

Charles Whitehead

## *Social Mirrors and Shared Experiential Worlds*<sup>1</sup>

**Abstract:** *We humans have a formidable armamentarium of social display behaviours, including song-and-dance, the visual arts, and role-play. Of these, role-play is probably the crucial adaptation which makes us most different from other apes. Human childhood, a sheltered period of 'extended irresponsibility', allows us to develop our powers of make-believe and role-play, prerequisites for human cooperation, culture, and reflective consciousness.*

*Social mirror theory, originating with Dilthey, Baldwin, Cooley and Mead, holds that there cannot be mirrors in the mind without mirrors in society. I will present evidence from the social and behavioural sciences to argue that self-awareness depends on social mirrors and shared experiential worlds. The dependence of reflectivity on shared experience requires some reframing of the 'hard problem', and suggests a non-trivial answer to the zombie question.*

'The beast does but know, but the man knows that he knows.'

John Donne (1628)<sup>2</sup>

### **I: Private and Public Theatre**

*'Theatre of mind'*

Thought is theatre (cf. Hillman, 1983; Jennings, 1990; Laughlin *et al.*, 1992). I am not talking about Cartesian Theatre or even Global Workspace Theatre (Baars, 1997), but real, embodied Theatre. If this conjures up the awkward notion of homunculi within the mind, so be it. The fact remains that in imagination we rehearse and explore social scenarios and actor–audience interactions, and if we observe our own thoughts, we may note how often we are *present* in our minds, as performing actor and/or responding audience (Cooley, 1902; Vygotsky, 1978;

Correspondence: Charles Whitehead, 19 Rydal Road, London SW16 1QF, UK

[1] This paper is the first part of a projected three-part work on 'Role-Play, Imagination and Consciousness'.

[2] Quoted from *The Sermons of John Donne, Vol 8*, ed. E.M. Simpson & G.R. Potter (Berkeley, CA: University of California Press, 1956), pp. 219–36.

Johnson, M., 1987; Walton, 1990, p. 28; Mitchell, 1994). We may be capable of ‘purely’ verbal thought and linear reasoning, but fantasies and dreams, the bulk of what buzzes around our minds each day and night, resemble embodied virtual-reality experiences.

Even when we do think verbally, our words are seldom if ever disembodied, but more like a theatrical script spoken by an embodied actor, and delivered to an embodied audience. In my own case, I find I even solve problems in abstract logic using mental theatre. I work out my argument, in imagination, by explaining it to an appropriate audience, which does not just passively applaud my performance — individual actors express doubt, raise objections, and point out issues I have overlooked. This helps me to improve my argument and polish my real-world performance (cf. Goffman, 1967, p.105; references in Mitchell, 1994). Social imagination simply would not work unless it simulated real-world social interactions, and this requires my mental homunculi to have their own autonomous feelings, views, opinions, and knowledge.

There is direct evidence from Dissociative Identity Disorder (Castillo, 1994; Bliss, 1986), and hypnosis research in normal subjects (Hilgard *et al.*, 1975; Hilgard, 1986), that our minds can accommodate multiple minds, which can observe each other and even converse together ‘outside’ consciousness (reported by Schreiber, 1973, in the *Sybil* case; review: Oakley & Eames, 1985). But *whose* consciousness are they ‘outside’? It would seem that the imaginary actors we create do not always cease to exist when we stop thinking about them, but continue to live out their independent lives, apparently as consciously as we do.

The mind as Theatre has been criticized because of the implied infinite regress of homunculi watching stage-shows within stage-shows. But Shakespeare can fill a stage with characters, all of whom act and speak convincingly as whole and distinct persons, though all were born within a ‘single’ mind. Of course individual actors must realize each part for us, elaborating from their own experience and training, but when we read a novel, we do all of this work for ourselves. Script writing, acting, and novel reading are all role-modelling processes. The ability to model other minds within the mind would seem to be a logical consequence of Machiavellian evolution (the theory that primates have big brains because social skills — the ability to manipulate other manipulators — are much more demanding than object skills: Byrne & Whiten, 1988). So we can give up our fears of little green men inside the mind: role-play implies that homonculus production is a routine activity of the human psyche.

### *Public theatre*

If our minds model a theatre, it is because we live in a theatre. Erving Goffman (1959), following Mead (1934), argued that everyday life demands virtually constant role-play. Marcel Mauss (1925), in a cross-cultural survey, revealed the essentially theatrical and make-believe character of economic systems; and Victor Turner (1982) argued that life imitates art — the ‘structural’ role-plays of the everyday world are forged in the ‘anti-structural’ role-play of ritual, theatre,

and make-believe. He notes, for example, that ‘There was a lot of Perry Mason in Watergate’.

