Part II

Core communication skills
Chapter 3

Non-verbal behaviour as communication: Approaches, issues and research

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In this chapter, we survey a large cross-disciplinary literature on non-verbal communication. After placing the study of non-verbal behaviour in historical perspective, we highlight the major approaches that have guided scientific explorations. Non-verbal communication can be understood best in relation to the settings in which it occurs. Settings are defined in terms of both the varying roles taken by actors within societies and the diverse cultures in which expressions and gestures are learned. Based on an example of research conducted in a laboratory simulation of international politics, we develop implications for the themes and techniques that can be used to guide analyses of behaviour as it occurs in situ.

Non-verbal behaviour in perspective

In recent years, it has become increasingly recognised that investigators in a field of enquiry – any field – bring personal perspectives and figurative comparisons to bear on their work. Such perspectives have been called paradigms, metaphors, or fundamental analogies, and their influence has been thought to be pervasive. Indeed, both philosophers and working scientists acknowledge the value and necessity of such processes in the realm of creative thought (e.g. Koestler, 1964; Glashow, 1980; Leary, 1990).

Examples of this phenomenon abound. For instance, in psychology,
Gentner and Grudin (1985) undertook a review of a sample of theoretical contributions to the field published in *Psychological Review* between the years 1894 and 1975. From the 68 theoretical papers they reviewed, they were able to identify 265 distinct mental metaphors. They defined a mental metaphor as ‘a nonliteral comparison in which either the mind as a whole or some particular aspect of the mind (ideas, processes, etc.) is likened to or explained in terms of a nonliteral domain’ (p. 182). These metaphors were all introduced by their contributors as ways of understanding the field. They were often based on explicit comparisons, such as James’ ‘stream of consciousness’, but also were frequently based on subtly implied, extended comparisons only identifiable from broad sections of text. Gentner and Grudin identified four categories of analogy which characterised the period – spatial, animate-being, neural, and systems metaphors – and found clear trends in metaphor preference and rates of usage over time.

Such an examination of the field of psychology is illuminating and provocative. Recognising that the use of different metaphors places different aspects of the field in relief and interrelation, and introduces different explanatory and predictive emphasis, one can identify remarkable shifts in the ways in which psychologists have thought about their subject matter. For example, the recent emphasis on systems metaphors suggests a focus on lawfully constrained interaction among elements where organisation, precision, and mutuality of influence are stressed. Predictions are complex but specific; analysis is multifaceted and hierarchical. Fundamentally, such metaphors are thought to be constitutive of the subject matter we study (Gibbs, 1994; Soyland, 1994).

A number of contemporary cognitive scientists extended the analysis of metaphor and other linguistic forms (tropes), showing that they abound in everyday usage (even beyond scientific and creative discourse) and clearly reflect the presence of poetic aspects of mind (e.g. Lakoff, 1993; Ortony, 1993; Gibbs, 1994). Linguistic forms such as metaphor, metonymy, irony, and related expressions point to our fundamental ability to conceptualise situations figuratively (e.g. non-literally) and transpose meaning across domains. Indeed, such complex processes are assumed to occur essentially automatically and unconsciously (Gibbs, 1994). Although such analyses have focused on linguistic expression, both oral and written, the role played by non-verbal aspects of language does not seem to have been examined explicitly.

Lastly, the role that our species’ evolution has played in the encoding and decoding of non-verbal behaviour has received increased attention in recent years (Zebrowitz, 2003). This has occurred, in part, as a function of the discipline-wide influence of evolutionary perspectives on the investigation of human behaviour. The observation that the scientific study of non-verbal communication began with Darwin’s (1872) book on the expression of emotions primarily in the face alludes to the importance of understanding the role that adaptation plays in our non-verbal communication.

**NON-VERBAL BEHAVIOUR AS COMMUNICATION**

A comparable examination of contributions to the field of non-verbal behaviour may be meaningful. To this end, it is interesting to note that attention has been directed at the meaningfulness of gesture and non-verbal behaviour since earliest recorded
Western history (cf. Aristotle’s *Poetics* and *Rhetoric*). According to Kendon (1981), classical and medieval works on rhetoric frequently focused on the actual conduct of the orator as he delivered his speech. They occasionally defined many forms of particular gestures and provided instructions for their use in creating planned effects in the audience.

At least as early as 1601, gesture as a medium of communication coordinate with vocal and written language was recognised by Francis Bacon (1884, 1947). He suggested that ‘as the tongue speaketh to the ear, so the hand speaketh to the eye’ (quoted in Kendon, 1981, p. 155). Subsequent analyses, inspired by Bacon’s proposal, were undertaken to examine chirologia (manual language) as both a rhetorical and natural language form (Bulwer, 1644/1974). During the eighteenth and nineteenth centuries, scholars argued that emotional expression and gesture, the so-called ‘natural languages’, surely provided the foundation for the more refined and artificial verbal symbolic communication (e.g. Lavater, 1789; Taylor, 1878). Spiegel and Machotka (1974) have identified a collateral history in dance, mime, and dramatic staging beginning in the late eighteenth century. Body movement as communication has been an analogy of broad and continuing interest.

In examining the focus on non-verbal behaviour as communication, a number of somewhat different analogies can be identified. Darwin (1872) focused on facial behaviour as a neuromuscular expression of emotion and vestiges of the past, and as informative of an inner affective state. A number of investigators have extended this approach and elaborated the affective expression metaphor (e.g. Woodworth & Schlosberg, 1954; Tomkins, 1962, 1963; Izard, 1971; Ekman, 1992a). In delineating bodily movement, gesture, vocalisation, and particularly facial movement as expressive of affect, an emphasis is placed on the rapid, automatic, serviceable, universal aspects of behaviour. Indeed, consciousness, intention, and guile are ordinarily not central to such an analysis, although experiential overlays and culturally modified forms of expression are of interest. In examining how readily people recognise affective displays in others (Ekman & Oster, 1979; Triandis, 1994; Matsumoto, 1996) or how rules of expression are acquired (Cole, 1984), an emphasis is placed on the plastic nature of neuromuscular form.

In an ever-increasing manner, tests of hypotheses derived, at least in part, from evolutionary psychology can be found in the research literature on non-verbal behaviour and communication. In a field of enquiry where few general descriptions fail to cite Darwin’s (1872) book on the expression of emotions as a starting point for the scientific investigation of non-verbal behaviour, the current increased influence of evolutionary psychology and its search for evidence of adaptation has reinforced interest and work in this area. In 2003, two issues of the *Journal of Nonverbal Behavior* were devoted to research guided by this perspective. As pointed out by Zebrowitz (2003), the studies in the issues ‘take an evolutionary approach well beyond the domain of emotional expressions’ (p. 133). The impact of evolutionary psychology can be seen across a number of research domains (e.g. social, developmental, cognitive-neuroscience) and is discussed as a primary influence in many contemporary models of non-verbal communication. However, this approach is problematic when it neglects the impact of more immediate situational factors.

The perceptually based (cf. Gibson, 1979) ecological approach of Zebrowitz (Zebrowitz & Collins, 1997; Zebrowitz, 2003) incorporates a focus on proximal
elements and mechanisms alongside an assessment of behaviour tied to the survival of our species. In an additional commentary on evolutionary psychology and its impact on non-verbal research, Montepare (2003) echoes the need to include proximal (or situational) along with distal (or historical) influences when one studies non-verbal communication.

A related metaphor comparing non-verbal actions, especially accidents and parapraxes, to a *riddle* or *obscure text*, has been employed by psychodynamic investigators. Indeed, Freud (1905/1938, 1924) argued that such actions are usually meaningful and can often be recognised as such by a person. At the same time, Freud acknowledged that people frequently deny the significance of gestural-parapraxic actions, leaving the analyst in a quandry with respect to the validity of interpretation. Freud offered a number of interpretive strategies, including articulation with the person’s life context and delayed verification as approaches to this problem. The influence of this psychodynamic perspective continues to be seen in subsequent examples of psychotherapeutic techniques that incorporate a specific focus on non-verbal behaviour (e.g., Rogers’ (1961) focus on examining congruence between non-verbal and verbal expression, Perls’ (1969) use of non-verbal expression as an interpretive tool in gestalt psychology). Recent data have revealed that the ability to note verbal–non-verbal inconsistency appears to be already well developed by the time we reach 4–5 years of age (Eskritt & Lee, 2003).

In dealing with the problem of denial, Freud seems to have foreshadowed the more recent concerns about the questions of consciousness and intention in determining expressive actions. In any event, Freud’s approach to the investigation of non-verbal behaviour as communication appears to have taken the analogies of the riddle or perhaps the obscure text which can be made meaningful by the application of accepted interpretive (for example, hermeneutic) principles. Many psychoanalytic investigators have utilised the broad interpretive analysis of behavioural text (Deutsch, 1959; Feldman, 1959; Schafer, 1980). Feldman’s examination of the significance of such speech mannerisms as ‘by the way’, ‘incidentally’, ‘honest’, ‘before I forget’, ‘believe me’, ‘curiously enough’, and many others provides an illustration of the fruitfulness of regarding speech and gesture as complex, subtle, multilevel communication.

Certainly, the reliance on an affective expression as opposed to an obscure text analogy places the process of communication in different perspectives. In the first instance, the automatic, universal, perhaps unintended and other features identified above are taken as relevant issues, while the articulation with context, uniqueness, obfuscation and necessity of prolonged scholarly examination by trained and skilful interpreters are equally clearly emphasised by the behaviour as riddle analogy.

A third approach to the behaviour as communication analogy has been provided by the careful explication of non-verbal behaviour as *code* metaphor. Developed most extensively in Birdwhistell’s (1970) analogy with structural linguistics and Weiner et al.’s (1972) comparison with communication engineering, the central concern rests with the detailed, molecular examination of the structure of the code itself, modes (that is, channels) of transmission, and accuracy-utility of communication. Conventional appreciation is essential to accuracy and efficiency, as auction applications, stock and commodities trading, athletic coaching, and social-political etiquette and protocol applications may attest (Schefflen & Schefflen, 1972). Levels of communication (for instance, messages and metamessages), channel comparisons, sending and receiving
strategies, and accessibility of the intention–code–channel–code–interpretation sequence as an orderly, linear process are all designed to emphasise the systematic, objective, and mechanistic features of the metaphor (Druckman et al., 1982). Indeed, the utilisation of non-verbal behaviour as metatmessage is very informative, if not essential, in distinguishing ironic from literal meaning. This is perhaps especially the case for channels that allow for relatively fine-grained differentiation of non-verbal behaviour (e.g. facial expression, paralinguistic cues).

However, the boundaries of the particular variations in the ‘behaviour as communication’ analogies which have been identified are fuzzy, and the explicit categories of the metaphors as employed by particular investigators are difficult to articulate fully. Yet the three variations of the communication analogy seem valid as the history and current investigation in non-verbal behaviour as communication is examined. In this spirit, a fourth general communication metaphor can also be identified – non-verbal behaviour as dramatic presentation.

While this analogy clearly descends from mime, dance, and dramatic stage direction (Spiegel & Machotka, 1974; Poyatos, 1983), the approach has been most skilfully developed by Goffman (1959, 1969), Baumeister (1982), and DePaulo (1992) as both expressive form (that is, identity and situation presentation) and rhetorical form (that is, persuasion, impression management, and tactical positioning). The particularly fruitful features of this analogy appear to be the crafted, holistic, completely situated, forward-flowing nature of expression, with emphasis on recognisable skill, authenticity, and purpose. Strategy, guile, and deception are important aspects of this analogy, and subtlety and complexity abound (Scheibe, 1979; Schlenker, 1980; DePaulo, Wetzel, Sternglanz & Wilson, 2003).

