometimes played with sparklers. Part of the fascination was in creating arabesques and curvatures of airborne calligraphy with their smouldering tips. These lingered in space, imprinted glowing on the retina for all too short a time. It was as if the trajectory of our gestures had a fleeting permanence not usually afforded by the gestural medium, and the recognition of it encouraged more expansive and elaborate use of our arms. One system of representation – gesture – and another – writing or drawing – were for a few moments magically fused as the normal rules governing their temporality and the medium in which they could be inscribed were flouted. We literally drew in the air. Such juxtaposition and exaggeration of the everyday affordances of communicative systems draws our attention both to the multiplicity of devices that can be used for expressive purposes and to recognition of their interdependencies. It raises the question of how to define both similarities and differences between ‘gesture’ and certain types of drawing.

Speakers of the Arandic languages of Central Australia have a range of semiotic resources or ‘systems’ in their communicative repertoire. These include everyday language, spoken auxiliary languages, such as those used to encode respect for certain kin, sign language, the esoteric language of songs, and symbolic or graphic conventions used in sand stories and in various forms of Aboriginal art. Spontaneous gesture is also part of this complexity. In everyday communication it is the norm for several of these systems to coexist and be interdependent. The performance of Arandic sand stories (called tyepety in some Arandic languages) is a traditional form of visual storytelling in which co-speech graphics form an essential part. A skilled narrator of these stories incorporates multiple semiotic systems and uses the potentials within these systems to great creative effect. Speech, sign, gesture and drawing are employed, in sequence and in unison. As well as drawing on the ground,
narrators may also use a variety of objects to establish a visual field in front of them, somewhat like a miniature stage-set. Leaves or sticks are used to represent story characters, and other small items which come to hand may be used to symbolize objects that are part of everyday life, such as shelters, shades, windbreaks and fire pits.

The use of the ground for illustrative and explanatory purposes is pervasive in the environment of Central Australia where there is ample inscribable ground, and this attention to the surface of the ground arises partly from a cultural preoccupation with observing the information encoded on its surface. As a story begins, a space on the ground is cleared for inscription, and extraneous leaf litter, prickles and other debris are removed. If the ground is hard, it is broken up with a stick or crowbar to soften it. Some narrators prepare a screen of wet sand overlaid with fine dry sand, as this provides a solid base for drawing and makes for greater contrast of the drawn graphic symbols with the earth. A stick or a bent wire may be used to draw with, to provide a rhythmic complement to the verbal narration, and to augment deictic gestures as the narrator orchestrates the action in and around the space in front of them.

A narrator builds up layers of real and imagined spaces, using drawing, signs and gesture and by moving objects around the story space. The accumulation of graphic elements is periodically erased as the narrative unfolds, yet the palimpsest of previous drawing may be referred to anaphorically even after it is no longer visible. Erasure of the drawing space marks the beginnings and ends of stories and signals changes in time and space within stories (Munn 1973a: 69–72; Wilkins 1997b: 144). This device enables sequences of visible narrative action to be superimposed on top of one another in the same spatial plane. The resultant drawings are both product and process and they involve a complex interplay between dynamic and static elements. They leave a mark or an artificial trace that can be ‘read’ or observed by an interlocutor for a short amount of time, yet this semi-permanence is subservient to broader rhetorical aims as the story unfolds.

Sand stories are a means of communicating information that ranges from accounts of day-to-day events to performances of traditional narratives that are closely associated with the ancestral topography of the land and its Dreamings. Before television and video came to remote regions of Australia, these stories were a popular form of entertainment. In some contexts they remain so. The iconography of sand stories, the ways that space is used and the various perspectives taken in the drawing provide part of the visual repertoire of contemporary painting traditions in Central Australia. Acrylic paintings from the desert have achieved worldwide recognition since the 1970s, and some feature ‘characteristics of informal sand drawings’ (Morphy 1998). An understanding of sand drawing deepens our appreciation and understanding of these
art forms, and leads to a more sophisticated understanding of the characteristics of Arandic speech, song and song-poetry.