Theatre, whether in the mind, on the stage, or in any creative activity such as childhood play, story-telling, or making pictures, allows us to experiment and expand our self-understanding and behavioural repertoire (Jennings, 1990). The fact that we have plays, stories, and picture-books tells us something: we humans have a unique and revolutionary adaptation — dramatic ability — that distinguishes us from other animals, and it is not dependent on language. Anthropologists have given us vivid accounts of human dramatic performances, and the multiple ways these are used to build or repair social relations and human selfhood (e.g. Kapferer, 1991).

This has implications for human versus non-human mentation, for it means that we are the only known species with the ability to make imagination public — and not just feeling, intention, and emotion, or the process of ‘mind reading’ as attributed to animals (Krebs & Dawkins, 1984; Byrne & Whiten, 1988; 1991).

Human imagination is distinctly fragile (Donald, 1991). Even with eyes closed, it is difficult for most of us to envisage anything but the simplest images or the briefest fragments of sequential episode. The least distraction scatters our mental stage-show, and even our dreams lack coherence and continuity. It is possible that dramatic performance does more than make imagination public: without it, we might not have much imagination at all (Mead, 1934; cf. Baron-Cohen, 1995).

### *Theatre and language*

Many people assume that language is the basis and prerequisite for human economic-moral culture, and ‘the source of virtually all the “interesting” properties of the human mind’ (Premack, 1988; *contra* Schwartz, 1980; Bickerton, 1987). Others believe that language could have evolved by gradualistic genetic change (e.g. Pinker, 1994). That is because they think the utility of language is self-evident, and never ask themselves what language is *for*. They cannot explain why (1) other species have not evolved syntactical communication; (2) even the most loquacious humans also need art, music, and dance; or (3) despite the ‘usefulness’ of language, we continue to smile, laugh, weep, and gesticulate our emotions to each other (cf. Young, 1992). They fail to consider the *disadvantages* of language — good for lying (Knight, 1998), but bad for explaining such pragmatic matters as tool-making or subsistence techniques (Burling, 1993). No ‘explanation’ of language origins can be credible unless it takes account of the entire gamut of human intersubjectivity, and the functional role of language *vis-à-vis* our other modes of communication and display.

Another problem for Darwinians is that cryptic codes require an entire system to be conceived as a whole (Lévi-Strauss, 1950). You cannot create a language piecemeal, one word at a time, because words are only meaningful in relation to other words, and to the whole idea of a coded system. Such relations are syntactical as well as categorical. Durkheim (1912) pointed out that you only need syntactical speech when you need displaced reference — when you want to refer to things imagined or imaginary, not present in the here and now for everyone to see,

hear, or touch. How can you encrypt an intangible, he asked, unless it is first made public by conventionalized ritual pantomime? Durkheim's argument that 'sacred' (i.e. authoritative) ritual is necessary to solve the 'problem of the first utterance' (Whiten, 1993) has never been refuted, and is simply ignored in many Darwinian accounts of language origins.

A fully socialized use of language depends on sophisticated mindreading skills which require a shared imaginative world. We do not merely extract literal meanings from words and syntax, but constantly cross-check our own social experience for clues to the author's intentions (Baron-Cohen, 1995). Humour and irony, for example, would be impossible otherwise. To autistic children, who sometimes acquire basic language ability but always lack insight into the thoughts of others, most human utterances are a perpetual mystery. Temple Grandin, who gained a PhD despite her autism, turned to science in relief because scientific language was the only kind she could make sense of (*ibid*). Without insight into the thoughts of others — which I will show depends on dramatic ability — how could language evolve? Why would you communicate ideas to others if you are not aware that ideas exist?

The utility of language, its 'illocutionary force', depends on a communally sanctioned contract (Grice, 1969; Searle 1969; 1983; Austin, 1978; in Knight, 1998), and moral authority vested in 'collective representations' and ritual enactments (Durkheim 1912; Bourdieu, 1991; Knight, 1998). In everyday life, as lived by the vast majority of humans, language is the vehicle of gossip, story-telling, oratory, ritual fiat, dispute, persuasion, and self-legitimation: the dramatic shaping or re-shaping of social history, real or imagined (cf. Jennings, 1990; Dunbar, 1996; Knight, 1998). Language subserves a dramatic function, and cannot exist outside a dramatic world. Dramatic performance, not language, is the basis and prerequisite for conventionalized human culture.

I will begin by considering human communication, play, and performance, and their role in human sociality and consciousness.

#### *A note on the 'easy' and 'hard' problems of consciousness*

In this essay I use the term 'consciousness' to mean reflective awareness (the awareness of being aware), and 'awareness' to mean the experiential aspect of any process, whether or not we are aware of its awareness. This makes consciousness one of the 'easy problems' for explanation, whilst awareness is the proper subject for an attack on the 'hard problem'.