NON-VERBAL BEHAVIOUR AS STYLE

Although the ‘non-verbal behaviour as communication’ analogies hold historical precedence in the area, two additional analogies can be identified: non-verbal behaviour as personal idiom (Allport, 1961) and non-verbal behaviour as skill (Argyle, 1967; Argyle & Kendon, 1967; Hargie, Saunders & Dickson, 1981; Hargie & Dickson, 2004).

Allport introduced the important distinction between the instrumental aspects of action and the expressive aspects, the latter being personalised and stylistic ways of accomplishing the tasks of life. Comparisons with one’s signature, voice, or thumb print are offered. This perspective emphasises holism, consistency, and configural uniqueness, while de-emphasising complexity, skill, and authenticity. Demonstrations of the application of the analogy have been offered (certainly among the ranks of the stage impressionists, if not scientific workers), but the richness and fruitfulness of the metaphor have not yet been fully exploited.

Perhaps the most inviting metaphor of non-verbal behaviour has been the emphasis on skilled performance. The fruitfulness of the analogy of acquired skills as a way of thinking about non-verbal behaviour has been recognised for some time (Bartlett, 1958; Polanyi, 1958). However, its extension to non-verbal behaviour has been rather recent (Argyle, 1967; Knapp, 1972, 1984; Snyder, 1974; Friedman, 1979; Rosenthal, 1979; DePaulo et al., 1985; Burgoon & Bacue, 2003; Hargie & Dickson, 2004). The analogy has directed attention to the expressive or sending (encoding) and
interpretive or receiving (decoding) aspects of non-verbal exchange, and has begun to highlight aspects of face-to-face interaction not investigated hitherto.

The skilled performance analogy

Since the introduction of the skilled performance metaphor is somewhat recent in the area of non-verbal behaviour analysis, it might prove useful to attempt to explicate some of the categories of such an analogy. As Bartlett (1958) pointed out, in the general case and in every known form of skill, there are acknowledged experts in whom much of the expertness, though perhaps never all of it, has been acquired by well-informed practice. The skill is based upon evidence picked up directly or indirectly from the environment, and it is used for the attempted achievement of whatever issue may be required at the time of the performance. Examples of such performance would include the sports player, the operator engaged at the workbench, the surgeon conducting an operation, the telegrapher deciphering a message, or the pilot controlling an aeroplane (see Chapter 1).

Initial examination of the comparison suggests a number of important features of skilled performance (for more detailed analysis of these, see Chapters 1 and 2) that are relevant to the investigation of non-verbal behaviour. First, skilled performances usually imply complex, highly coordinated motor acts, which may be present in unrefined form at the outset of training, but in many cases are not, and which only emerge gradually with training and development. Thus, final performances may be quite different from untutored performances. Moreover, the recognisability of individuality in the crafting of skilful expression seems clearly implied. A second feature of such performance is that it is based on perceptually differentiating environmental properties or conditions often unrecognised by the untutored. A quality of ‘informed seeing’ or ‘connoisseurship’ develops that serves to guide and structure refined action.

A third feature of skilled performances is their dependence on practice, usually distributed over extended periods of time (see Druckman & Bjork, 1991). The importance of combinations of both practice and rest as aids in acquiring desired performance levels and the occurrence of marked irregularities in progress during the attainment of desired levels is recognisable, as are the influences of age and many physical condition factors (Bilodeau, 1966). A fourth important feature of skilled performances is their persistence and resistance to decay, interference, and effects of disuse. While comparisons are difficult, the general belief is that skilled actions remain viable after verbal information has been lost to recovery. A fifth area of importance is the general assumption that individuals vary in the extent to which they display refined performances. A sixth characteristic of skilled actions is that they are ineffable, acquired best by modelling and described only imprecisely by linguistic means. Finally, the expression of skilled performances usually entails the incorporation of internalised standards of the quality of expression. Performers can recognise inadequacies or refinements in their performance, which serve to guide both practice and performance styles.

The development of the skilled performance metaphor in the investigation of non-verbal behaviour as expression seems to have suggested several areas of development
and possible advance in the field. Training strategies, individual differences, the role of practice, the importance of performance feedback, and internalised criteria of achievement represent a few areas of investigation of non-verbal behaviour implied by this analogy. A number of contemporary research programmes that examine the issue of training and expertise (Frank & Ekman, 1997; Ekman, O'Sullivan & Frank, 1999; Vrij, 2000; Vrij, Evans, Akehurst & Mann, 2004) can be seen as guided, in part, by the skilled performance metaphor. In addition, current research that has revealed relationships between non-verbal decoding and interpersonal social skills among adults (Carton, Kessler & Pape, 1999) and encoding skills and social competence among adolescents (Feldman, Tomasian & Coats, 1999) points to the importance of continued investigations of these aspects of individual performance.

THE SCIENTIFIC STUDY OF NON-VERBAL BEHAVIOUR

Literature dealing with non-verbal behaviour as communication has increased dramatically in volume and complexity, particularly during the last several decades. Wolfgang and Bhardway (1984) listed 170 book-length volumes published during the previous 100 years that contained non-verbal communication materials, the vast majority of which had appeared within the last 15 years. Today's electronic databases attest to the health and continued development of the field. A search of the area, covering the time period of 1988–1995, yielded over 300 books and chapters on the subject of non-verbal behaviour as communication. A comparable search of the PsycINFO database from 1997 to the present suggests an increased empirical focus on this area of communication. The results of the search listed over 700 entries that had the descriptor term ‘non-verbal behaviour’ or ‘non-verbal communication’. Over 500 of these entries were journal articles, the vast majority of which were empirically based.

The topic is usually presented with two different emphases: (1) a theoretical-research orientation and (2) an application-demonstration orientation. Because of its relation to the subtle and interpretative aspects of communication, there is a tendency on the part of popular lay texts to emphasise application without a balanced presentation of the theory and research which examines the validity and reliability aspects necessary for proper understanding of non-verbal behaviour as one form of communication. Indeed, an interesting piece in this vein appeared on the Internet recently, providing an extended discourse on the psychological meaning of the handshake. While fascinating, and probably face valid, no recognisable empirical data accompanied the analysis.

The challenge of the present chapter is to discuss non-verbal behaviour as a communication skill, while maintaining the scientific integrity needed to evaluate critically the degree to which application is appropriate for any particular reader. It is hoped that the reader will assume a critical, scientific perspective in treating non-verbal behaviour as a meaningful yet complex topic for research and application.
Behavioural dimensions

Knapp (1972) suggested seven dimensions which describe the major categories of non-verbal behaviour research as related to communication, and these are useful for placing this chapter in perspective. The first category is kinesics, commonly referred to as ‘body language’, and includes movements of the hand, arm, head, foot, and leg, postural shifts, gestures, eye movements, and facial expressions. A second category is paralanguage and is defined as content-free vocalisations and patterns associated with speech such as voice pitch, volume, frequency, stuttering, filled pauses (for example, ‘ah’), silent pauses, interruptions, and measures of speech rate and number of words spoken in a given unit of time. A third category involves physical contact in the form of touching. Another category is proxemics, which involves interpersonal spacing and norms of territoriality. A fifth category concerns the physical characteristics of people such as skin colour, body shape, body odour, and attractiveness. Related to physical characteristics is the category of artefacts or adornments such as perfume, clothes, jewellery, and wigs. Environmental factors make up the last category and deal with the influences of the physical setting in which the behaviour occurs: a classroom, an office, a hallway, or a street corner. Knapp’s seven dimensions help depict the breadth of non-verbal communication. It is interesting to note that the physical characteristic, adornment, and environmental factor categories do not involve an assessment of overt non-verbal expressions, but rather information about the actor that is communicated non-verbally.

There are numerous examples in the literature that detail these categories, either individually or in combinations (e.g. Ekman & Friesen, 1969; Argyle & Cook, 1976; Duncan & Fiske, 1977; Harper et al., 1978; LaFrance & Mayo, 1978), and the reader is referred to these for detailed discussion. This chapter will present these categories in various combinations as they pertain to non-verbal behaviour as a communication skill. It is important to stress that non-verbal behaviour is dependent upon all of these factors for meaningful communication to take place. Some of these categories are covered in the theoretical and empirical presentation; others are not, but are nevertheless important and should always be considered as part of the ‘universe’ comprising non-verbal communication.

Setting and role influences on non-verbal behaviour

One of the major problems in focusing on the interpretation of non-verbal behaviour is to treat it as a separate, independent, and absolute form of communication. This view of the topic is much too simplistic. The meaning of non-verbal behaviour must be considered in the context in which it occurs. Several types of contextual factors will be used to guide this discussion of non-verbal communication and the behaviours associated with it.

One involves the environmental setting of the behaviour. Both the physical and social aspects of the environment must be described in sufficient detail to assess possible contributing factors to non-verbal behaviour as meaningful communication. For example, the furniture arrangement in an office can be a major factor influencing the non-verbal behaviours exhibited therein. Body movements differ depending upon
whether the person is sitting behind a desk or openly in a chair. The proximity and angle of seating arrangements have been shown to serve different functions during interaction and to affect such behaviour as eye contact, gazing, and head rotation (Argyle & Dean, 1965; Manning, 1965).

Non-verbal behaviour may have very different meanings when exhibited on the street rather than, say, in a classroom. Background noise level in a work setting may produce exaggerated non-verbal communication patterns that would have very different meaning in a more quiet setting such as a library. The influence of ecological factors on behaviour has become an increasingly important focus in the study of human behaviour (McArthur & Baron, 1983; Willems, 1985). Most research in non-verbal communication dealing with physical-environmental factors focused on interpersonal spacing, proxemics, and cultural differences in interaction patterns (Hall, 1966; Baxter, 1970; Collett, 1971).

The social climate of the environment is also an important factor in the consideration of non-verbal behaviour (Jones et al., 1985). Research has demonstrated that different behaviours are produced in stressful versus unstressful situations (Rozelle & Baxter, 1975). The formality of a setting will determine the degree to which many non-verbal behaviours are suppressed or performed. Competitive versus cooperative interaction settings will also produce different types, levels, and frequencies of non-verbal behaviours. These are just several examples of factors affecting the communicative meaning of non-verbal behaviour. The reader is encouraged systematically to survey factors that may be of importance in more personally familiar settings.

Non-verbal behaviour as communication: process and outcome factors of the interaction episode

Many communication models as applied to non-verbal behaviour have concentrated on the interpersonal level and have not elaborated to the same degree the role and situational levels of communication. An important distinction in viewing non-verbal behaviour as communication is that between the encoder and the decoder. The encoder is analogous to an actor or impression manager, producing and ‘sending’ the behaviours to be interpreted. The decoder is analogous to an observer ‘receiving’ the presented behaviours and interpreting them in some fashion. Within the context of the encoder–decoder distinction, a major concern is that of intention and whether intended and unintended messages obey the same rules and principles of communication (Dittmann, 1978).

Ekman and Friesen (1969) provided two general classifications for behavioural messages. The first is the ‘informative act’ that results in certain interpretations on the part of a receiver without any active or conscious intent on the part of the sender. Thus, an individual’s non-verbal behaviour is unintentionally ‘giving off’ signals that may be either correctly or incorrectly interpreted by a decoder (Goffman, 1959). The important point is that an impression is being formed without the encoder’s knowledge or intention. A second classification is termed the ‘communicative act’ or, in Goffman’s terms, expressions that are ‘given’. In this case, the encoder is intentionally attempting to send a specific message to a receiver. Goffman suggested that, as impression managers, we are able to stop ‘giving’ messages, but cannot stop ‘giving off'
information. A difficulty lies in distinguishing varying degrees of conscious intent as opposed to ‘accidental’ or non-specifically motivated behaviour. Extreme examples of communicative behaviours intended to convey such emotions as anger, approval, or disagreement are usually described in the literature (e.g. Jones & Pittman, 1982). Similarly, informative acts such as fidgeting and gaze aversion are presented as examples of informative behaviour indicating unintended guilt, anxiety, or discomfort.

