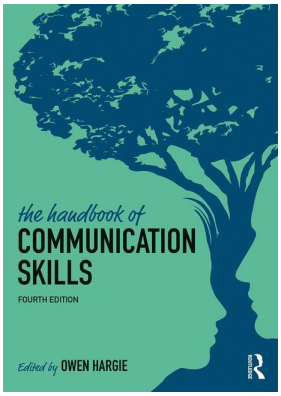

The Handbook of Communication Skills

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Nonverbal behaviour as communication: Approaches, issues, and research

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chapter 3

Nonverbal behaviour as communication: Approaches, issues, and research

Randall A. Gordon and Daniel Druckman

IN THIS CHAPTER, WE update our earlier surveys of the large cross-disciplinary literature on nonverbal communication. We focus particularly on the decade since the last chapter appeared in the third edition of this Handbook (Gordon, Druckman, Rozelle, and Baxter, 2006), adding fifty-seven new references that include some pre-2006 articles not covered in the previous chapter. Following the structure of the earlier chapters, we place the study of nonverbal behaviour in historical perspective, highlighting the major approaches that have guided scientific explorations. Nonverbal communication can be understood best in relation to the settings in which it occurs. Settings are defined both in terms of the varying roles taken by actors within societies and the diverse cultures in which expressions and gestures are learned. We also develop implications for the themes and techniques that can be used to guide analyses of behaviour as it occurs *in situ*. We conclude with directions for further theoretical development of the field.

NONVERBAL BEHAVIOUR IN PERSPECTIVE

In recent years, it has become increasingly recognised that investigators in a field of inquiry– 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. Glashow, 1980; Koestler, 1964; 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 sixty-eight theoretical articles 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 that 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 hierarchic. 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. Gibbs, 1994; Lakoff, 1993; Ortony, 1993). 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 nonverbal aspects of language does not seem to have been examined explicitly.

Last, the role that our species' evolution has played in the encoding and decoding of nonverbal behaviour has received increased attention in recent years (Floyd, 2006; Frank & Shaw, 2016; Patterson, 2003; 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 nonverbal 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 nonverbal communication.

NONVERBAL BEHAVIOUR AS COMMUNICATION

A comparable examination of contributions to the field of nonverbal behaviour may be meaningful. To this end, it is interesting to note that attention has been directed at the meaningfulness of gesture and nonverbal behaviour since earliest recorded

Western history (cf. Aristotle's *Poetics* (1927); *Rhetoric* (1991)). 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 co-ordinate with vocal and written language was recognised by Francis Bacon (1884; 1947 in 1st ed.). 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 nonverbal behaviour as communication, a number of somewhat different analogies can be identified. Darwin (1872) focused on facial behaviour as a neuromuscular expression of emotion, vestiges of the past and informative of an inner affective state. A number of investigators have extended this approach and elaborated the *affective expression* metaphor (e.g. Ekman, 1992b; Izard, 1971; Tomkins, 1962, 1963; Woodworth & Schlosberg, 1954). 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 and Oster, 1979; Matsumoto, 1996; Triandis, 1994) 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 nonverbal behaviour and communication. In a field of inquiry 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 nonverbal 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 nonverbal communication. A recent summary of research on the hypothesised evolutionary role of nonverbal communication by Frank and Shaw (2016) suggests that communication transmitted via the face, body, and voice are tied to both survival and reproductive fitness. Features of the face including size and physiognomy, emotional expression,

eye gaze, static body size, body movements, and tone of voice were all listed as linked to survival. 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 nonverbal research, Montepare (2003) echoes the need to include proximal (or situational) along with distal (or historical) influences when one studies nonverbal communication. In a brief account of research on nonverbal communication and behaviour, Patterson (2013) also highlights the importance of situational influences and the behaviour setting. Patterson continues to advocate for a comprehensive systems approach to the study of nonverbal communication to provide needed integration.

A related metaphor comparing nonverbal 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 quandary 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 nonverbal behaviour (e.g. Roger's [1961] focus on examining congruence between nonverbal and verbal expression, Perl's [1969] use of nonverbal expression as an interpretive tool in Gestalt psychology). Recent data has revealed that the ability to note verbal-nonverbal inconsistency appears to be already well developed by the time we reach four or five 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 nonverbal behaviour as communication appears to have taken the analogies of the riddle or perhaps the obscure text that 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, multi-levelled 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 nonverbal behaviour as *code* metaphor. Developed most

extensively by Birdwhistell's (1970) analogy with structural linguistics and the Weiner Devoe, Runbinow, and Geller (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 (Scheflen and Scheflen, 1972). Levels of communication (for instance, messages and meta-messages), 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, Rozelle, & Baxter, 1982). Indeed, the utilisation of nonverbal behaviour as meta-message 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 nonverbal behaviour (e.g. facial expression, paralinguistic cues).

However, the boundaries of the particular variations in the 'behaviour as communication' analogies that 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 nonverbal behaviour as communication is examined. In this spirit, a fourth general communication metaphor can also be identified – nonverbal behaviour as *dramatic presentation.*

While this analogy clearly descends from mime, dance and dramatic stage direction (Poyatos, 1983; Spiegel & Machotka, 1974), 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 (DePaulo, Wetzel, Sternglanz, & Wilson, 2003; Scheibe, 1979; Schlenker, 1980). Recent work suggests that improvements in deception-detection skills among same sex friends across time may be more a function of the nonverbal encoding performance than increased skill on the part of the decoder (Morris, Sternglanz, Ansfield, Anderson, Snyder, & DePaulo, 2016).

NONVERBAL BEHAVIOUR AS STYLE

Although the 'nonverbal behaviour as communication' analogies hold historical precedence in the area, two additional analogies can be identified: nonverbal behaviour as *personal idiom* (Allport, 1961) and nonverbal behaviour as *skill* (Argyle, 1967; Argyle & Kendon, 1967; Hargie, 2017; Hargie & Tourish, 1999).