Records of sand stories from Central Australia stretch back to the early twentieth century (Strehlow 1915; Strehlow 1951; Munn 1962, 1966, 1973a, 1986; Wallace and Wallace 1968; Todd Woenne 1973; McRae 1991; Watson 1997, 2003; Wilkins 1997b; Eickelkamp 2008, 2011). Despite this previous work there is little that takes a fine-grained approach to the description of sand stories, and in particular to their dynamic aspects and the way that the expressive elements used are woven together. Various scholars have enquired about the nature of the ‘binding’ (Levinson 2006) between the spoken, signed and graphic aspects of these stories. All acknowledge that much remains to be known about the nature of the links between the different modalities, the ways the different semiotic systems are selected for conveying meaning, and the contexts of their use. Speech, sign, gesture and drawing are deeply intertwined, but, as Levinson writes, ‘the complete picture has yet to be painted’ (1996: 376).

In this study I presuppose that utterance meaning is ‘a unified product of multiple sources of information’ (Enfield 2009: 6), that human communication is multimodal and multidimensional, and that the fundamental units of this communication are ‘composite utterances’ in which elements of different semiotic systems work together (cf. Clark 1996; Enfield 2009). Kendon has argued that in utterances that use multiple systems, such as speech and gesture, the ‘speaker creates an ensemble in which gesture and speech are employed together as partners in a single rhetorical enterprise’ (2004a: 127, emphasis in original). The inclusion of dynamic movements in a definition of language and social action challenges persistent ideas in mainstream linguistic thought that fail to see the ‘vocal/visual integration at work in the performance of communicative acts’ (Farnell 2011: 153; 2012). As Farnell writes, ‘Social actors are not only embodied but they consistently and systematically use bodily movement according to cultural schemas in discursive practices, and not simply in addition to them’ (1995: 296, emphasis in original).

There have been few studies of utterances ‘in which an attempt is made to see how kinesic and spoken elements are deployed in relation to one another to create unified gesture-speech ensembles’ (Kendon 2008: 358). This study addresses that lacuna by investigating the semiosis of ‘visible bodily action’ in Arandic sand stories (cf. Kendon 2008). By drawing on some of the conceptual tools used in gesture studies I explore the nature of the different components of a sand story, their semiotic properties and the ways that the elements in a story are ‘laminated together’ (Haviland 2000, 2003). In so doing I am mindful of the fact that a sophisticated understanding of the ‘semiotic bricolage’ so evident in sand stories cannot be based on ‘a simple summation’ of the communicative potentials of each of the semiotic systems that a narrator employs in a particular narrative event (Preziosi 1986: 44, 47).
The study outlined in this book is solidly grounded in empirical data collection and interpretation. The methodologies I use contrast with many investigations of speech and gesture which draw empirical conclusions based on parallel studies in different languages and based on identical experimental tasks, often recorded in laboratory settings. The stories I discuss in this book were told in the bush – in the shelter of windbreaks, in the shade of mulga trees or in the soft creek sand of wide dry riverbeds. The deceptively simple exercise of coding and segmenting sand story data draws attention to some important theoretical issues in gesture research, in sign language linguistics and in the related but little described (from a linguistic point of view) field of drawing. It raises the question of how to define similarities and differences between gesture and drawing and suggests that in some contexts they have much in common. It also draws attention to the problem of defining commonalities between gesture and sign. This description of the complexity of sand stories deals not only with referential functions, but also with poetic and rhetorical ones. We are reminded of Jakobson’s famous charge that ‘the investigation of verbal art in all its compass and extent’ is part of ‘the right and duty of linguistics’ (1971 [1960]: 377). In the case of sand stories, this leads inevitably to a consideration of the ways that the rich semiotic potentials available to storytellers are manipulated for pragmatic and aesthetic effect. As T. G. H. Strehlow put it, ‘the language of prose . . . ministers to the needs of everyday life’ (1971: 208). In contrast the poetic function is foregrounded in song and poetry (Jakobson 1987: 71; Foley 1997: 362).

In order to understand how these practices are embedded in social and cultural traditions, I now turn to a description of the research region and to an overview of the conceptual and theoretical tools relevant to the investigation.