As will be discussed later in this chapter, role and situational considerations can lead to gross misinterpretations of what is considered ‘informative’ or ‘communicative’ behaviour on the part of both encoder and decoder in an interaction. Most interactions among people involve less extreme emotion and a complexity of intentions. Many social interactions also involve changing roles between encoder and decoder as the participants take turns in speaking and listening.

A useful model dealing with the issues of social influence in non-verbal communication was presented by MacKay (1972). The distinction is made between two types of non-verbal signals exhibited by the encoder: (1) goal-directed and (2) non-goal-directed. The receiver or decoder then interprets either of these signals as being (3) goal-directed or (4) non-goal-directed. Thus, the signal and the interpretation may be similar: (1) goal-directed signal being interpreted as goal-directed; (2) non-goal-directed signal being interpreted as non-goal-directed; or dissimilar: (3) goal-directed signal being interpreted as non-goal-directed; (4) non-goal-directed signal being interpreted as goal-directed. When considering goal-directed signalling, MacKay’s model assumes that the encoder is behaviourally attempting to communicate a specific internal state or presence and that the intended communication has a desired effect on the encoder. If, in the encoder’s judgement, the intended effect has not been achieved, the goal-directed, non-verbal behaviour is modified to achieve the desired effect. Therefore, the encoder actively evaluates the reaction of the decoder and proceeds accordingly.

Requiring communicative behaviour to be explicitly goal-directed, with an immediate adjustment on the part of the encoder depending upon the decoder’s response, limits the number of behaviours that can be considered communicative. In typical conversations, many non-verbal behaviours become automatic responses and are performed at low levels of awareness or involve no awareness at all. What was once a specifically defined, goal-directed behaviour becomes habitual and is no longer a product of conscious intention. The degree to which non-verbal behaviours involve varying levels of awareness then becomes difficult to determine.

Another consideration for the understanding of non-verbal communication is whether or not the encoder and decoder share a common, socially defined signal system. Weiner et al. (1972) argued that this is a crucial requirement for communication to occur, regardless of the degree to which any behaviour is intentional. This represents a limited perspective on what is considered communication. One of the more pervasive problems in the use of non-verbal behaviour in the encoding and decoding process is when a common system is not shared and misinterpretation of behaviour results. Certain encoded behaviours may have unintended effects, especially when contextual factors, such as cultural, role, and spatial factors, are inappropriately considered during an interaction. The misinterpretation of behaviour that results can lead to profound consequences and must be considered a type of communication per se.
Perhaps the most useful model of non-verbal communication that encompasses these issues (but does not resolve them) is one originally presented by Ekman and Friesen (1969). They began by distinguishing between three characteristics of non-verbal behaviour: (1) usage, (2) origin, and (3) coding.

Usage refers to the circumstances that exist at the time of the non-verbal act. It includes consideration of the external condition that affects the act, such as the physical setting, role relationship, and emotional tone of the interaction. For example, the encoder and decoder may be communicating in an office, a home, a car, or a street. The role relationship may involve that of interviewer–interviewee, therapist–client, supervisor–employee, husband–wife, or teacher–student. The emotional tone may be formal or informal, stressful or relaxed, friendly or hostile, warm or cold, and competitive or cooperative. Usage also involves the relationship between verbal and non-verbal behaviour. For instance, non-verbal acts may serve to accent, duplicate, support, or substitute for – or they may be unrelated to – verbal behaviours.

Usage is the characteristic Ekman and Friesen chose to employ in dealing with awareness and intentionality on the part of the encoder, as discussed previously. In addition, usage involves external feedback, which is defined as the receiver’s verbal or non-verbal reactions to the encoder’s non-verbal behaviours as interpreted by the encoder. This does not involve the receiver’s actual interpretations of the sender’s behaviour, but is only information to the sender that his or her non-verbal behaviours have been received and evaluated. Finally, usage also refers to the type of information conveyed in terms of being informative, communicative, or interactive. Informative and communicative acts have been discussed. Interactive acts are those that detectably influence or modify the behaviour of the other participants in an interaction. Thus, these three information types involve the degree to which non-verbal messages are understood, provide information, and influence the behaviour of other people.

The second characteristic of non-verbal behaviour discussed by Ekman and Friesen is its origin. Some non-verbal behaviours are rooted in the nervous system, such as reflex actions; other non-verbal behaviours are commonly learned and used in dealing with the environment: for example, human beings use their feet for transportation in one form or another. A third source of non-verbal behaviour refers to culture, family, or any other instrumental or socially distinguishable form of behaviour. Thus, we adopt idiosyncratic behaviours when driving a car; we eat in a certain manner and groom ourselves in various ways. Social customs dictate non-verbal patterns of greeting one another, expressing approval or disapproval, and apportioning appropriate distances from one another depending upon the type of interaction involved.

The third characteristic of non-verbal behaviour is coding, that is, the meaning attached to a non-verbal act. The primary distinction is between extrinsic and intrinsic codes. Extrinsically coded acts signify something else and may be either arbitrarily or iconically coded. Arbitrarily coded acts bear no visual resemblance to what they signify.
represent. A thumbs-up sign to signal that everything is OK would be an arbitrarily coded act since it conveys no meaning ‘by itself’. An iconically coded act tends to resemble what it signifies, as in the example of a throat-cutting movement with a finger. Intrinsically coded movements are what they signify. Playfully hitting a person, say on the upper arm, is an intrinsically coded act in that it is actually a form of aggression.

Employing usage, origin, and coding as a basis for defining non-verbal behaviour, Ekman and Friesen went on to distinguish among the following five categories of behavioural acts.

**Emblems**

These are non-verbal acts that have direct verbal translation and can substitute for words, the meaning of which is well understood by a particular group, class, or culture. Emblems originate through learning, most of which is culture-specific, and may be shown in any area of the body. Examples include waving the hands in a greeting or frowning to indicate disapproval. Ekman et al. (1984) found substantial regional, national, and intranational variation in these displays, leading them to suggest compiling an international dictionary of emblems. Differences have also been found in the way cultures interpret emblems: cultures studied include the Catalans in Spain (Payrato, 1993), Dutch interpretations of Chinese and Kurdish gestures (Poortinga et al., 1993), and Hebrew speakers in Israel (Safadi & Valentine, 1988). The culture-specific nature of emblems can come into sharp focus when unintentional communication occurs as a function of an encoder and decoder having learned different meanings for identical emblematic displays.

**Illustrators**

These are movements that are tied directly to speech and serve to illustrate what is verbalised. Illustrators are socially learned, usually through imitation by a child of a person he or she wishes to resemble. An example of an illustrator is holding the hands a certain distance apart to indicate the length of an object.

**Regulators**

These non-verbal acts serve to regulate conversation flow between people. Regulators are often culture-specific and may be subtle indicators to direct verbal interaction such as head nods, body position shifts, and eye contact. Because of their subtle nature, regulators are often involved in miscommunication and inappropriate responses among people of different cultures or ethnic backgrounds. This will be examined later in greater detail when the authors’ police–citizen research is described.
**Adaptors**

These are object or self-manipulations. The specific behaviours are first learned as efforts to satisfy bodily needs, usually during childhood. In adult expression, only a fragment of the original adaptive behaviour is exhibited. Adaptors are behavioural habits and are triggered by some feature of the setting that relates to the original need. There are three types of adaptors: (1) self-adaptors such as scratching the head or clasping the hands; (2) alter-adaptors, which may include protective hand movements and arm-folding intended to protect oneself from attack or to represent intimacy, withdrawal, or flight; and (3) object adaptors, which are originally learned to perform instrumental tasks and may include tapping a pencil on the table or smoking behaviours.

**Affect displays**

These consist primarily of facial expressions of emotions. There is evidence that people from different cultures agree on their judgements of expressions for the primary emotions (happiness, sadness, anger, surprise, fear, disgust, and interest) but disagree on their ratings of the intensity of these expressions (Ekman, 1992a, 1992b, 1993, 1994). However, these expressions are usually modified and often hidden by cultural display rules learned as ‘appropriate’ behaviour. Thus, affect displays may be masked in social settings in order to show socially acceptable behaviour. Recent findings related to this issue have led to the development of an interactionist perspective that integrates findings supportive of both cultural specificity and universality. A recent study by Elfenbein and Ambady (2003) documents the degree to which (cultural) familiarity increases decoding accuracy, and meta-analytic assessments of this question have revealed in-group advantages in decoding accuracy (Elfenbein & Ambady, 2002a, 2002b). However, evidence for such an in-group advantage has been questioned due to methodological restrictions in studies documenting the impact of culture (see Matsumoto, 2002). It may be that the events that elicit emotions vary from culture to culture, but the particular facial muscle movements triggered when a given emotion is elicited may be relatively universal.

The non-verbal characteristic-category system of Ekman and Friesen has provided a useful means of analysing and organising non-verbal behaviours used in communication, and it is readily applicable in describing processes of information and expression-exchange in normal, social interactions. Extended use of the system has focused on a number of significant topic areas, among which could be cited many investigations into the relationships between genuine and recalled emotion and facial expression (Ekman et al., 1990; Ekman, 1992a, 1993), and the utility of the system in distinguishing honest and authentic expressions from the deceptive and dissembling (Hyman, 1989; Ekman et al., 1991; Ekman & O’Sullivan, 1991; Ekman, 1992a). Perhaps one of the most promising findings to emerge from this literature is the recognition of a particular smile, ‘the Duchenne smile’, which seems to be a reliable indicator of genuine enjoyment and happiness. Moreover, this facial profile seems to be quite resistant to staging and dissimulation (Ekman, 1993). Results from current investigations of the Duchenne smile suggest that there may exist a universal cross-cultural
response to these displays that might have evolved due to the important communicative role of such smiles (Williams, Senior, David, Loughland & Gordon, 2001).

**Dittmann**

Another way of organising non-verbal acts in terms of their communicative nature is by focusing on the ‘communication specificity’ and channel capability of message transmission. These concepts have been presented by Dittmann (1972, 1978) as part of a larger model of the communication of emotions and are an important aspect of using non-verbal behaviour as a communication skill. Dittmann focused primarily on four major channels of communication: (1) language, (2) facial expression, (3) vocalisations, and (4) body movements. These four channels can be discussed in terms of their ‘capacity’, defined as the amount of information each may transmit at any given moment. Channel capacity can be described along two dimensions: (1) communication specificity (communicative-expressive) and (2) information value (discrete-continuous).

The closer a channel is to the communicative end of the continuum, the more discrete its information value will be in terms of containing distinguishable units with identifiable meanings (for instance, words). The more discrete a communication is, the greater the communication specificity it will usually have. These channels have the greatest capacity for conveying the largest number of messages with a wide variety of emotional meaning.

Channels at the other end of the capacity dimension are described as being relatively more expressive and continuous. For example, foot movements or changes in posture are more continuous behaviours than are spoken words, and are more expressive than specifically communicative in their emotional content. These channels have a lower capacity for conveying information regarding how a person is feeling. Facial expressions and vocalisations (paralanguage) may vary in their capacity to convey emotional expression depending on their delivery, the role the person is playing, the setting of the behaviour, and whether the decoders are family, friends, or strangers.

Dittmann also discussed the degree to which a message varies in intentional control on the part of the encoder, and awareness on the part of the decoder. Intentional control refers to the degree to which an encoder is in control of allowing his or her emotions to be expressed. Level of awareness refers to a decoder’s either being aware of, repressing, or not noticing a message being sent by an encoder.

The most useful contribution by Dittmann to the non-verbal communication area is his analysis of channels of communication. A major challenge in non-verbal behaviour research is to examine the degree to which single versus multiple channels of transmission provide more meaningful communication in human interaction.