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 nonverbal behaviour has been the emphasis on skilled performance. The fruitfulness of the analogy of acquired skills as a way of thinking about nonverbal behaviour has been recognised for some time (Bartlett, 1958; Polanyi, 1958) and related investigations have continued throughout the decades (Argyle, 1967; Burgoon & Bacue, 2003; DePaulo, Stone, & Lassiter, 1985; Friedman, 1979; Hargie, 2017; Knapp, 1972, 1984; Rosenthal, 1979; Snyder, 1974). The analogy has directed attention to the expressive or sending (encoding) and interpretive or receiving (decoding) aspects of nonverbal 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 nonverbal 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 work-bench, 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), which are relevant to the investigation of nonverbal behaviour. First, skilled performances usually imply complex, highly co-ordinated motor acts that 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. Also, 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 which 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 nonverbal 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 nonverbal behaviour implied by this analogy. A number of contemporary research programmes that examine the issue of training and expertise (Ekman, O'Sullivan, & Frank, 1999; Frank & Ekman, 1997; Matsumoto & Hwang, 2011; Vrij, 2000; Vrij, Evans, Akehurst, & Mann, 2004), can be seen as guided, in part, by the skilled performance metaphor. Even though a number of investigations have revealed small increases in decoding accuracy as a function of training, these outcomes have been relatively inconsistent. A study by Levine Feeley, McCormack, Hughes, and Harms (2005) using a bogus training control group showed similar increases in the control group and the training group.

Research that has revealed relationships between nonverbal decoding and interpersonal social skills among adults (Carton, Kessler, & Pape, 1999) and encoding skills and social competence among adolescents (Feldman, Tomasian, & Coats, 1999) point to the importance of continued investigations of these aspects of individual performance. A meta-analysis by Schlegel, Boone, and Hall (2017) suggests that interpersonal accuracy is likely to be a complex affair. The basic decoding skills related to measures of interpersonal accuracy are likely to represent a wide variety of specific interpretive skills.

THE SCIENTIFIC STUDY OF NONVERBAL BEHAVIOUR

A PsycInfo title search for the keywords: 'nonverbal behavior' or 'nonverbal communication', examined publications from the inception of empirical work on nonverbal communication. A small number of classic empirical studies ($N = 57$) were published from the mid- to late 1960s. The 1970s and 1980s represent the most productive time periods, with 457 articles in each decade – an eight-fold increase. However, publications dropped sharply by approximately 35 per cent ($N = 292$) during the 1990s and were slightly (7 per cent) below that level during 2000-2009 ($N = 271$). Archival assessments have shown that the reduced use of verbal and nonverbal independent and dependent variables within top tier psychological journals are a likely contributing factor to the observed reduction (Baumeister, Vohs, & Funder, 2007; Patterson, Giles, & Teske, 2011).

The search revealed 295 publications listed in PsycInfo starting in 2010. Prorating this value through 2019 produces a value of approximately 340, which would represent a 25 per cent increase over the previous decade. It would appear that nonverbal

research might be on the rise again. The relatively large number of edited chapters and handbooks devoted to research published during the last twelve years (2005–2016) and a renewed interest in new methods would be consistent with increased empirical work found in the PsycInfo database. The handbooks edited by Harrigan and Scherer (2005), Manusov and Patterson (2006), Matsumoto, Frank and Hwang (2013), Hall and Knapp (2013), Kostić and Chadee (2015), and Matsumoto, Hwang, and Frank (2016) represent the wide variety of methods and research questions that communication researchers and psychologists have been examining during the last decade and will comprise a good portion of the updated material in this chapter.

Nonverbal research 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 that examines validity and reliability aspects necessary for proper understanding of nonverbal behaviour as one form of communication. Indeed, interesting pieces in this vein regularly appear on the Internet, providing an extended discourse on the psychological meaning of aspects of nonverbal communication. While fascinating, and often face valid, no recognisable empirical data accompanies the analysis.

The challenge of the present chapter is to discuss nonverbal 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. In turn, the reader should assume a critical, scientific perspective in treating nonverbal behaviour as a meaningful yet complex topic for research and application.

Behavioural dimensions and taxonomies

Knapp (1972) suggested seven dimensions that describe the major categories of nonverbal behaviour research as related to communication, and 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 nonverbal communication. It is interesting to note that the physical characteristic, adornment, and environmental factor categories do not involve an assessment of overt nonverbal expressions, but rather information about the actor that is communicated nonverbally.

There are numerous examples in the literature that detail these categories, either individually or in combinations (e.g. Argyle & Cook, 1976; Duncan & Fiske, 1977; Harper et al., 1978; LaFrance and 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 nonverbal behaviour as a communication skill. It is important to stress that nonverbal 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 nonverbal communication.

SETTING AND ROLE INFLUENCES ON NONVERBAL BEHAVIOUR

One of the major problems in focusing on the interpretation of nonverbal 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 nonverbal behaviour must be considered in the context in which it occurs. Several types of contextual factors will be used to guide this discussion of nonverbal 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 nonverbal behaviour as meaningful communication. For example, the furniture arrangement in an office can be a major factor influencing the nonverbal behaviours exhibited therein. Body movements are different 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.

Nonverbal behaviour may have very different meanings when exhibited on the street than, say, in a classroom. Background noise level in a work setting may produce exaggerated nonverbal communication patterns that would have very different meaning in a quieter setting such as a library. The influence of ecological factors on behaviour is an important focus in the study of human behaviour (McArthur & Baron, 1983; Willems, 1985). Most research in nonverbal communication dealing with physical-environmental factors has focused on interpersonal spacing, proxemics and cultural differences in interaction patterns (Collett, 1971; Hall, 1966, Patterson & Quadflieg, 2016).