1.1 The Arandic language region

The Arandic language group belongs to the Pama-Nyungan family of Australian languages. These languages are spoken by around 5,500 people in the area of Central Australia roughly centring on Alice Springs (see Map 1). The term Arandic is used as a matter of convenience to refer to this language group as a whole, even though there are significant differences within the group. I draw on data from several of the languages within the Arandic group – Northern and Southern Alyawarr, Central and Eastern Anmatyerr, Eastern and Central Arrernte (sometimes referred to as Mparntwe Arrernte) and Kaytetye. My

2 The spelling ‘Arrernte’ is used for the Eastern & Central dialects. ‘Arramta’ is the spelling preferred by Western ‘Arrernte’ speakers. Although it has generally been regarded as Arandic, Kaytetye is not mutually intelligible with other Arandic varieties.
first-hand knowledge of Arandic peoples stretches back to the mid 1970s, and my work on the grammar and lexicon of Arandic languages (Green 1992, 2010), and on Arandic art, oral history and ethnography (Rubuntja and Green 2002; Cook and Green 2007), inform this book.

Although the recordings that form the basis of this book are generally of senior women, I also discuss a few examples of sand stories narrated by younger women, and I include some examples told by men. Many of the examples that
I give come from a selection of six sand stories that were annotated in detail (Green 2009, and see Appendix 2), but the broader corpus includes stories told by more than forty narrators, during on-going fieldwork in Central Australia between 2007–2012. The emphasis in this book is on the ways that the multi-modal complexity seen in sand stories works as a narrative practice, rather than on deeper cultural meanings of the stories. The stories represented in this book are ‘open’ and not restricted, and care has been taken to ensure that any details that may be regarded as culturally sensitive are not included. It is also important to note that ceremonial ‘ground paintings’ or ‘sand paintings’ from Central Australia are distinct from the types of ‘sand stories’ featured in this book. Ground paintings, often but not always associated with men’s ceremonies, are constructed collaboratively, using ochres, feather down, crushed flowers and other plant matter. They have a semi-permanent presence and they are erased at the completion of the ceremonial event. Although they share some semiotic features with the more ‘everyday’ or spontaneous use of sand drawing that I discuss in this book, I do not address them here.3

1.2 A multimodal approach to communication

This study of sand stories from Central Australia has a lot to offer as an exemplar of multimodal practice. In addition, it provides a description of a narrative form that predates written representations of speech, and so circumvents any residual idea that writing presents a unique source of meaning or a full and accurate representation of the many and varied dimensions of natural speech. It also demonstrates very clearly the multimodal nature of traditional forms of verbal art. Multimodality is by no means ‘new’, even as the technologies for studying it are changing rapidly. A multimodal approach to the recording and analysis of the sand stories is taken as a given and is essential if we are to work towards understanding the complex interaction of the different communicative systems used. This approach forces us to ‘rethink the putative primacy of language in meaning making’ (Enfield and Levinson 2006: 28). Spoken language is part of a ‘multimodal ensemble’ that also includes a range

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3 See Myers (2002) for a discussion of the sociocultural significance of Papunya men’s ground paintings. Dussart (1988: 128) discusses Warlpiri and Anmatyerr women’s ceremonial ground paintings. Sand drawing of the type seen in Central Australia is also distinct from ‘sand painting’ where coloured sands and pigments are applied or poured onto surfaces to create images – for example in the ceremonial healing sand paintings of the Navaho, or in Tibetan sand mandalas. A recently popularized form, ‘sand animation’, involves a series of evolving images drawn in a sand-filled lightbox and projected onto a screen. In 2009 Ukrainian artist Kseniya Simonova won a popular Ukrainian talent quest with a sand animation that depicted the story of the German invasion and occupation of the Ukraine in World War II.
of other semiotic systems or resources. Images, action and sound are orchestrated together in complex ways that utilize their expressive potentials or ‘affordances’ (Gibson 1979). So what does it mean to say that a text, a narrative performance or a communicative practice is multimodal, and is there any consensus about the use of the term multimodality? Conversely, are there examples of real-life communication that could truly be characterized as monomodal or unimodal?

The use of the term multimodality has proliferated in recent times, coupled with what some refer to as ‘an explosion of multimodal studies’ (Jewitt 2009b: 2). Some of these trace their linguistic heritage to Halliday’s theories of social semiotics and systemic functional grammar, and they place varying emphases on the role that cultural, historical and social factors play in determining the use and interpretation of ‘modes’ in communicative acts (ibid.: 15). The range of phenomena that fall within the scope of multimodal studies is broad and diverse. Any study of co-speech gesture is by definition multimodal. The term multimodal can be used as a technical term to describe the simultaneous use of multiple therapeutic practices or in logistics to describe transportation systems (Streeck et al. 2011: 9). Some address multimodality in the organization of text and graphics in paper-based objects and in digital media; others describe human–computer interactions, and others musical interactions in performances (Haviland 2007, 2011). Multimodality can be used as an approach to explore the design and use of public and domestic spaces, as well as the relationship between embodied humans and the objects and artefacts that they construct and employ for various purposes (Luff et al. 2009). The repartee of auctioneers can be analysed using a multimodal approach (Heath and Luff 2007), as can teacher–child interactions in classrooms, and the use of various digital devices, such as iPads, to augment and assist in education and communication (see Jewitt 2009a and Streeck et al. 2011 for discussion).