**Mehrabian**

An influential approach that uses multiple non-verbal categories and attempts to organise them in terms of three dimensions is that of Mehrabian (1972). These dimensions, described as social orientations, are *positiveness, potency, and responsiveness.*
Positiveness involves the evaluation of other persons or objects that relate to approach–avoidance tendencies, usually described in terms of liking. Non-verbal behaviours associated with positiveness represent ‘immediacy’ cues such as eye contact, forward-leaning, touching, distance, and orientation.

Potency represents status or social control and is demonstrated through ‘relaxation’ cues of posture such as hand and neck relaxation, sideways lean, reclining angle, and arm–leg position asymmetry. Responsiveness is expressed through ‘activity’ cues that relate to orienting behaviour and involve the relative importance of the interaction participants. Such non-verbal behaviour as vocal activity, speech rate, speech volume, and facial activity are indices of responsiveness. Mehrabian’s system of non-verbal expression is thus organised into (1) dimensions, (2) associated cues, and (3) specific non-verbal indicators of the cues.

Mehrabian’s system places non-verbal behaviour in socially meaningful contexts and is especially useful for non-verbal behaviour as a communication skill. The dimensions of non-verbal behaviour can be applied equally to encoding or decoding roles and are supported by numerous experimental results. For example, data collected by Mehrabian and others indicate that the positiveness dimension, with its immediacy cues, is concerned with deceptive or truthful communication. McCroskey’s research on non-verbal immediacy in the classroom has also revealed positive effects on both evaluations of teachers (McCroskey et al., 1995; Rocca & McCroskey, 1999) and student learning outcomes (McCroskey et al., 1996). The potency dimension, as expressed by relaxation cues, is useful in understanding situations where social or professional status is salient, such as military rank, corporate power, teacher–student relations, and therapist–client interaction.

The responsiveness dimension, as expressed by activity cues, relates to persuasion, either as intended (encoding) or perceived (decoding). Thus, Mehrabian organised a complex set of non-verbal behaviours into manageable proportions, which are readily testable and applicable to social situations experienced daily, particularly by professionals whose judgement and influence are important to those with whom they communicate.

A more recent attempt to organise non-verbal behaviour into basic functions or purposes of communication is presented by Patterson (1983, 1988, 2001). He argues that, as social communication, non-verbal behaviour is meaningful only when considered in terms of an exchange of expressions between participants in an interaction. It is this relational nature of behaviours that must be considered and requires sensitivity to the behavioural context each person constructs for the other (Patterson, 1983), or for third parties viewing participants in a primary relationship (Patterson, 1988). The basic functions of non-verbal behaviour are related to the management (both interpretation and presentation) of those acts primarily involved in social interaction.

Seven basic functions are suggested: (1) providing information, (2) regulating interaction, (3) expressing intimacy, (4) expressing social control, (5) presentation function, (6) affect management, and (7) facilitating service or task goals. Non-verbal behaviour is best considered as ‘coordinated exchanges’ and configurations of
multichannel combinations as related to the seven functions. Thus, presenting non-verbal behaviour in terms of separate channels (for instance, facial expressions, arm movements, paralanguage, and so on) does not properly emphasise the interdependent and coordinated relationship among channels that are meaningfully involved in the functions. This configural approach is important for application to the development of communication skills. The use of emblems provides a good example of a non-verbal display that often employs multiple channels to produce a direct verbal equivalent. For example, the emblem for the verbalisation ‘I don’t know’ involves a coordinated facial expression, shoulder movement, arm movement, and hand movement.

The information-provision function is considered to be most basic and is seen primarily from an impression formation or decoder perspective. When observing an encoder’s (actor’s) behaviour patterns, the decoder may infer aspects of the encoder’s acquired dispositions and temporary states, or the meaning of a verbal interaction. Facial cues are emphasised (Ekman & Friesen, 1975) usually to infer emotional expressions. However, other channels of non-verbal behaviour, such as the postural, paralinguistic, and visual, are also important in formulating the impression.

The function of regulating interaction deals with the development, maintenance, and termination of a communicative exchange. These non-verbal behaviours are usually ‘automatic’ or operate at low levels of awareness. Two types of behaviour are involved in regulating interactions: the first are structural aspects that remain relatively stable over the course of an interaction and include posture, body orientation, and interpersonal distance; the second is dynamic and affects momentary changes in conversational exchange, such as facial expression, gaze, tone and pitch of voice, and change in voice volume (Argyle & Kendon, 1967; Duncan, 1972). Both the information and regulating functions are ‘molecular’ in form and represent communicative aspects of more isolated and specific non-verbal behaviours.

The last five functional categories represent broader purposes of communication and are molar descriptions of more extended interactions. These are of greater importance in understanding and predicting the nature of non-verbal acts during an interaction. Intimacy refers to liking, attraction or, generally, the degree of ‘union’ or ‘openness toward another person’. Extended mutual gazing into another’s eyes, closer interpersonal spacing, and mutual touching are examples of communicating intimacy.

Social control functions to persuade others and establish status differences related to the roles of the interaction participants. Examples of non-verbal behaviours involved in social control are gaze patterns and touch to clarify status differences, and eye contact, direct body orientation, and vocal intonation to attempt to persuade someone to accept another’s point of view. Much of the authors’ research relates to this function and will be discussed later in the chapter.

The presentational function of non-verbal behaviours is managed by an individual or a couple to create or enhance an image, and is typically aimed not so much at the other partner as it is at others outside the direct relationship. Some authors have identified these processes as ‘tie-signs’ (Goffman, 1971) or ‘withness cues’ (Scheflen & Scheflen, 1972). Holding hands, standing close, and sharing a common focus of attention are frequent examples. Such behaviours occur more often in the presence of others. The affect-management function focuses on the expression of strong affect by demonstrative processes such as embracing, kissing, and other forms
of touching associated with strong positive affect; or embarrassment, shame, or social anxiety, as in instances of decreased contact, averted gaze, and turning away from the partner.

The service-task function involves non-verbal behaviours that are relatively impersonal in nature. Role and situational factors are particularly important here since many of the same non-verbal behaviours involved in intimacy are also present in service-task functions. A good example is close interpersonal spacing and touching behaviour on the part of a physician toward a patient or between hairdresser and customer. The distinguishing feature of service-task behaviours is that they function to service the needs of individuals.

Patterson (1995) has attempted to expand his functional conception of social process maintenance by conceptualising a dynamic, multistaged, parallel-processing model of non-verbal communication. The model encompasses four classes of factors, each containing multiple processes: (1) determinants (biology, culture, gender, personality); (2) social environment (partner, setting); (3) cognitive-affective mediators (interpersonal expectancies, affect, goals, dispositions, cognitive resources, attentional focus, cognitive effort, action schemas); and (4) person perception and behavioural processes (impression formation, actor behaviour). In the broadest sense, the model attempts to describe the complex demands entailed in simultaneously initiating and monitoring interactive behaviour. It is generally recognised that if non-verbal behaviour is discussed separately by channel, it is primarily for organisational clarity; any one channel should not be considered at the exclusion of others in either managing or interpreting social behaviour. This, of course, results in a more complex task in using non-verbal behaviour as a communication skill, yet it places the topic in a more appropriate perspective vis-à-vis communication in general.

Patterson’s functional approach to non-verbal behaviour is similar to Mehrabian’s in its application to social-communicative processes. Both stress the importance of the multichannel use of configurative aspects of non-verbal communication. However, Patterson provides a broader framework in which to view non-verbal behaviour in role- and setting-specific conditions, by emphasising the degree of overlap in multichannel expression among the functions and the importance of interpreting these expressions in light of the psychological, social, and environmental context.

In more recent descriptions of Patterson’s (1998, 2001) parallel-process model of non-verbal communication, the model is increasingly focused on the roles that goals and automatic processing play in our dealing with the tasks of simultaneously decoding our social environment and managing impressions of ourselves. Patterson observes that many relatively automatic judgements (e.g. the tendency to react in a positive and nurturing manner with baby-faced adults) may have been biologically based. However, he also suggests that due to the experience of processing social information, automatic judgements can occur as a function of forming associations between specific non-verbal cues or behaviours and learned preferred tendencies of the individual. In his commentary on the influence of evolutionary psychology on current non-verbal research, Patterson (2003) states that the evolutionary focus on the adaptive value of specific forms of expressive behaviour is consistent with the functional perspective, and that ‘Evolutionary processes play a critical role in providing the foundation for this functional system of nonverbal communication’ (p. 207). However, in a manner similar to that of Zebrowitz (2003), his major criticism of the evolutionary
perspective is that it does not capture the parallel sending and receiving processes that represent an adequately complex interactive model of non-verbal communication.

The complexity of the task of communicative and self-presentational uses of non-verbal behaviour has been reviewed by DePaulo (1992). She examined the difficulties of communicating intended messages and emotional states through non-verbal channels. Two factors received particular emphasis. Non-verbal behaviour is more accessible to others in an interaction than it is to the actor. This makes self- (or relationship) presentational refinements and monitoring difficult for the actor, and access direct and figural for others, although such refinements have been shown to be affected by self-monitoring tendencies and strategic self-presentational goals (Levine & Feldman, 1997). Second, it is never possible to ‘not act’ by non-verbal channels. While one can fall silent verbally, one can never become silent non-verbally. These two features of non-verbal behaviour vis-à-vis speech highlight the significant and problematic nature of non-verbal behaviour as communication.

NON-VERBAL COMMUNICATION IN CONTEXT

This chapter has stressed that non-verbal behaviour, as a communication skill, is most usefully understood when discussed in role- and setting-defined contexts. With the possible exception of facial expressions subject to display rules, non-verbal communication cannot be discussed adequately by presenting principles that have universal application. Perhaps a useful way of presenting research results as applied to communication skills is to provide a sampling of findings in selected contexts. At present, research on non-verbal communication is incomplete and asks more questions than it provides answers, yet it is hoped that the reader will better appreciate scientific attempts to study this communication skill meaningfully.

In his review, Knapp (1984) discussed the relevance of non-verbal behaviour to communication in general and suggested several assumptions from which the research can be viewed. Among these are that human communication consists primarily of combinations of channel signals such as spatial, facial, and vocal signals operating together. Another assumption is that communication is composed of ‘multilevel signals’ and deals with broader interpretations of interactions such as general labelling (for example, a social or professional encounter) and inferences about longer-term relationships among the interactants. His last assumption is most crucial for the present discussion, since it points out the critical importance of context for generating meanings from human communication encounters.

Setting and role applications

A major limitation of much non-verbal behaviour research is that it is conducted in a laboratory setting devoid of many of the contextually relevant environmental and social features present in real-life interactions (Druckman et al., 1982; Davis, 1984; Knapp, 1984). This is a serious problem in attempts to generalise techniques of impression management and processes of impression formation to specific role-defined settings (such as the psychotherapeutic or counselling session), health
professional–patient interactions, the employment interview, and police–citizen encounters. Professionals in these areas have a special interest in non-verbal behaviour. Accurate and effective communication is crucial to accomplishing the purposes of the interaction. One series of studies conducted over a number of years is illustrative of setting- and role-defined research and reveals the importance of the interplay among the categories of kinesics, paralanguage, proxemics, physical characteristics, adornments, and environmental factors mentioned earlier as describing major categories of non-verbal behaviour.

The specific role-defined setting was that of a standing, face-to-face, police–citizen interaction. In the initial study (Rozelle & Baxter, 1975), police officers were asked to indicate the ‘characteristics and features they look for when interacting with a citizen while in the role of a ‘police officer’. They were also asked to indicate cues they used in forming these impressions of the citizen. These cues or information items were classified as either behavioural (that is, the other person’s verbal and non-verbal behaviour) or situational (that is, aspects of the environment, such as number of other people present, whether inside a room or on the street, and lighting conditions).