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

Nonverbal behaviour as communication: Process and outcome factors of the interaction episode

Many communication models as applied to nonverbal 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 nonverbal 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' which 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 nonverbal 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. Also, many social interactions involve changing roles between encoder and decoder as the participants take turns in speaking and listening.

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 nonverbal 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 nonverbal behaviours involve varying levels of awareness then becomes difficult to determine.

Another consideration for the understanding of nonverbal 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 nonverbal 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*.

APPROACHES TO NONVERBAL BEHAVIOUR AS COMMUNICATION

Ekman and Friesen

Perhaps the most useful model of nonverbal 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 nonverbal behaviour: (1) usage, (2) origin and (3) coding.

Usage refers to the circumstances that exist at the time of the nonverbal 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 an 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, competitive or co-operative. Usage also involves the relationship between verbal and nonverbal behaviour. For instance, nonverbal acts may serve to accent, duplicate, support, substitute for or 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 nonverbal reactions to the encoder's nonverbal 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 nonverbal 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 nonverbal messages are understood, provide information, and influence the behaviour of other people.

The second characteristic of nonverbal behaviour discussed by Ekman and Friesen is its origin. Some nonverbal behaviours are rooted in the nervous system, such as reflex actions; other nonverbal 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 nonverbal 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 nonverbal patterns of greeting one another, expressing approval or disapproval, and apportioning appropriate distances from each other depending upon the type of interaction involved.

The third characteristic of nonverbal behaviour is coding, that is, the meaning attached to a nonverbal 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 represent. A thumbs-up sign for signalling 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 nonverbal behaviour, Ekman and Friesen went on to distinguish among five categories of behavioural acts.

Emblems

These are nonverbal 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, Friesen, and Bear (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, Schoots, & Van de Koppel, 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.

A comprehensive cross-cultural investigation of emblematic gestures by Matsumoto and Hwang (2013) found a wide range of unique emblems across the six cultures investigated. Interestingly, the most diverse and differentiated content area was among emblems that depicted religion or religious acts. However, consistent with the hypothesised impact of evolution on nonverbal communication, the most survival-based emblematic expressions show some degree of universality. Emblems representing the attitudinal responses of 'yes', 'no', and 'I don't know' and emblems depicting the mental state of 'threat' and the physical state of 'thirst' were displayed and interpreted with relative consistency across all six cultures.

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 nonverbal 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). More recently, the nonverbal facial expression of contempt has been investigated as a possible addition to this list (Matsumoto & Ekman, 2004). Although this expression can be reliably associated with social situations that bring about that emotional response, it appears to be qualitatively different than the other primary emotions in that the facial expression itself is not reliably labelled as 'contempt' (Wagner, 2000). While there is general agreement regarding the presumed universality of six basic facial expressions (happiness, sadness, fear, anger, surprise, and disgust), 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 study by Elfenbein and Ambady (2003) documented 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 the case 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. In addition, work by Matsumoto, Willingham, and Olide (2009) failed to show the in-group advantage for assessments based on spontaneous vs. posed nonverbal displays. This outcome questions the ecological validity of previous outcomes based on posed vs. spontaneous nonverbal displays. A meta-analytic investigation by Elfenbein and Eisenkraft (2010) demonstrated the importance of posed vs. spontaneous stimuli as moderated by the relationship between displaying and receiving nonverbal affect cues. These skills were positively correlated when the nonverbal stimuli were posed, but unrelated when more ecologically valid stimuli were used.

The nonverbal characteristic-category system of Ekman and Friesen has provided a useful means of analysing and organising nonverbal behaviours used in communication and 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, 1992b, 1993; Ekman, Davidson, & Friesen, 1990), and the utility of the system in distinguishing honest and authentic expressions from the deceptive and dissembling (Ekman, 1992b; Ekman & O'Sullivan, 1991; Ekman, O'Sullivan, Friesen, & Scherer, 1991; Hyman, 1989). 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, initial investigations showed that this facial profile seems to be quite resistant to staging and dissimulation (Ekman, 1993). Results from investigations of the Duchenne smile suggest that there may exist a universal cross-cultural response to these displays that could possibly have evolved due to the important communicative role of such smiles (Williams, Senior, David, Loughland, & Gordon, 2001). However, more recent findings reveal that it may be possible to feign the Duchenne smile and that it can be learned, limiting its use as a cue to veracity (Krumhuber & Manstead, 2009).

Dittman

Another way of organising nonverbal 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 Dittman (1972, 1978) as part of a larger model of the communication of emotions and are an important aspect of using nonverbal behaviour as a communication skill. Dittman 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.

Dittman 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 either being aware of, repressing or not noticing a message being sent by an encoder.

The most useful contribution by Dittman to the nonverbal communication area is his analysis of channels of communication. A major challenge in nonverbal behaviour research is to examine the degree to which single versus multiple channels of transmission provide more meaningful communication in human interaction. A number of contemporary researchers have called for increased use of observation to provide a more ecologically valid assessment of multiple channels of transmission (cf., Kudesia & Elfenbein, 2013).

Mehrabian

An influential approach that uses multiple nonverbal 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. Nonverbal behaviours associated with positiveness represent 'immediacy' cues such as eye contact, forward-lean, 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 orientating behaviour and involve the relative importance of the interaction participants. Such nonverbal behaviour as vocal activity, speech rate, speech volume and facial activity are indices of responsiveness. Mehrabian's system of nonverbal expression is thus organised into (1) dimensions, (2) associated cues and (3) specific nonverbal indicators of the cues.