Other studies bring the interaction of the body with objects such as tools, technologies and other aspects of the ‘material surround’ into the domain of multimodality (Goodwin and Goodwin 1992; Hutchins and Klausen 1996; Goodwin 2000, 2003a, 2003b, 2007; Ueno 2000; Enfield 2003, 2005, 2009; Murphy 2005, 2011; Stivers and Sidnell 2005; Jewitt 2009a; Streeck 2009; Streeck et al. 2011). Goodwin (2007) investigated what he calls ‘environmentally coupled gestures’ in the use and manipulation of objects in the communicative environments of various workplaces. He suggests that his findings ‘force us to expand our notion of what counts as gesture and the analytic frameworks required to study it’ (ibid.: 195). Meaningful action is built up from diverse resources, and inscriptions themselves can become targets of ‘further symbolic acts’ (Streeck 2011: 77). Murphy (2005) shows how architects use speech and gesture, in combination with visible information from architectural drawings or plans, in the collaborative development of their ideas. Drawings provide
‘systematic visual shorthand’ or a kind of ‘anchor’ for the other co-occurring semiotic media (ibid.: 124). Murphy (ibid.: 127) writes that:

most analyses of gesture … tend to look at representational gestures in isolation from their material contexts of production. The psychological study of gesture tends to look only at the co-occurring talk in order to interpret a gesture’s meaning while overlooking its larger potential meanings in social interaction.

Ochs et al. (1996) describe the way that scientists build meaning through the use of speech, gesture and graphic representation. They argue that ‘grammar’ is not only found in the verbal stream but rather is constituted through interlocutors’ use of gestures and tools as well (ibid.: 359). The graphic displays the physicists construct provide them with a tangible place to conjecture and formulate their ideas, a ‘cognitive and spatial domain to inhabit and wander in’ (ibid.: 350). They are ‘sensori-motor re-enactments within graphic spaces’ (ibid.: 353). Goodwin takes one further step and includes tracing and inscription as legitimate components of what he refers to as ‘situated interactive activity’.

‘Typologies of gesture’, he says, ‘have almost completely ignored those that get their distinctive organization from the way in which the gesturing body interacts with other phenomena within a domain of scrutiny, such as tracing, touches, and so on’ (Goodwin 2003a: 230). He observes that some gestures leave an ‘enduring record’ such as ‘the form of a line in the dirt’ (Goodwin 2007: 207).

Although there is a major difference between the ephemeral visible traces on the ground characteristic of sand stories and more permanent drawings, maps and diagrams, some of these studies suggest ways of broadening our view to deal with the complexity found in sand stories. In understanding sand drawing sequences, meaning is derived from the integration of both their static and their dynamic aspects. This of course has real-world analogues. As Schnotz and Lowe write, ‘in our everyday lives, we do not continually compartmentalize our environment into static and dynamic parts. Rather, we deal with these components in an integrated and flexible manner as we continually construct a coherent functional mental representation of the world around us’ (2008: 305). Part of the challenge presented by complex data of the kind seen in sand stories lies in understanding how static and dynamic aspects work together. In later chapters I will discuss actions that leave semi-permanent traces on the ground yet nevertheless the perception of their dynamic qualities is required to fully understanding their meaning.