The officers were asked to compare a ‘dangerous’ and a ‘non-dangerous’ situation. Under conditions of danger, the officers indicated a broadened perceptual scan and were more likely to utilise behavioural (mainly non-verbal) and situation-environmental cues (for instance, area of town, size of room, activities on the street) in forming an impression of the citizen. Under the non-dangerous conditions, the officers concentrated almost exclusively on specific facial and vocal cues, eye contact, arm and hand movements, and dress and behavioural sequences such as body orientation and postural positions. Under these less stressful conditions, police officers indicated an impression formed that described the citizen primarily in terms of dispositional characteristics (i.e. guilty, suspicious, deceptive, honest, law-abiding).

Dispositional causes of observed behaviour are contrasted with situational causes such as attributing one’s behaviour to momentary discomfort or confusion, crowding, response to another’s actions, or other events in the immediate environment. Thus, in the more typical police–citizen interaction, which is non-stressful for the police officer (for instance, obtaining information from a witness to an accident or crime), the officer focused predominantly on the citizen’s non-verbal behaviours and dispositional attributions, rather than situational attributions, to explain the citizen’s behaviour (for example, guilty or innocent).

**Actor and observer bias in explaining non-verbal behaviour**

An important feature of impression-management (encoding) and formation (decoding) processes deals with differences arising out of the perspectives of the participants in the interaction (Jones & Nisbett, 1972; Ross & Nisbett, 1991). In most role-defined interactions, the person in the encoding role is considered to be the actor, whereas the decoder is the observer. It has been proposed that unless otherwise trained or sensitised (Watson, 1982), observers overemphasise dispositional qualities in inferring the causes of the actor’s behaviour, while ignoring the more immediate situational factors related to the observed behaviour. Actors, on the other hand, usually overemphasise situational factors at the expense of dispositional ones in explaining their own
behaviour, especially when it is self-serving to do so. It should be mentioned, however, that a number of factors, including cross-cultural differences (Choi & Nisbett, 1998; Krull, Loy, Lin, Wang, Chen & Zhao, 1999; Masuda & Kitayama, 2004) and differences in the way that individuals process information (D’Agostino & Fincher-Kiefer, 1992), have been found to moderate these general attributional tendencies.

Rozelle and Baxter (1975) concluded that police officers see themselves as observers, evaluating and judging the behaviours of the citizen with whom they are interacting. As a result, the officer makes predominantly dispositional interpretations, ignoring situational causes of the observed behaviour. It is of particular importance to note that in this type of face-to-face interaction, the officer is probably one of the more distinguishable features of the situation, and the officer’s behaviour is an important situational determinant of the citizen’s behaviour. Thus, the officer underestimates or ignores personal behaviour as a contributing, situational determinant of the citizen’s behaviour. This can lead to misinterpretations of behaviour, particularly when judgements must be made on the basis of a relatively brief, initial encounter. It should also be noted that the citizen may be misinterpreting his or her own behaviour in terms of reacting to the situation, including the officer’s behaviour; thus, non-verbal cues are not ‘managed’ properly to avoid expressing or concealing appropriate behaviour for desired evaluation on the part of the officer. Other types of role-defined interactions resemble this condition in various degrees.

Interpersonal distance, roles and problems of interpretation

A more dramatic example of how this observer bias can lead to clear, yet inaccurate, interpretations of behaviour was obtained when the category of proxemics was included in the police–citizen interaction. Based on his observations of North American behaviour in a variety of settings, Hall (1959, 1966) proposed four categories of interpersonal distance that describe different types of communications in face-to-face interactions:

1. intimate distances in which interactants stand 6–18 inches from each other, types of interactions expressing intimacy being ‘love-making and wrestling, comforting and protecting’
2. personal distances of 1.5–4 feet, which usually reflect close, personal relationships
3. social or consultative distances of 4–7 feet, which are typical of business and professional client interactions
4. public distances of 12–20 feet involving public speaking in which recognition of others spoken to is not required.

Hall (1966) stipulated that these distances are appropriate only for North American and possibly northern European cultures, and that other cultures have different definitions of interpersonal spacing.

A study by Baxter and Rozelle (1975) focused on a simulated police–citizen interview between white male undergraduates at a North American university and an interviewer playing the role of a police officer questioning the student-citizen about
various items in his wallet. The interview consisted of four 2-minute phases in which the distance between the officer and citizen was systematically varied according to Hall’s first three distance classes.

For both the experimental and control groups, the role-played officer stood 4 feet away from the student during the first 2-minute phase. At the beginning of the second 2-minute phase, the officer casually moved within 2 feet (personal distance) of the subject for both groups. For the experimental group only, the intimate or ‘severe crowding’ condition (due to the inappropriate distances for the roles being played) occurred during the third 2-minute phase: the officer moved to an 8-inch nose-to-nose distance from the subject, and then returned to the 2-foot distance during the fourth 2-minute phase. The 2-foot distance was maintained throughout the second, third, and fourth phases for the control group. The police interviewer was instructed to maintain eye contact during all phases of the interaction. The student was positioned next to a wall which prevented him from moving back or escaping during the crowding condition.

The non-verbal behaviours exhibited by the subjects during the crowding condition were consistent with typical reactions of people experiencing inappropriate, intimate, interpersonal spacing. As the subject was increasingly crowded during the interview, his speech time and frequency became disrupted and disorganised, an uneven, staccato pattern developing. Eye movements and gaze aversion increased, while few other facial reactions were displayed. Small, discrete head movements occurred, and head rotation/elevation movements increased. Subjects adopted positions to place their arms and hands between themselves and the interviewer, and there was a noticeable increase in hands-at-crotch positioning. Brief rotating head movements increased, while foot movements decreased.

These non-verbal behaviours were produced by a situational manipulation (that is, crowding) but were strikingly similar to those emphasised by Rozelle and Baxter’s real police officers as they described behaviours indicating dispositional characteristics of guilt, suspicion, and deception. Officers in the earlier study specified facial and vocal cues, arm and hand behaviour, and posture and body orientation; they related non-verbal behaviours as being particularly reliable indices of these dispositions. At that time, the training course (at the police academy) required of all officers included instructions to stand close to the citizen and maintain maximal eye contact during such an interview. Thus, reliance on non-verbal behaviour has, in this role-specific setting, a high probability of miscommunicating intention, motivations, and other dispositions from actor to observer. The observer, by not properly including his or her own behaviour as a significant part of the situation influencing the actor’s non-verbal behaviour, inaccurately forms an impression of the actor in a highly reliable and confident manner.

Cultural influences

The important role played by cultural differences in non-verbal behaviour is suggested from several directions. Early studies by Watson (1970) and by Watson and Graves (1966) have shown differences in gazing behaviour, space behaviour, body orientation, and touching behaviour among members of different cultures. More recent studies by Ekman and his colleagues distinguished the universal from the
culturally specific sources for expressions of emotion (e.g. Ekman & O'Sullivan, 1988). While the underlying physiology for the primary emotions may be universal, the actual expression elicited is subject to cultural (Elfenbein & Ambady, 2002b, 2003) and situation-determined display rules, as we discussed above. Display rules serve to control an expression or to modify certain expressions that would be socially inappropriate or would reveal deception.

Klopf et al. (1991) showed that the Japanese subjects in their study perceived themselves to be less immediate – as indicated by less touching, more distance, less forward lean, less eye contact, and orientation away from the other – than their Finnish and American subjects. These variations may reflect cultural differences in rules dealing with intimacy (Argyle, 1986). Anecdotal reports also suggest distinct patterns of expression for Japanese negotiators – in the face (immobile, impassive); the eyes (gaze away from others); the mouth (closed); the hands (richly expressive gestures); and synchronous movements in pace, stride, and body angle with other members of a group (March, 1988). Understanding preferred non-verbal expressions may be a basis for communicating across cultures, as Faure (1993) illustrated in the context of French–Chinese negotiations. They may also reveal the way that members of different societies manage impressions (Crittenden & Bae, 1994).

Subcultural differences in interpersonal spacing preferences have been examined in several observational studies (Willis, 1966; Baxter, 1970; Thompson & Baxter, 1973). In general, African-Americans tend to prefer interacting at greater distances and at more oblique orientations than Anglo-Americans, who in turn prefer greater distances and more indirection than Mexican-Americans. Indeed, the Thompson and Baxter study demonstrates that African-Anglo- and Mexican-Americans, when interacting in intercultural groups in natural contexts, appear to ‘work toward’ inconsistent spacing arrangements through predictable footwork and orientation adjustments. A subsequent study by Garratt et al. (1981) trained Anglo-American police officers to engage in empirically determined ‘African-American nonverbal behaviour and inter-personal positioning’ during an interview with African-American citizens. These interviews were contrasted with ‘standard’ interviews conducted by the same officers with different African-American citizens. Post-interview ratings by these citizens showed a clear preference for the ‘trained’ policeman, along with higher ratings in the areas of personal, social, and professional competence. A similar study with comparable results had been carried out previously by Collett (1971) with trained British interviewers interacting with Arab students.

Differences were also found between African-American and white American subjects in gazing behaviour. The African-American subjects directed their gaze away when listening and toward the other when speaking (LaFrance & Mayo, 1978). Similar patterns of gaze behaviour were found in other societies (Winkel & Vrij, 1990; Vrij & Winkel, 1991). Preliminary evidence obtained by the authors of this chapter suggests that the differences in gaze may reflect differences between subcultural groups in felt stress. A comparison of decoding accuracy between African-American, African, Afro-Caribbean, and European-Americans demonstrated that decoding accuracy for the non-verbal expression of emotion through posture and tone of voice was significantly related to degree of acculturation (Bailey, Nowicki & Cole, 1998). Consistent with the likelihood that facial expressions would be more universally understood, acculturation was unrelated to the accurate interpretation of emotion from face in this
study. However, more recent investigations that have compared Japanese nationals and Japanese-Americans have revealed cultural differences in ‘non-verbal accents’ in the facial expression of emotion (Marsh, Elfenbein & Ambady, 2003).

A few studies have investigated cultural factors in deceptive enactments. Comparing Chinese experimental truth tellers to liars, Yi Chao (1987), Cody et al. (1989), and O’Hair et al. (1989) found that only speech errors and vocal stress distinguished between the groups. Other paralinguistic variables were related more strongly to question difficulty. Like the Americans in the studies reviewed by DePaulo et al. (1985), the Chinese liars (compared to the truth tellers) experienced more difficulty in communicating detailed answers to the questions that required effort. Both the liars and truth tellers were brief in communicating negative feelings, smiling frequently and suppressing body and hand movements. With regard to Jordanian subjects, Bond et al. (1990) found that only filled pauses distinguished between the liars and truth tellers: the Jordanians expressed more filled pauses when lying than when telling the truth. Compared to a comparable sample of Americans, the Jordanian subjects (liars and truth tellers) displayed more eye contact, more movements per minute, and more filled pauses. However, the American and Jordanian subjects both used similar, inaccurate non-verbal cues (avoiding eye contact and frequent pauses) in judging deception by others. An examination of beliefs about deception cues among Jordanians by Al-Simadi (2000) revealed some similarities with data from the USA and Western Europe (expectations of increased gaze aversion and paralinguistic cues) and some notable differences (expectations of increased blinking and facial colour).

While suggestive, these studies are not sufficient probes into the cultural dimensions influencing non-verbal behaviour. None of them describes the way people from different cultures feel when they violate a social taboo, for example, or attempt to deceive or exploit an interviewer. While the studies are informative, they do not illuminate the psychological states aroused within cultures that give rise to the kind of ‘leakage’ which may be used to examine complex intentional structures in different cultural groups. Based on their review of deception research, Hyman and Druckman (1991) concluded that ‘detection of deception would be improved if one could anticipate the sorts of settings that constitute social transgression or a guilt-producing state for particular individuals (or cultures)’ (p. 188).