Mehrabian's system places nonverbal behaviour in socially meaningful contexts and is especially useful for nonverbal behaviour as a communication skill. The dimensions of nonverbal 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 nonverbal immediacy in the classroom has also revealed positive effects on both evaluations of teachers (McCroskey, Richmond, Sallinen, & Fayer, 1995; Rocca & McCroskey, 1999), and student learning outcomes (McCroskey, Sallinen, Fayer, & Richmond, 1996). Additional research has revealed that instructor immediacy impacts perceived instructor competency and expertise (Goodboy, Weber, & Bolkan, 2009; Schrodt & Witt, 2006). Recent examinations of nonverbal immediacy have also shown positive relationships with student course engagement in online education (Dixson, Mackenzie, Rogers-Stacy, Weister, & Lauer, 2017). Last, a review of research on nonverbal behaviour in the classroom revealed stronger relationships between immediacy and student attitudes than between immediacy and academic performance, calling for more work on academic outcome measures as well as a focus on how student nonverbal behaviour impacts teacher attitudes and behaviour (Blincoe & Harris, 2013). 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 nonverbal 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.

Patterson

A more recent attempt to organise nonverbal behaviour into basic functions or purposes of communication is presented by Patterson (1983, 1988, 2001). He argues that as social communication, nonverbal behaviour is only meaningful 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 nonverbal behaviour are related to the management (both interpretation and presentation) of those acts primarily involved in social interaction.

There are seven basic functions 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. Nonverbal behaviour is best considered as 'co-ordinated exchanges' and configurations of multi-channel combinations as related to the seven functions. Thus, presenting nonverbal behaviour in terms of separate channels (for instance, facial expressions, arm movements, paralanguage, and so on), does not properly emphasise the interdependent

and co-ordinated 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 nonverbal 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 co-ordinated 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, 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 nonverbal 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 nonverbal 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 nonverbal 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 nonverbal acts during an interaction. Intimacy refers to liking, attraction or, generally, the degree of 'union' or 'openness towards 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 nonverbal 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 nonverbal 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 nonverbal behaviours that are relatively impersonal in nature. Role and situational factors are particularly important here

since many of the same nonverbal 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 towards 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, multi-staged, parallel processing model of nonverbal 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 nonverbal 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 nonverbal 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 nonverbal 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 nonverbal communication. However, Patterson provides a broader framework in which to view nonverbal behaviour in role- and setting-specific conditions, by emphasising the degree of overlap in multi-channel 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 nonverbal 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 nonverbal cues or behaviours and learned preferred tendencies of the individual. In his commentary on the influence of evolutionary psychology on current nonverbal 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 are representative of an adequately complex interactive model of nonverbal communication. Echoing the work of many within ecological psychology (Barker, 1968; Wicker, 1979), Patterson has called for an increased focus on the impact of behaviour settings and the physical environment (e.g. lighting, temperature, sound, architectural elements, etc.) on the encoding and decoding

of nonverbal communication (Patterson & Quadflieg, 2016). These important variables are included in his current ecological systems model of nonverbal communication. In an attempt to provide integration to the diverse factors that impact nonverbal communication, the ecological systems model examines how factors such as culture, the environmental and social aspects of behaviour settings, and interaction goals (e.g. belonging, control, self-enhancement) impact nonverbal communication and outcomes.

The complexity of the task of communicative and self-presentational uses of nonverbal behaviour has been reviewed by DePaulo (1992). She examined the difficulties of communicating intended messages and emotional states through nonverbal channels. Two factors received particular emphasis. Nonverbal 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 nonverbal channels. While one can fall silent verbally, one can never become silent nonverbally. These two features of nonverbal behaviour *vis-à-vis* speech highlight the significant and problematic nature of nonverbal behaviour as communication.

NONVERBAL COMMUNICATION IN CONTEXT

This chapter has stressed that nonverbal 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, nonverbal 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 nonverbal 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 nonverbal 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 'multi-level 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 nonverbal 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 (Davis, 1984; Druckman et al., 1982; 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 nonverbal 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 nonverbal 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' and to indicate cues they used in forming these impressions of the citizen. Cues or information items were classified as either behavioural (that is, the other person's verbal and nonverbal behaviour) or situational (that is, aspects of the environment, such as number of other people present inside a room or on the street, or lighting conditions).

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

Actor and observer bias in explaining nonverbal behaviour

An important feature of impression-management (encoding) and formation (decoding) processes deals with differences arising out of the perspectives of the interaction participants (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 over-emphasise 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 over-emphasise 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, & 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 under-estimates 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.

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 from 6 to 18 inches from each other. Types of interactions expressing intimacy are 'love-making and wrestling, comforting and protecting'
2 Personal distances of 1.5 to 4 feet, which usually reflect close, personal relationships
3 Social or consultative distances of 4 to 7 feet that are typical of business and professional client interactions
4 Public distances that range from 12 to 20 feet and involve 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 that consisted of four two-minute phases in which the distance between the officer and citizen was systematically varied according to Hall's first three distance classes and examined the impact of increased crowding across time. The nonverbal 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 or her speech time and frequency became disrupted and disorganised, with 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 nonverbal 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 the described behaviours indicating guilt, suspicion and deception.

Recent investigations of nonverbal encoding and decoding related to the police-citizen context have revealed that both students and police officers believe the usual stereotypes and view non-diagnostic (nonverbal) cues such as gaze aversion and increased movement to be indicative of deception (Bogaard et al., 2016). Perhaps one of the most important lessons to be learned from the work on deception is that police officers need to be dissuaded from their belief in the efficacy of nonverbal behaviour as an informative index of deception and appropriately trained to focus on the content of citizen verbal behaviour (Vrij, 2008). Additional data is needed to determine whether such stereotypes guide judgements across contexts (e.g. the courtroom, the boardroom). In a comprehensive review of the existing evidence on our skill in detecting lies and deception with nonverbal behaviour, Vrij (2008) states that although a number of tools have been shown to increase decoding accuracy, all tools and methods have their own sets of limitations.