1.2.1 Modes and modality

In this book I use the term modality to refer to either of two major divisions based on the encoding and perception of communicative signals. Speech utilizes the
vocal/auditory modality. Sign languages, gesture and systems of graphic representation utilize the kinesic/visual or visuospatial one. These divisions reflect basic pairings between the way a signal is produced – by the vocal cords in the case of speech and by bodily movement in the case of sign and gesture – and the way that signal is perceived by an interlocutor – either by listening or by looking. Within this major binary division into modalities are various ‘systems’, ‘resources’ or ‘potentials’ that convey meaning. There are of course communicative systems based on other human sensory capacities, and in particular circumstances these expressive potentials may develop and become the primary mode of communication. Sign languages used by people who are both deaf and blind are an example of semiotic systems that use the expressive potentials of touch and haptic sensation. It is also important to note that there may not be a clear demarcation between modalities – a communicative action that is primarily intended to be seen can also at the same time produce a sound. The feel of an action, its haptic dimensions, may well contribute to its social and cultural meaning or to the aesthetics of a performance alongside other modality-specific functions. Conventions that originate in one communicative system may find expression in another. For example, gestural air quotes, translated in some contexts as ‘so-called’, are derived from orthographic quotation marks. Graphic conventions that originate in various forms of art find their way into sign language registers.

The definition of modality outlined above is narrower than that used by many other scholars. I suggest that multimodality involves more than one sensory modality: it is not simply an accumulation of ‘modes’. If speech is considered without the accompanying visible bodily action, then this is a monomodal approach. However, even when a communicative event is truly monomodal, it is of course possible that it will incorporate a range of semiotic resources and so be ‘multisemiotic’ (cf. O’Halloran 2009: 98). For example, in this framework a text that combines written and graphic elements is not multimodal unless it has an additional dimension that falls within the other sensory modality, for example sound (even though a written text might be derived from or represent oral language). If, on the other hand, a teacher or a storyteller incorporates a written object into a presentation that requires interlocutors to access multiple modalities – listening to what is said; tracking gestures; and attending to graphic and orthographic schema – then we are getting closer to the kind of multimodality found in sand stories. My intent is to provide a useful terminological framework while at the same time not detracting from the importance of what Streeck et al. call ‘embodied interaction in the material world’ in a process of meaning making that includes material objects and environments (2011: 9, emphasis in original).

And what about the concept of ‘mode’? In some theoretical frameworks modes are described as the fundamental units that are selected and configured to create meaning (Kress and Van Leeuwen 2001; Jewitt 2009b: 15). There is no theoretical limit to the number of modes that may be recognized in various
sociocultural contexts, and this leads to an abundance of modes that are difficult to compare. For example, writing, gesture, music, colour, taste, touch, gaze, prosody and laughter have all been described as *modes* in some contexts. In this book I aim to do away with the concept of mode altogether and instead talk about semiotic resources and systems. Semiotic resources have been described by Van Leeuwen as ‘the actions, materials and artifacts we use for communicative purposes’. Such resources may be the consequence of physiology or technology, and ‘they have a meaning potential, based on their past uses, and a set of affordances based on their possible uses’ (Van Leeuwen 2005: 285). Semiotic resources are shaped from social action and the affordances of material, and there are both cultural differences and similarities (Kress 2010: 55). I attempt to remove some terminological ambiguity by reserving the term *multimodal* for communicative ensembles or utterances that draw on more than one of the main sensory modalities, rather than instances where many possible ‘modes’ are employed in a communicative event (that nevertheless may well be monomodal in terms of this primary division of modalities based on sensory perception).

The range of semiotic systems codified within a speech community varies cross-linguistically. Central Australian Aboriginal communities are particularly rich in this respect, as alongside ordinary everyday speech there are auxiliary spoken languages, ‘alternate’ sign languages and systems of graphic representation. Nowadays writing systems have been developed to represent Indigenous spoken languages, and formal tuition in English literacy begins, for most, in early childhood. The resources or ‘systems’ that I consider in this study of sand stories and their alignment within the two major modalities are shown in Table 1.1.5

Although these individual semiotic systems may well be custom-fitted to take advantage of certain aspects of the social and physical environment, in the expression of these potentials the systems interact. As I will demonstrate in this book, there is a lot to be gained from an inter-disciplinary approach and some of the more interesting theoretical issues in multimodality are found in these ‘border zones’.

In a broad sense *affordance* refers to the ‘meaning potential’ of semiotic resources, or in other words the range of expressive purposes that they lend themselves to (Jewitt 2009b: 24). There are spatial and temporal constraints inherent in the expressive potentials of the mediums in which communicative

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4 See Bateman (2011) and Kress (2010) for discussions of this problem.
5 In this study I do not consider the role that body posture, eye-gaze or facial expression plays in sand stories.