**Some research implications**

Building on the idea of cultural display rules, investigations designed to discover the situations which produce guilt for members of different cultural groups would be helpful. Situations that produce guilt are likely to vary with an individual’s cultural background and experience. When identified, these situations could then be used as settings for enacting scripts that involve either deception or truth telling by subjects from those cultures. The enactments should reveal the non-verbal behaviour that distinguishes deceivers and truth tellers within the cultural groups. These behaviours would be culturally specific ‘leaked’ cues.

Following this approach, such studies could be implemented in stages. First, interviews would be conducted to learn about a culture’s ‘folk psychology’ of deception
Respondents would be asked about the kinds of lies and lying situations that are permissible and those that are taboo within their culture. Second, experimental deception vignettes would be presented for respondents’ reactions in terms of feelings of guilt, shame, and stress. The vignettes could be designed to vary in terms of such dimensions as whether the person represents a group or her/himself, the presence of an audience during the interview, and the extent to which he or she prepared for the questions being asked. Analyses would then suggest the dimensions that influence feelings of guilt or shame for each cultural group. Preliminary findings on subcultural groups, obtained by the authors of this chapter, showed differences in stress for members of different cultural groups and less guilt felt by respondents in all cultural groups when they were in the role of group representative rather than non-representative. (See also Mikolic et al., 1994, for evidence on the disinhibiting effects of being in groups.) Third, the information gathered from the interviews could provide the bases for more structured experimental studies designed to discover those non-verbal behaviours that distinguish between liars and truth tellers (the leakage cues) for each of several cultural groups. These cues could then be used for diagnostic purposes as well as for the development of training modules along the lines of work completed by Collett (1971), Garratt et al. (1981), Druckman et al. (1982), Costanzo (1992), and Fiedler and Walka (1993).

Non-verbal behaviour in professional settings: a sample of research findings

Although the police–citizen encounter was brief, and involved rather extreme situational proxemic variations with only a moderate amount of verbal exchange, it has elements similar to many professional interactions. For example, the actor–observer distinction could be applied to the employment interview. In such an interaction, the interviewer could be considered the ‘observer’ or decoder evaluating the verbal and non-verbal acts of the interviewee, who is the ‘actor’ or encoder.

In the authors’ experience with the professional interview setting, the interviewer often makes an important, job-related decision regarding the interviewee based on dispositional attributions occurring as a result of behaviour observed during a 30-minute interview. Although the employment interview may be a typical experience for the interviewer during the working day, it is usually an infrequent and stressful one for the interviewee. This could increase the observer-dispositional bias, actor-situational bias effect. The interviewer, in the role of observer, proceeds ‘as usual’, while the interviewee reacts in a sensitive manner to every verbal and non-verbal behaviour of the interviewer. Unaware that the very role of the interviewer is an important, immediate situational cause of the interviewee’s behaviours, the interviewer uses these same behaviours to attribute long-term dispositional qualities to the interviewee-actor and may make a job-related decision on the basis of the impression formed. Thus, from a non-verbal communication perspective, the impression formed is, to varying degrees, inadvertently encoded by the interviewee-actor, and possibly misinterpreted in the decoding process by the interviewer (the employment interview is discussed in detail in Chapter 16).

This miscommunication process may be particularly important during
the initial stages of an interaction, since expectancies may be created that bias the remaining interaction patterns. Research indicates that first impressions are important in creating expectancies and evaluative judgements (and sometimes diagnoses) of people in interviewing, counselling, teaching, therapeutic, and other professionally role-related interactions. Zajonc (1980) stated that evaluative judgements are often made in a fraction of a second on the basis of non-verbal cues in an initial encounter. Others have shown that a well-organised, judgemental impression may be made in as little as 4 minutes.

A meta-analytic study by Ambady and Rosenthal (1992) summarized the research on ‘thin slices’ (defined as a 5-minute exposure or less) of expressive behaviour as a predictor for deception detection. They found a significant effect size, \( r = 0.31 \), across 16 studies. Neither length of exposure nor channel exposure (non-verbal vs verbal and non-verbal) significantly moderated the effect size. Babad et al. (2003) found that even very brief (10-second) exposure to teacher non-verbal behaviour while the latter was interacting with the class is predictive of students’ teaching evaluations.

Those in professional roles, such as interviewing, counselling, and teaching, should constantly remind themselves of the influence they have on clients’ non-verbal behaviour, and not to rely on ‘favourite’ non-verbal behaviours as flawless indicators of dispositional characteristics. Knowledge of the potential effects of verbal and non-verbal behaviour can be useful in impression-management techniques to create more effective communication in face-to-face interactions. For example, in a simulated employment interview setting, Washburn and Hakel (1973) demonstrated that when applicants were given a high level of non-verbal ‘enthusiasm’ by the interviewer (for instance, gazing, gesturing, and smiling), the applicants were judged more favourably than those given a low level of interviewer enthusiasm. Another study showed that when candidates received non-verbal approval during an employment interview, they were judged by objective observers to be more relaxed, more at ease, and more comfortable than candidates who received non-verbal disapproval from the interviewer (Keenan, 1976).

Impression-management strategies may also be utilised by the interviewee. For example, the American Psychological Association gives specific suggestions, based on research, to postgraduate school applicants on how to communicate favourable qualities non-verbally during an interview (Fretz & Stang, 1982). Research studies generally show that non-verbal behaviours, such as high levels of gaze, combinations of paralinguistic cues, frequent head movement, frequent smiling, posture, voice loudness, and personal appearance, affect impressions formed and evaluative judgements made by employment interviewers (Young & Beier, 1977; Hollandsworth et al., 1979; Forbes & Jackson, 1980). Non-verbal immediacy has also been shown to be related to positive subordinate perceptions of supervisors (Richmond & McCroskey, 2000). Caution should be advised before applying these specific behaviours, since qualifying factors have been reported. For example, one study reported that if an applicant avoids gazing at the interviewer, an applicant of high status will be evaluated more negatively than one of low status (Tessler & Sushelsky, 1978). Evidently, gaze aversion was expected, on the part of the interviewer, from a low-status applicant, but not from a higher-status one. Status differences and associated non-verbal behaviours have also been recognised in the military setting, where physical appear-
ance, such as uniform markings, clearly identifies the ranks of the interactants (Hall, 1966).

This brief sampling of empirical results provides impressive evidence for the importance of non-verbal behaviour in managing and forming impressions in role-defined settings. However, these results also reveal that non-verbal behaviour in the form of kinesics interacts with other non-verbal categories such as proxemics, paralanguage, physical characteristics, and environmental factors. Although this creates a rather complex formula for applications, all of Knapp’s seven dimensions are important to consider in developing communication skills in the various contexts of role-defined interactions that one experiences.

AN EXAMPLE OF RESEARCH AND APPLICATION: INTERNATIONAL POLITICS

In this section, a programme of research will be briefly presented that illustrates an attempt to identify systematically certain non-verbal behaviours associated with specific intentions of the communicator (encoder), and then to apply these findings to develop better skills in interpreting (decoding) observed behaviour of others (Druckman et al., 1982). The context selected for this research is international politics. This is an area that encompasses a broad range of situational, cultural, personal, and social factors and thus attempts to deal with the complexity of non-verbal expression and interpretation. It is also an area that contains elements similar to a variety of everyday experiences encountered by a broad range of people in professional and social interactions.

Laboratory research

The initial research project involved a role-playing study in which upper-level university students were instructed to play the role of a foreign ambassador being interviewed at a press conference. A set of pertinent issues was derived from United Nations transcripts and presented to the subjects in detail. After studying the issues, subjects were randomly assigned to one of three intention conditions which directed them to express their country’s position on the issues in either an honest, deceptive, or evasive fashion. Examples of honest, deceptive, and evasive arguments and discussion points were presented to the subjects to help prepare them for the interview.

A formal, 15-minute, videotaped interview was conducted between the ‘ambassador’ and a trained actor playing the role of a press interviewer. An informal, 7-minute, post-interview discussion was also videotaped in which the subject was asked to be ‘him/herself’ and discuss his or her activities at the university. It is important to note that the subject ambassadors were not aware that the purpose of the study was to assess non-verbal behaviour exhibited by them during the interview. Thus, the study dealt with ‘informative’ rather than consciously controlled ‘communication’ acts as described by Ekman and Friesen (1969) and discussed by Dittmann (1978). Moreover, the interviewer was unaware of whether the subject was in the honest, deceptive, or evasive intention condition. Ten subjects served in each of the condi-
The videotaped interviews were coded by an elaborate process involving 200 student volunteers carefully trained reliably to observe specific channels of non-verbal behaviour patterns produced by subjects in the honest, deceptive, and evasive conditions.

**Research findings**

Among the detailed results presented by Druckman et al. (1982), several general findings are appropriate for this discussion. One set of analyses revealed that honest, deceptive, and evasive subjects could be classified accurately solely on the basis of their non-verbal behaviours. Using 10 non-verbal behaviours (for instance, head-shaking, gaze time at interviewer, leg movements, and so on), 96.6% of the subjects were classified correctly as being honest, deceptive, or evasive. In another segment of the interview, three non-verbal behaviours (for instance, leg movements, gaze time at interviewer, and object fidgeting) were accurate in 77% of the cases in detecting honest, deceptive, or evasive intentions of the subject.

These computer-generated results were in striking contrast to another set of judgements produced by three corporate executives selected on the basis of their experience and expertise in ‘dealing effectively with people’. These executives viewed the tapes and then guessed whether the subject had been in the honest, deceptive, or evasive condition. Results indicated that the experts correctly classified the subject-ambassadors in only 43%, 30%, and 27% of the cases, respectively. Thus, even ‘experts’ would appear to benefit from further training and skill development in interpreting non-verbal behaviours – and actually may be in special need of such training (DePaulo et al., 1985).

The vast majority of decoding studies have involved the use of undergraduate students to assess deception. The accuracy rate across these studies tends to hover close to chance: 45% and 60% (Kraut, 1980; DePaulo et al., 1985; Vrij, 2000). Vrij (2000) points out that a more specific evaluation that distinguishes between skill at detecting honesty and skill at detecting lies reveals that we tend to be particularly poor at detecting lies (a truth bias). Some data suggest that accuracy in detecting deception may be higher among specific groups of experts such as members of the Secret Service (Ekman & O’Sullivan, 1991; Ekman, O’Sullivan & Frank, 1999) and police officers (Mann, Vrij & Bull, 2004), but this is only likely to be the case when these professional groups have learned or are trained to pay attention to the more reliable non-verbal cues and ignore non-diagnostic non-verbal behaviour.

Current research summarised by Vrij and Mann (2004) has demonstrated the utility of combining the evaluation of non-verbal behaviour with the application of various speech content analysis techniques that assess the credibility of verbal content. The accuracy rate in these studies was 77–89% (Vrij, Edward, Roberts & Bull, 2000; Vrij, Akerhurst, Soukara & Bull, 2004). Lastly, a recent study that compared decoding accuracy between individuals and small (six-person) groups revealed a significant advantage among participants in the group conditions (Frank, Paolantonio, Feeley & Servoss, 2004). However, this advantage was found only for judgements of deceptive, not honest, communication.

Another set of analyses revealed significant shifts in non-verbal behaviour
patterns when the subject changed from the ambassador role to being 'him/herself' during the informal post-interview period. Generally, subjects showed more suppressed, constrained behaviour when playing the role of ambassador: for example, significantly fewer facial displays, less head nodding, fewer body swivels, and less frequent statements occurred during the interview than in the post-interview period. It would appear that the same person displays different patterns and levels of non-verbal behaviour depending upon the role that is being communicated. Moreover, different patterns of behaviour occurred in the three 5-minute segments of the formal interview. Thus, even when a person is playing the same role, different behaviours emerge during the course of an interaction. These may be due to factors of adaptation, stress, familiarity, relaxation, or fatigue.