Cultural influences

The important role played by cultural differences in nonverbal 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 orientations 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 and 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. Research by Matsumoto et al. (2009) suggests that although the activation of culture-specific display rules occurs quickly, often in less than one second, the universal expression of emotion (e.g. joy over having just won an athletic competition) is encoded first. This fast sequencing of universal and culture-specific emotions may be typical of how display rules get enacted after an initial emotional display.

Klopf et al. (1991) showed that the Japanese subjects in their study perceived themselves to be less immediate – indicated by less touching, more distance, less forward-lean, less eye contact, and oriented 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 nonverbal 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).

The impact of culture on display rule usage and nonverbal expressivity has been documented in a cross-cultural investigation that included more than 5000 participants across thirty-two countries (Matsumoto et al., 2008). Matsumoto and Hwang (2013, 2016) have developed a taxonomy of nonverbal expressivity across six nonverbal channels: the face (many animated facial expressions, facial amplifying and illustrating), the voice (louder, deeper, and faster), posture (relaxed and open), gesture (frequent emblem use, many illustrators), gaze (direct), and interpersonal space (closer interaction distance). As expected, a strong positive relationship was found between expressivity and measures of individualism. It should be noted that the majority of the relationship was driven by the normative expression of positive emotions (happiness and surprise). The authors suggest that the observed relationship between expressivity and individualism may be a product of higher levels of outgoing behaviour in individualistic cultures, leading to increased verbal and nonverbal emotional expressivity.

Subcultural differences in interpersonal spacing preferences have been examined in several observational studies (e.g. Thompson & Baxter, 1973; Willis, 1966). 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 towards' inconsistent spacing arrangements through predictable footwork and orientation adjustments. A subsequent study by Garratt, Baxter, and Rozelle (1981) trained Anglo-American police officers to engage in empirically determined 'African American nonverbal behaviour and interpersonal 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 English 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 towards the other when speaking (LaFrance & Mayo, 1978). Similar patterns of gaze behaviour were found as well in other societies (Vrij & Winkel, 1991; Winkel & Vrij, 1990). 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 nonverbal 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, other investigations that have compared Japanese nationals and Japanese Americans have revealed cultural differences in 'nonverbal 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, Cody, Lee, and Chao (1989),

Yi Chao (1987) and O'Hair, Cody, Wang, and Yi Chan (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, Omar, Mahmoud, and Bonser (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, both the American and Jordanian subjects used similar, inaccurate nonverbal cues (avoiding eye contact and frequent pauses) judging deception by others. An examination of beliefs about deception cues among Jordanians by Al-Simadi (2000) revealed some similarities with data from the United States and Western Europe (expectations of increased gaze aversion and paralinguistic cues) and some notable differences (expectations of increased blinking and facial colour). For a review of other cross-cultural studies, see Druckman and Hyman (1991).

While suggestive, these studies are not sufficient probes into the cultural dimensions influencing nonverbal 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' that 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 that produce guilt for members of different cultural groups would be helpful. Indeed, there are likely to be cultural differences in the acceptability of deception. Fu, Lee, Cameron, and Xu (2001) found that Chinese students were more likely to interpret lies about prosocial behaviour as a type of modesty than were Canadian students. 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 nonverbal behaviours that distinguish 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 (see Hyman and Druckman, 1991). Respondents would be asked about the kinds

of lies and lying situations that are permissible versus 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 can 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 compared to non-representative. (See also Mikolic, Parker, & Pruitt, [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 nonverbal 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), Costanzo (1992), Druckman et al. (1982), Fiedler and Walka (1993), and Garratt et al. (1981).

NONVERBAL BEHAVIOUR IN PROFESSIONAL SETTINGS: A SAMPLE OF RESEARCH FINDINGS

Although the police-citizen encounter discussed earlier 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 nonverbal 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 thirty-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 nonverbal 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 infer 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 nonverbal communication perspective, the impression formed is, to varying degrees, inadvertently encoded by the interviewee-actor, and possibly misinterpreted in the decoding process on the part of 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 nonverbal cues in an initial encounter. Others have shown that a well-organised judgmental impression may be made in as little as four minutes.

A meta-analytic study by Ambady and Rosenthal (1992) summarised the research on 'thin slices' (defined as a five-minute exposure or less) of expressive behaviour as a predictor for deception detection. They found a significant effect size, $r = .31$, across sixteen studies. Neither length of exposure nor channel exposure (nonverbal vs. verbal and nonverbal) significantly moderated the effect size. Additional findings have shown that even brief (ten second) exposure to teacher nonverbal behaviour while the instructor was interacting with the class is predictive of students' teaching evaluations (Babad, Avni-Babad, & Rosenthal, 2003, 2004). Remarkably, male sexual orientation can be reliably determined in 1/20 of a second (Rule & Ambady, 2008). Current research on factors related to the reliability and validity of thin-slice stimuli have revealed substantial degrees of inter-slice reliability (i.e. slices within interaction sequences tend to be relatively interchangeable). An assessment of which types of nonverbal behaviours are best represented in thin slices showed that gaze, nods, and smiles had the greatest behavioural validity across slices (Murphy et al., 2015).

People who are in professional roles such as interviewing, counselling, and teaching should constantly remind themselves of the influence they have on clients' nonverbal behaviour and not to rely on 'favourite' nonverbal behaviours as flawless indicators of dispositional characteristics. Knowledge of potential effects of verbal and nonverbal 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 nonverbal '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 nonverbal 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 nonverbal 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 graduate school applicants on how to communicate favourable qualities nonverbally during an interview (Fretz & Stang, 1982). Research studies generally show that such nonverbal behaviours 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 (Forbes & Jackson, 1980; Hollandsworth et al., 1979; Young & Beier, 1977). Nonverbal immediacy has also been shown to be related to positive subordinate perceptions of supervisors (Richmond & McCroskey, 2000; Jia, Cheng, & Hale, 2017).