Yet another set of analyses using subjects’ responses to a set of post-interview questions indicated that certain patterns of non-verbal behaviours were related to feelings the subject had during the interview (for example, stress, relaxation, confidence, apprehension), and that these patterns were related to the intention condition assigned to the subject. Evasive and honest subjects displayed behaviours indicating involvement, while evasive and deceptive subjects displayed non-verbal indication of stress and tension. Subjects in all three conditions displayed behaviour patterns related to expressed feelings of confidence and effectiveness.

**Training the decoder**

Even though the results of this study were complex, they were organised into a training programme designed to improve the observer’s ability to distinguish among honest, deceptive, and evasive intentions of subjects playing this role. Four training programmes were presented to different groups of decoders and represented four types of instruction, ranging from general (a global lecture and an audio-only presentation) to specific information (a technical briefing and inference training) regarding non-verbal indicators of intention. Results showed that accuracy of judgement in distinguishing between honest, deceptive, and evasive presentations improved as the specificity and applied organisation of the instructional materials increased. The strategy used for inference training was shown to be especially effective (Druckman et al., 1982).

**Strategies for interpreting non-verbal behaviour: an application of experimental results**

The studies reviewed above support the assumption that gestures, facial expressions, and other non-verbal behaviours convey meaning. However, while adding value to interpretation in general, an understanding of the non-verbal aspects of behaviour may not transfer directly to specific settings. Meaning must be established within the context of interest: for example, the non-verbal behaviour observed during the course of a speech, interview, or informal conversation.

Building on the earlier laboratory work, a plan has been developed for deriving plausible inferences about intentions and psychological or physical states of political leaders (see also Druckman & Hyman, 1991). The plan is a structure for interpretation: it is a valuable tool for the professional policy analyst, and it is a useful frame-
Themes for analysis

Moving pictures shown on video or film are panoramas of quickly changing actions, sounds, and expressions. Just where to focus one’s attention is a basic analytic problem. Several leads are suggested by frameworks constructed to guide the research cited above. Providing a structure for analysis, the frameworks emphasise two general themes, namely, focusing on combinations of non-verbal behaviours and taking contextual features into account.

While coded separately, the non-verbal behaviours can be combined for analysis of total displays. Patterns of behaviours then provide a basis for inferences about feelings or intentions. The patterns may take several forms: one consists of linear combinations of constituent behaviours, as when gaze time, leg movements, and object fidgeting are used in equations to identify probable intentions; a second form is correlated indicators or clusters, such as the pattern of trunk swivels, rocking movements, head-shaking, and head nodding shown by subjects attempting to withhold information about their ‘nation’s’ policy; another form is behaviours that occur within the same time period as was observed for deceivers in the study presented above – for example, a rocking/nodding/shaking cluster was observed during interviews with deceptive ‘ambassadors’.

Patterned movements are an important part of the total situation. By anchoring the movements to feelings and intentions, one can get an idea of their meaning. But there are other sources of explanation for what is observed. These sources may be referred to as context. Included as context are the semi-fixed objects in the setting (for instance, furniture), the other people with whom the subject interacts, and the nature of the discourse that transpires. The proposition that context greatly influences social interaction/behaviour comes alive in Rapoport’s (1982) treatment of the meaning of the built environment. The constraining influences of other people on exhibited expressions are made apparent in Duncan’s (1983) detailed analyses of conversational turn taking. Relationships between verbal statements and non-verbal behaviour are the central concern in the analyses of stylised enactments provided by Druckman et al. (1982). Each of these works is a state-of-the-art analysis. Together, they are the background for developing systems that address the questions of what to look for and how to use the observations/codes for interpretation. Highlighted here is a structure for interpreting material on the tapes.

It is obvious that the particular intention–interpretation relationships of interest vary with particular circumstances. Several issues are particularly salient within the area of international politics. Of interest might be questions such as: What is the state of health of the leader (or spokesman)? To what degree are statements honestly expressive of true beliefs (or actual policy)? How committed is the person to the position expressed? How fully consolidated and secure is the person’s political position?

Knowing where to focus attention is a first step in assessment. A particular
theme is emphasized in each of the political issues mentioned above. Signs of failing health are suggested by incongruities or inconsistencies in verbal and non-verbal behaviours, as well as between different non-verbal channels. Deception is suggested by excessive body activity, as well as deviations from baseline data. Strong commitment to policy is revealed in increased intensity of behaviours expressed in a variety of channels. The careful recording of proxemic activity or spatial relationships provides clues to political status. Biographical profiles summarize co-varying clusters of facial expressions and body movements. Each of these themes serves to direct an analyst’s attention to relationships (for health indicators and profiles), to particular non-verbal channels (for deception and status indicators), or to amount (as in the case of commitment).

Knowing specifically what to look at is the second step in assessment. Results of a number of experiments suggest particular behaviours. These provide multiple signs whose meaning is revealed in conjunction with the themes noted above. Illustrative indicators and references in each category are the following.

Health indicators

1. **pain**: furrowed brow and raised eyelids; change in vocal tone and higher pitch (Ekman & Friesen, 1975); lowered brow, raised upper lip (Kappesser & Williams, 2002); facial expression (Williams, 2002)
2. **depression**: hand-to-body motions, increased self-references, and extended periods of silence (Aronson & Weintraub, 1972); lowered facial muscle activity over the brow and cheek region (Gehricke & Shapiro, 2000)
3. **irritability**: more forced smiling (McClintock & Hunt, 1975); fewer positive head nods (Mehrabian, 1971)
4. **tension**: increased spontaneous movement (Mehrabian & Ksionzky, 1972); faster eye blinking, self-adaptive gesture (for body tension) (McClintock & Hunt, 1975)
5. **stress**: flustered speech as indicated by repetitions, corrections, use of ‘ah’ or ‘you know’, rhythm disturbances (Kasl & Mahl, 1965, Baxter & Rozelle, 1975; Fuller, Horii & Conner, 1992); abrupt changes in behaviour (Hermann, 1979); increased eye movements and gaze aversion in an otherwise immobile facial display, increased head rotation/elevation, increased placement of hands in front of the body (Baxter & Rozelle, 1975)
6. **general state**: verbal/non-verbal inconsistencies where different messages are sent in the two channels (Mehrabian, 1972).

Deception indicators

1. **direct deception**: speech errors as deviations from baseline data (Mehrabian, 1971); tone of voice (DePaulo et al., 1980); fidgeting with objects, less time spent looking at the other than during a baseline period, patterns of rocking, head shaking, and nodding movements varying together (coordinated body movements) (Druckman et al., 1982); reduction in hand movements among skilled deceivers and those high in public self-consciousness (Vrij, Akehurst & Morris, 1997); increased pauses (Anolli & Ciceri, 1997)
indirect deception (evasion): more leg movements during periods of silence (when subject feels less assertive), frequent gazes elsewhere especially during periods of stress, frequent head shaking during early periods in the interaction, increasing trend of self-fidgeting throughout the interaction (McClintock and Hunt, 1975; Druckman et al., 1982).

The search for a coherent set of reliable non-verbal cues to deception has comprised a large segment of the empirical investigation of non-verbal behaviour. However, findings from decoding accuracy studies suggest that either such a set of reliable cues simply does not exist or, alternatively, that the majority of individuals have little knowledge of how to use such a set of cues for diagnostic purposes. The most recent review of findings appears in a meta-analytic assessment conducted by DePaulo, Lindsay, Malone & Muhlenbruck et al. (2003), based on 120 independent samples. Although the review reveals consistencies with some of the indicators listed above (e.g. liars tend to talk less, provide fewer details, and tend to be perceived as more tense as a function of perceived vocal tension and fidgeting), the majority of deception cues were found to be unrelated, or only weakly related to deceit. Consistent with many individual studies, response latency was also found to be greater, but only when the lies were spontaneous (unplanned). However, specific cues to deception (e.g. increased vocal frequency or pitch) and overall assessment of non-verbal tension were found to be more pronounced when encoders were highly motivated to succeed, when lies were identity relevant, and when they were about transgressions. These findings are consistent with the recent work of Frank and Ekman (2004), Vrij (2000), and others that has documented the extent to which motivated lies (‘true lies’) tend to produce non-verbal cues related to the expression of negative facial affect. Motivated liars have been found to be more easily detected by experts, and high-stakes lies produce more consistent non-verbal displays.

To summarise, as documented in much of the previous research on the non-verbal encoding of deception, the review by DePaulo et al. (2003) emphasises the salience and relative utility of a number of paralinguistic cues. However, a cue’s diagnosticity is moderated by a number of factors, including the liar’s level of motivation, the spontaneity of the deception, whether or not the deception involved identity-relevant content, and whether or not the lie was about a transgression. In addition, given the universality of the reciprocity norm, it would seem to follow that lies about transgressions (breaching a social contract) might be especially difficult to conceal.

Commitment to policies

1 commitment: increased use of ‘allness’ terms (Hermann, 1977); increased redundancy, more trunk swivels, more time spent looking at (versus looking away from) the other (Druckman et al., 1982)

2 persuasiveness (impact on others): increased intensity in voice, increased object (other)-focused movements (Freedman, 1972); more facial activity and gesturing, increased head nodding, fewer self-manipulations, reduced reclining angles (Mehrabian, 1972; Washburn & Hakel, 1973)

3 credibility (impact on others): sustained gazing at short distances (Exline &

**Political status**

1. relative status: non-reciprocated touching, eye contact at closer distances for higher status members, more frequent use of words suggesting distance from people and objects (Frank, 1977); hand and neck relaxation, sideways lean, reclining posture, arm–leg position asymmetry (Mehrabian, 1972)

2. changes in status: increased physical distance from colleagues (Dorsey & Meisels, 1969); increased signs of psychological withdrawal from situations (outward-directed gestures, changed postures) for reduced status (Mehrabian, 1968); more frequent appearances at state functions for enhanced status.

**Techniques for analysis**

Whereas patterns of non-verbal behaviour are the basis for interpretation, it is the separate behaviours which are the constituents of the displays. A first step is to code specific, well-defined movements and expressions. Advances in technique make possible the efficient coding of a large variety of behaviours. Particularly relevant is a subset of non-verbal behaviours chosen on the basis of high reliability, as determined by independent coders, and importance, in terms of distinguishing among intentions and emotional states. Included in this list are the following: gaze time at interviewer or other person, leg movements, object fidgeting, speech errors, speaking frequency, rocking movements, head nodding, illustrator gestures, and foot movements. These are some of the movements or vocalisations coded directly from videotapes of laboratory subjects (experiments cited above) and world leaders.

Efficiency is gained by training coders to be channel specialists. Small groups are trained to focus their attention on one channel – vocalisations, eyes, face, body, legs, or spatial arrangements. Frequencies are recorded for some measures (for instance, leg movements); for others, the coder records time (for example, gaze at interviewer, speaking time). Further specialisation is obtained by assigning the different groups to specific segments of the tapes. Such a division of labour speeds the process, increases reliability, and preserves the coders for other tasks. A set of 25 non-verbal behaviours shown by subjects in 30, 20-minute tapes was coded in about 3 weeks, each individual coder contributing only 2 hours of effort.

The procedures define a coding scheme or notation system for processing video material. Computer-assisted analysis would facilitate the transforming of non-verbal measures into profiles of selected world leaders. Here, one becomes more interested in characteristic postures or movements than in particular psychological or physical states. The emphasis is on idiosyncratic styles of leaders, conditioned as they are by situational factors. Using the non-verbal notation system, these behaviours can be represented as animated displays. Recent developments in computer graphics and virtual reality technologies expand the range of programming options (Badler et al., 1991). They also contribute tools for the creative exploration of movement
and expression control, such as manipulating the display to depict styles in varying situations (Badler et al., 1993).