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 would 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 nonverbal behaviours have also been recognised in the military setting where physical appearance such as uniform markings clearly identify the ranks of the interactants (Hall, 1966).

This brief sampling of empirical results provides impressive evidence for the importance of nonverbal behaviour in managing and forming impressions in role-defined settings. However, these results also reveal that nonverbal behaviour in the form of kinesics interacts with other nonverbal 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 nonverbal behaviours associated with specific intentions of the communicator (encoder), and to then 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 nonverbal 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 in a press conference setting. 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 that 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. Participants were not aware that the purpose of the study was to assess nonverbal behaviour exhibited by them during the interview and the interviewer was unaware of whether the subject was in the honest, deceptive, or evasive intention condition.

Research findings

Analyses revealed that honest, deceptive, and evasive subjects could be classified accurately solely on the basis of their nonverbal behaviours. Using ten nonverbal behaviours (for instance, head-shaking, gaze time at interviewer, leg movements, and so on), 96.6 per cent of the subjects were classified correctly as being honest, deceptive, or evasive. In another segment of the interview, three nonverbal behaviours (for instance, leg movements, gaze time at interviewer and object fidgeting) were accurate in 77 per cent 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 videos and then guessed if 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 per cent of the cases, respectively. Thus, even 'experts' would appear to benefit from further training and skill development in interpreting nonverbal 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 per cent (DePaulo et al., 1985; Kraut, 1980; Vrij, 2000). Vrij 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). There are data that suggest detection deception accuracy can 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 nonverbal cues and ignore non-diagnostic nonverbal behaviour.

Research summarised in Vrij and Mann (2004) has demonstrated the utility of combining the evaluation of nonverbal behaviour with the application of various speech content analysis techniques that assess the credibility of verbal content. Accuracy rates in these studies have ranged from 77 to 89 per cent (Vrij, Akerhurst, Soukara, & Bull, 2004; Vrij, Edward, Roberts, & Bull, 2000). Over the last decade, additional criteria-based content analysis models have been developed and used as verbal veracity assessment tools. Vrij (2015) summarises the work to date and the outcomes continue to be quite promising with much better than chance decoding accuracy across most studies. However, the bulk of those data emanate from studies involving undergraduates. As promising as some of the outcomes have been, Vrij (2015) notes that the known error rate of a common technique is 30 per cent and therefore suggests that outcomes from these techniques should not yet be allowed as admissible evidence in court. Additional research 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.

Recent work guided by the use of implicit measurement techniques has generated some support for subliminal processing leading to greater decoding accuracy (ten Brinke, Stimson, & Carney, 2014; ten Brinke, Vohs, & Carney, 2016). However, effect sizes in these studies have been small and some of the work in the area has had methodological limitations (Street & Vadillo, 2016). Future studies need to carefully control for the impact of conscious processing on decoding outcomes.

Another set of analyses revealed significant shifts in nonverbal 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 nonverbal behaviour depending upon the role that is being communicated. Also, different patterns of behaviour occurred in the three five-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 nonverbal 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 nonverbal indication of stress and tension. Subjects in all three conditions displayed behaviour patterns related to expressed feelings of confidence and effectiveness.

Current computer-assisted behavioural observation tools such as THEME (Magnusson, 2005) should allow for a more comprehensive assessment of patterns of nonverbal behaviour across time. Early work with THEME by Aglioti, Vescovo, and Anolli (2006) revealed cross-cultural differences and more current investigations have shown some promising outcomes in a series of exploratory investigations examining the impact of deception on multiple behaviours across time (Burgoon, Proudfoot, Schuetzler, & Wilson, 2014).

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 nonverbal 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 NONVERBAL BEHAVIOUR: AN APPLICATION OF EXPERIMENTAL RESULTS

The studies reviewed above support the assumption that gestures, facial expressions, and other nonverbal behaviours convey meaning. However, while adding value to interpretation in general, an understanding of the nonverbal aspects of behaviour may not transfer directly to specific settings. Meaning must be established within the context of interest: for example, the nonverbal 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; it is a useful *framework* for the interested observer of significant events. In the following sections, themes and techniques for analysis are discussed, and the special features of one particular context, that of international politics, is emphasised.

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 analytical 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 nonverbal behaviours and taking contextual features into account.

While coded separately, the nonverbal 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. 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 nonverbal 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.

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 like: 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 emphasised in each of the political issues mentioned above. Signs of failing health are suggested by incongruities or inconsistencies in verbal and nonverbal behaviours, as well as between different nonverbal 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 summarise 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 nonverbal 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 gestures (for body tension) (McClintock & Hunt, 1975)
5 *Stress:* flustered speech as indicated by repetitions, corrections, use of 'ah' or 'you know' rhythm disturbances (Baxter & Rozelle, 1975; Kasl & Mahl, 1965, 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/nonverbal 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, Zuckerman, & Rosenthal, 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 (co-ordinated body movements) (Druckman et al., 1982), reduction in hand movements among skilled deceivers and those high in public self-consciousness (Vrij, Akehurst, & Morris, 1997), and increased pauses (Anolli & Ciceri, 1997);
2 *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 (Druckman et al., 1982; McClintock and Hunt, 1975).

The search for a coherent set of reliable nonverbal cues to deception has comprised a large segment of the empirical investigation of nonverbal 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 on how to use such a set of cues for diagnostic purposes. A review of findings appears in a meta-analytic assessment conducted by DePaulo 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 nonverbal 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 work of Frank and Ekman (2004), Vrij (2000), and others that have documented the extent to which motivated lies ('true lies') tend to produce nonverbal 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 nonverbal displays especially in the area of paralanguage.

Two recent related meta-analytic reviews have been conducted. An assessment of nonverbal encoding of honesty and deception by Sporer and Schwandt (2007) examined encoding differences across twelve behaviour channels/variables (e.g. eye contact, head movements, nodding, smiling, adaptors, illustrators). Only three differences were found: nodding, hand movements, and foot and leg movements. Contrary to predictions, decreased frequency was observed during deception. Consistent with the review by DePaulo et al. (2003), few reliable differences were found and the motivation level of the liar moderated the frequency and type of behaviours displayed.

Even though encoding data have revealed that motivation significantly moderates what gets encoded during deception, a recent review of decoding studies that involved multiple nonverbal cues to deception failed to find a relationship between the motivation level of the sender and decoding accuracy. The emotional level of the lie (e.g. lies told during legal investigations, negative life events) also failed to moderate the level of decoding accuracy (Hartwig & Bond, 2014). These authors point to the limited ecological validity of the experimental database as a potential explanation for the lack of moderational evidence.

One of the more interesting findings to emerge from the research on nonverbal lie detection is what Bond, Levine, and Hartwig (2015) describe as a *decline effect*. An examination of data from the meta-analysis by DePaulo et al. (2003) revealed a strong inverse relationship between the strength of a nonverbal deception cue and the number of times it had been studied. The most commonly studied cues of response length, response latency and eye contact showed hardly any relationship with deception. Conversely, cues that have not been studied often (e.g. foot movement changes, pupillary dilation) produced some of the strongest relationships. Bond et al. (2015) state that while there is currently no agreed upon explanation for the decline effect, regression towards the mean in conjunction with a publication bias may account for the effect. Strong initial outcomes may set the peer review bar lower for the acceptance of weaker future outcomes. Clearly, further investigations of these understudied nonverbal behaviours are needed.

To summarise, as documented in much of the previous research on the nonverbal 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.

Techniques for analysis

Whereas patterns of nonverbal behaviour are the basis for interpretation, it is the separate behaviours that 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 nonverbal 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 the analysis 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 videos. Such a division of labour speeds the process, increases reliability and preserves the coders for other tasks. A set of twenty-five nonverbal behaviours shown by subjects in thirty, twenty-minute segments was coded in about three weeks, each individual coder contributing only two hours of effort.

The procedures define a coding scheme or notation system for processing video material. Computer-assisted analysis would facilitate the transforming of nonverbal 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 nonverbal notation system, these behaviours can be represented as animated displays. 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, Phillips, & Webber, 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 nonverbal 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, eye movements for an actor seen from a distance). They also provide complementary indicators, bolstering one's confidence in the inferences made. And, for the time-sensitive analyst, a manageable subset of nonverbal behaviours can be identified for 'on the spot' commentary.

Systematic comparisons

Nonverbal indicators can be used to build profiles of 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 her or 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 nonverbal 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 nonverbal channels, and within different nonverbal channels. They also alert the analyst to changes in nonverbal 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 co-ordinated movements which may change over time and situations. The co-ordinated 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 that 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 nonverbal displays? (See our discussion above on cultural influences.)

Several analytical strategies enable an investigator to get to know her or 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 nonverbal 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 an honest, evasive, and deceptive statement? Contributing to an enhanced analytical 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 place the analyst on the spot, being frequently asked to provide interpretations without the benefits 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'. Findings on the extent to which decoders can make rapid judgements of verbal and nonverbal cues reveal that such judgements can be made in a reliable and relatively accurate manner subsequent to training (Vrij, Evans, Akehurst, and 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 nonverbal 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 expressions during a deceptive communication; those in another condition were asked to control their body movements. Both conditions were compared to an earlier session where 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 obtained by DePaulo et al. (1985) showing behavioural inhibition for motivated liars. (See Druckman and 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).

Micro-momentary expressions (MMEs)

Regarded as universal expressions, MMEs are the muscle activities that underlie primary emotions (happiness, sadness, surprise, anger, fear, disgust, interest) and information-processing stages (informative seeking, pre-articulation processing, response selection). With the aid of special instrumentation, workers have been able to identify quite precisely the muscle clusters associated with particular emotions (Ekman, Freisen, & Ancoli, 1980) or processing stages (Druckman, Karis, & Donchin, 1983; Karis, Druckman, & Lissak, 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). A recent chapter by Burgoon and Dunbar (2016) summarises findings showing that training and experience are positively related to increased decoding accuracy, even with low-stakes lies and especially when interaction sequences are longer, baseline comparisons are possible, and strategic questioning strategies are used.

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 NONVERBAL DECEPTION

The empirical investigation of beliefs, expectations, and general stereotypes regarding nonverbal behaviour perceived as indicative of deception has resulted in a relatively consistent set of findings across a number of studies and reviews (Gordon, Baxter, Rozelle, & Druckman, 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, Kohnken, Vrij, & Bull, 1996; Vrij & Semin, 1996). Findings from an investigation by Anderson, DePaulo, Ansfield, Tickle, and Green (1999) also suggest that 'experts' and laypeople alike may rely on a generalised stereotype of deceptive nonverbal 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. A large-scale cross-cultural assessment that included data from fifty-eight countries revealed similar nonverbal stereotypes of deception. Inaccurate cues such as gaze aversion were mentioned by more than 25 per cent of the participants (The Global Deception Team, 2006). 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 consciously control leaks in the channels that are more easily manipulated. It may also be the case that more variability is found for the encoding of behaviours in more controllable channels. Indeed, Vrij, Edward, and Bull (2001) found considerably more variability for the 'more-easily controlled' gaze aversions than for the 'less-easily controlled' para-linguistic 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 articles published on nonverbal behaviour, the present chapter has only provided an up-to-date sampling of the literature on this important form of communication. Beginning with an overview and historical perspective, the discussion covered general issues, theoretical and methodological frameworks, and provided some specific examples of research findings and applications. As the chapter has demonstrated, there is a wealth of information generated from scientific inquiry that reveals the significant impact of nonverbal behaviour on communication; yet this body of knowledge is incomplete and often complex.