The list of behaviours is one basis for structuring the analysis. Another basis is a more general category system that encompasses a range of situations, purposes, and verbal statements, as well as types of displayed non-verbal behaviours. Sufficient footage in each category makes possible the tasks of charting trends, making comparisons, and developing profiles. It also contributes to inventory management: systematic categorising and indexing of materials aids in the task of retrieving relevant types from archival collections. Multiple measurements provide alternative indicators that may be useful when all channels are not available to the observer (such as leg and foot movements for a speaker who stands behind a podium and eye movements for an actor seen from a distance). They also provide complementary indicators, bolstering one’s confidence in the inferences made. For the time-sensitive analyst, a manageable subset of non-verbal behaviours can be identified for ‘on the spot’ commentary.

Systematic comparisons

Non-verbal indicators can be used to build profiles of individual foreign leaders. It is evident that such an approach emphasises Allport’s (1961) concept of morphogenic analysis and stresses the analogy of expressive behaviour as personal idiom. This strategy of systematic comparison is designed to increase an analyst’s understanding of his ‘subject’. This is done by tracking the displays exhibited by selected individuals across situations and in conjunction with verbal statements.

Comparisons would be made in several ways: (1) examine deviations from baseline data established for each person (for instance, speech errors); (2) compare non-verbal displays for the same person in different situations (for example, within or outside home country; formal or informal settings); and (3) compare displays for different types of verbal statements (for example, defence of position, policy commitment). These analyses highlight consistencies and inconsistencies at several levels – between situations, between verbal and non-verbal channels, and within different non-verbal channels. They also alert the analyst to changes in non-verbal activity; being aware of changes from a baseline period would give one a better understanding of relatively unique expressive behaviour. Further analysis consists of comparing different persons in similar situations or dealing with similar subject matter.

The value of these comparisons is that they contribute to the development of a system of movement representation similar to the notation and animation systems described by Badler and Smoliar (1979). Extracted from the data are sets of coordinated movements which may change over time and situations. The coordinated movements can be represented in animated graphic displays. Illuminated by such displays are ‘postural’ differences within actors across time and between actors. When associated with events and context, the observations turn on the issue of how the feelings and intentions which are evoked by different situations are represented in body movement. When compared to displays by actors in other cultural settings, the observations are relevant to the question: What is the contribution of culture to observed non-verbal displays? (See our discussion above on cultural influences.)

Several analytic strategies enable an investigator to get to know his subject or
group. Each strategy formalises the idea of ‘following a subject around’. Extended coverage provides an opportunity to assemble baseline data for comparisons. It also permits execution of within-subject analytic designs for systematic comparison of displays observed in different situations and occasions, as well as when addressing different topics. These strategies enable an analyst to discriminate more precisely the meaning of various non-verbal displays.

Extensive video footage makes possible quite sophisticated analyses of leaders’ behaviours. Relationships are highlighted from comparisons of responses to questions intended to arouse varying levels of stress. Profiles are constructed from the combinations of expressions and movements seen over time. Predictive accuracy of the form, ‘Is this person telling the truth?’ is estimated from behaviours coded in situations where a subject’s intentions are known; namely, does the subset of behaviours discriminate between honest, evasive, and deceptive statements? Contributing to an enhanced analytic capability, these results reduce dependence on notation systems developed in settings removed from the critical situations of interest. They would also contribute information relevant to time-sensitive requests.

**Time-sensitive requests**

Demand for current assessments often places analysts on the spot, as they are frequently asked to provide interpretations without the benefit of penetrating analysis, extensive video footage, or hindsight. Indeed, these are the conditions often present for both technical specialist and layman. Scheibe (1979) noted that the informed observer (whom he calls the ‘sagacious observer’) relies on good memory for past characteristic patterns and astute observation of departure from the ‘typical’. Current findings on the extent to which decoders can make rapid judgements of verbal and non-verbal cues reveal that such judgements can be made in a reliable and relatively accurate manner after training (Vrij, Evans, Akehurst & Mann, 2004). Under these conditions, notation systems are especially useful. They provide the analyst with a structure for focusing attention on relevant details. Determined largely on the basis of what is known, the relevant details are part of a larger coding system whose validity is previously established. Serving to increase the analyst’s confidence in personal judgements, the codes (relevant details) highlight where to focus attention and what to look at. Examples include the following.

**Abrupt changes**

Readily detectable from limited data, abrupt changes may take the form of incongruities between different non-verbal channels (face and body) or increased intensity of behaviours expressed in a number of channels. The former may be construed as signs of failing health; the latter often indicates a strong commitment to policies.
Leaks

Regarded as signs of deception, leaks take the form of excessive activity in one channel (body) combined with reduced activity in another (face) (Ekman & Friesen, 1974). Based on a ‘hydraulic model’ analogy, the concept of leakage describes the consequences of attempts by a subject to control facial expressions during deception – to wit, the poker face.

A study designed by the authors was intended as a test of the leakage hypothesis. Subjects in one condition were asked to control their facial expression during a deceptive communication; those in another condition were asked to control their body movements. Both conditions were compared to an earlier session in which subjects were not instructed to control expressions or movements during deception. More body movements in the ‘control-face’ condition and more facial expressions in the ‘control-body’ condition than in the earlier session would support the leakage hypothesis. Although the results did not support this hypothesis, they did reveal less overall animation for deceivers in both conditions, supporting the findings by DePaulo et al. (1985) showing behavioural inhibition for motivated liars (see Druckman & Hyman, 1991, for further details).

The extent to which the deception is encoded under ‘high-stakes’ circumstances, as alluded to in the DePaulo et al. (2003) meta-analysis, is an additional factor related to leakage and decoding accuracy. When motivation is high (when deception success will lead to reward and failure to deceive will lead to negative consequences), research has revealed that consistency in the facial expression of emotion can betray the deception (Frank & Ekman, 1997).

Micromomentary expressions (MMEs)

Regarded as universal expressions, MMEs are the muscle activities that underlie primary emotions (happiness, sadness, surprise, anger, fear, disgust, and interest) and information-processing stages (informative seeking, pre-articulation processing, and response selection). With the aid of special instrumentation, workers have been able to identify quite precisely the muscle clusters associated with particular emotions (Ekman et al., 1980) or processing stages (Druckman et al., 1983; Karis et al., 1984). Additional research in this area has shown that MMEs may be useful in decoding body cues as well as the face (McLeod & Rosenthal, 1983).

Illustrated above are the kinds of observations that can be used for inferences from limited data: for example, behaviours that change quickly (MMEs) or obviously (incongruities), and those that occur within the time frame of a statement (leaks). However, useful as these indicators are, they are only a part of the story: missing are the cultural and contextual influences that shape what is observed. These influences are discovered through careful analysis of leaders’ behaviour in the settings of interest.
Stereotypes of non-verbal deception

The empirical investigation of beliefs, expectations, and general stereotypes regarding non-verbal behaviour perceived as indicative of deception has resulted in a relatively consistent set of findings across a number of studies and reviews (Gordon et al., 1987; Vrij, 2000). In one of the earliest investigations of this issue, Zuckerman, Koestner, and Driver (1981) found that a wide variety of cues were thought to be associated with deception (e.g., gaze aversion, smiling, adaptors, body and head movements, response latency, speech errors, and hesitations). However, as mentioned in an earlier section, cross-cultural differences in such beliefs have been demonstrated (Al-Simadi, 2000). Other studies have shown that beliefs of ‘experts’ (police officers) are similar to those of laypersons (Akehurst et al., 1996; Vrij & Semin, 1996). Findings from an investigation by Anderson et al. (1999) also suggest that ‘experts’ and laypersons alike may rely on a generalised stereotype of deceptive non-verbal behaviour. This same study did show that decoders who indicated they relied on the relevant paralinguistic deception cues were indeed more accurate at detecting lies.

An examination of the stereotype content listed above, in conjunction with the findings from the encoding and decoding accuracy research, suggests that outcomes of chance level performance may be a function of decoders’ stereotypes; they usually incorporate both accurate (e.g. increased response latency) and inaccurate (e.g. increased gaze aversion) components. Decoders may be relying on both diagnostic and non-diagnostic information, leading to no better than chance levels of decoding accuracy. Adding to the complexity of the deception detection task is the evidence that motivated or high-status encoders may be more likely to attempt to control leaks consciously in the channels that are more easily manipulated. It may also be that more variability is found for the encoding of behaviours in more controllable channels. Indeed, Vrij et al. (2001) found considerably more variability for the ‘more easily controlled’ gaze aversions than for the ‘less-easily controlled’ paralinguistic utterances. Deceivers showed more diverted gazes ($M = 6.4$) than truth tellers ($M = 4.3$). However, the difference was not statistically significant due to the large standard deviations (9.4 and 6.2 respectively). Confidence in this interpretation, referred to as the ‘leakage-variability’ hypothesis, awaits the results of further research.

OVERVIEW

Considering the large number of full-length books and papers published on non-verbal behaviour, the present chapter has provided only an up-to-date sampling of the literature on this important form of communication. Beginning with an organisational overview and historical perspective, the discussion covered general issues and theoretical and methodological frameworks, and provided some specific examples of research findings and applications. As the chapter has demonstrated, the wealth of information generated by scientific enquiry reveals the significant impact of non-verbal behaviour on communication; yet, this body of knowledge is incomplete and often complex.

The authors have argued that non-verbal behaviour, as a communication skill, is meaningful only if the context of behaviour is taken into account. Incomplete or narrow
perspectives regarding others’ or one’s own behaviour may lead to misinterpretation of actions observed or performed. On the other hand, careful and reliable applications of non-verbal behaviour can enrich and enlighten one’s understanding and control of communication in a variety of situation, role, and cultural settings.

The influence of the Darwinian focus on the issue of universality for both non-verbal encoding and decoding continues to play itself out in the research on the impact of culture-specific display rules and non-verbal ‘accents’ on perceptions of emotion in the face. Findings from a number of relatively diverse, contemporary non-verbal research programmes, each guided in part by evolutionary theory, illustrate the popularity of the application of such investigations to the understanding of non-verbal communication and behaviour. However, it is always important to acknowledge the manner in which factors related to our species’ evolutionary heritage interact with a multitude of interpersonal motives and aspects of the situation to produce non-verbal behaviour (Patterson, 2001). Both distal and proximal factors need representation for a comprehensive assessment of non-verbal communication and behaviour (Zebrowitz, 2003).

The key theoretical issue turns on the relative power of universal versus contextual explanations for the sources of non-verbal behaviour. The main practical issue is whether the diagnostic value of non-verbal behaviour is improved more by knowledge of species-wide or universal expressions or of cultural-specific (or contextually influenced) behavioural displays. Progress on these issues will depend both on more complex and dynamic theoretical frameworks and on empirical research that is sensitive to the interplay among these possible sources for behaviour. This issue is pervasive in social science. It is raised with regard to many other aspects of social behaviour and interpersonal or intergroup interactions. (See, for example, Pickering, 2001, for an insightful treatment of the issue in research on stereotyping.)

In addition to further experimental work and replication of results, one direction for future research may be to study, in greater detail, the accomplishments and strategies of performers and interpreters of non-verbal behaviour. For example, when considering non-verbal behaviour as skilled performance, aspects of style, expertise, and expression are stressed. The ways in which such crafted performances are accomplished and their effects assessed should aid in the training and development processes as well as in directing future experimental research. However, regardless of the specific approach, non-verbal behaviour must be examined rigorously by a variety of laboratory and field perspectives, such as those discussed in this chapter. Understanding is furthered and applications become possible when attempts are made to synthesise results obtained from the use of a variety of methods and frameworks. The achievements so far hold promise for significant progress in basic and applied research on this important form of communication.

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