We have argued that nonverbal 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. It is also the case that careful and reliable applications of nonverbal behaviour can enrich and enlighten one's understanding and control of communication in a variety of situations, roles, and cultural settings.

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

The key theoretical issue turns on the relative power of universal versus contextual explanations for the sources of nonverbal behaviour. The main practical issue is whether the diagnostic value of nonverbal behaviour is improved more by knowledge of species-wide expressions or of cultural-specific (or contextually influenced) behavioural displays. Progress on these issues will depend 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 a treatment of the issue in research on stereotyping.)

The last two decades of research on nonverbal communication reflect general trends and lessons learned in psychology and related social and behavioural science disciplines including the importance of replication and the concomitant limitations of null hypothesis testing. As Patterson, Giles, and Teske (2011) have documented, basic computer technology and the trend towards multi-study publications are likely to have also played a role in the reduction of nonverbal communication studies being

published in the highest impact journals. That said, the large number of research handbooks point to the pivotal importance of nonverbal communication to the study of human social behaviour.

The contemporary research programmes within human communication research and experimental social psychology continue to reveal the importance of using ecologically valid stimuli and field settings in developing a comprehensive understanding of nonverbal encoding and decoding. Moreover, promising technological enhancements should facilitate our ability to examine the dynamics of the sender-receiver unit with the use of sequential analytical assessments (Dunbar, Jensen, Tower, & Burgoon, 2014), enhancing our understanding of patterns across time.

Two theoretical approaches point the way to the future of research in this field. One is Burgoon and Buller's (2008) interpersonal deception theory. This theory highlights the importance of a variety of contextual variables as drivers of observed nonverbal behaviour. Their computer-based software facilitates quick and thorough coding of a wide array of nonverbal expressions. Another is Patterson's (2013) systems theory approach. His environmental focus also emphasises the importance of context but is more explicit than Burgoon and Buller on possible moderators and the involuntary bases for many nonverbal behaviours. His more recent work on integrating the field places more emphasis on purpose and goals (Patterson & Quadflieg, 2016).

The purposive versus non-purposive or spontaneous distinction, raised by Patterson, is a pervasive theme across the nonverbal communication literature. It is however becoming increasingly clear that this distinction is fuzzy. Research on implicit bias suggests purpose without conscious intention to discriminate (Amodio & Devine, 2006). The issue is further clouded by a related distinction between sender intentions and receiver perceptions of those intentions. A tennis anecdote illustrates this point.

Repeated failed attempts to beat his opponent motivated the world champion tennis player Andre Agassi to analyse his opponent's nonverbal behaviour. He noticed an association between where he served, left or right side of the service box, and where his tongue displayed a preference, right or left side of his mouth, just before the serve was hit. This signal propelled Agassi to a string of victories against this opponent. Here the sender did not intend to send this signal. Nonetheless it was sent and used to advantage by the receiver. Thus, what might be regarded as involuntary (habitual, automatic) sender encoding is given meaning by receiver decoding.

Goffman's (1969) analysis of strategic interaction captures the tennis example well. Referred to as expression games, Goffman captured the dynamics of a game consisting of a series of moves made through time. In this game, players alternate their roles as receivers of information (decoders) and conveyers of impressions (encoders). The strategic element comes into play when uncovering moves by one player (Agassi's tongue diagnosis) are countered by the other player (stop sending the tongue signal when serving). Extending this analysis to the political domain, Goffman describes political cultures where intentions are disguised and attributions of the other's intentions are influenced by suspicions of deception. An implication of this analysis is that decoding is more than looking for suspected nonverbal clues; it is an act of interpretation that reflects the context or culture in which interactions occur. Further, in non-laboratory settings, interpretations of intentions may be based more on global (multiple communication channel) assessments of behaviour. A message for researchers is that more attention be paid to the sender intentionality-receiver interpretation nexus.

So too should more attention be paid to broader philosophical issues about the concept of intentionality.

The importance of context is emphasised by the Burgoon-Buller and Patterson approaches. By context we refer to the cultural and institutional settings that shape communication. Two larger implications of this emphasis are for evolutionary approaches and levels of analysis. With regard to the former, recent findings on the role of context challenge assumptions about the universality of nonverbal expressions. Darwin alerted us to processes of emotional expression in animals and humans and noted diversity. He did not however provide explanations for the observed variation that shed light on context. On levels of analysis, we may want to consider devoting more research effort to macro-level analyses on nonverbal behaviour. This entails changing the unit of analysis from individuals or dyads to cultures and organisations. Researchers would examine variation between these larger categories. A challenge, however, is to decide on metrics for aggregating data collected from observing individuals nested within cultures or organisations: for example, the differences between additive, multiplicative, and non-linear models for aggregating data to higher-order units of analysis.

We conclude the chapter on a positive note. This is the fourth edition of the Handbook and the fourth update of our chapter, the original version appearing in 1986. The field remains vibrant, marked by progress in understanding the nonverbal elements of communication. More sophisticated methodologies, an array of new empirical findings, and frameworks that point the way towards developing contextual theories are evident in our review. We look forward to the fifth edition when the next generation of research and theory development will be documented in our contribution.

DEDICATION

This chapter is dedicated to the memory of our colleague and friend Richard Rozelle. Dick was the inspiration behind the nonverbal communication chapters that have appeared in each edition of the Handbook. He also introduced us to the field of nonverbal communication and was our collaborator and co-author on several earlier projects on this topic. We miss his collegiality, insights, encouragement, and sense of humour. He will always remain in our thoughts.

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