One anonymous referee, and an Executive Editor of *JCS*, pointed out that my understanding of the 'easy' and 'hard' problems is significantly different from that of David Chalmers, and this needs to be justified.<sup>3</sup> I wrote the first draft of this paper in 1995–96, and felt I was being entirely faithful to the pioneering lead given in Chalmers' keynote paper in *JCS* (1995). On re-reading this and his subsequent review of the debate he triggered off (Chalmers, 1997), I find I was

[3] *Editor's Note*: Chalmers' own appropriation of the terms was criticized at the time by a number of commentators for being at variance with common usage, and therefore liable to be confusing and misleading. See, e.g., Max Velmans in *Journal of Consciousness Studies*, 2 (3), p. 258.

indeed true to Chalmers' original logic, but had simply pushed it a little further. In doing so, I had quite unconsciously reversed his use of the terms 'awareness' and 'consciousness'. There are three reasons for this change, which may seem a little nit-picking in view of Chalmers' stated preference for plain speech, uncluttered by the 'ifs' and 'buts' of strict philosophical rigour:

- (1) Chalmers (1995) recommends the term 'awareness' for 'physical' processes in the brain (his 'easy' problems), and 'consciousness' for the experience which 'arises' from them (his 'hard' problem). But if there are non-experiential 'physical' processes then the term 'awareness' is redundant, and if they are experiential then the term 'consciousness' is redundant.
- (2) Chalmers does not stress the difference between *experience* (the hard problem) and *experience that we know we have*, even though he includes self-access, reportability, attention, and volition in his list of 'easy problems' (Chalmers, 1995). This undermines his recommended use of phenomenological self-observation to establish the neural correlates of consciousness (Chalmers, 1997). Introspection, by definition, can only reveal experiences we can access, pay attention to, and hence act upon and report (four of Chalmers' easy problems), which, as I have already begun to suggest above, is only a subset of experience *per se* (the hard problem). The very existence of mechanisms for self-access implies 'aware' processes which are not accessed. If awareness were automatically self-aware, reflectivity would be a non-phenomenon, and the 'easy problem' of self-access would not qualify as a problem at all. The alternative — that the act of reflection on a mental content makes it experiential, as suggested by Freud — is no better, for this makes reflectivity the hard problem, and the neural correlates of the reported process become entirely irrelevant.
- (3) Chalmers' proposed solution to the 'hard' problem — his 'double-aspect theory of information' (1995) — makes experience a brute fact of 'physical' reality. If so, this renders his initial formulation of the hard problem redundant: we can no longer think of experience 'arising' from 'physical' processes (Chalmers, 1995; 1997). Experience is itself 'physical'. (The historical and political propaganda implicit in our notion of the 'physical' has yet to be adequately explored in the pages of *JCS*: cf. Jordanova, 1980).

In this paper I present evidence that experiential awareness — the hard problem as defined by Chalmers — is a necessary part of the explanation of reflectivity — one of the easy problems listed by Chalmers (1995). I follow him in preferring 'awareness' for what is basic, and 'consciousness' for that which arises from it, so I end up reversing his use of the terms. 'Consciousness' surely implies states that we know we have, and this too is in line with Chalmers. The common-sense conflation of awareness with self-awareness (experimentally invalidated by Gopnik & Meltzoff, 1994: see below) creates endless problems, which recurred throughout two years of debate in *JCS* (reviewed in Chalmers, 1997), and have continued to bedevil this journal ever since. To avoid this confusion I

refer to *experience* as ‘awareness’ (the hard problem) and *experience we know we have* as ‘consciousness’ (one of the easy problems).

## II: Communication, Play, and Performance

### *Three modes of communication*

#### 1. Implicit communication

Psychologists and neurologists often discuss emotions and sensations as though they occur in a private subjective world, and serve only to motivate and inform individual selves. But fast reactions do not need experiential motivation, and ‘spontaneous’ affect appears to be a post-event construal arising after behaviour is already under way (Bem, 1972; Zillman & Bryant, 1974; Zillman, 1984; Brown, 1991; cf. William James, 1884). As for the informing function, this is not just directed to the experiencing self. Emotions convey information to others through more or less involuntary signals: vocalisations, gestures, facial expressions, secretions and odours. We humans, for example, smile, laugh, cry, weep tears, and artificially modify our body odours. If spontaneous behaviour and affective signals are involuntary, we appear to be quite zombie-like up to that point, with conscious experience grafted on afterwards for some other reason.

Burling (1993) refers to involuntary signals as *gesture-calls*, to emphasize the fact that they are seldom, if ever, exclusively vocal. Even speech is accompanied by gestures, facial expressions, and prosodic modulations that are part of our gesture-call system. Not only emotions, but sensations such as pleasure and pain are expressed through gesture-calls. Many of these signals are socially infectious, spreading rapidly from individual to individual throughout a group (Brown, 1991). Yawning is an example of a socially infectious gesture-call which is impossible to classify using folk-terms such as ‘sensation’ and ‘emotion’.

Gesture-calling is not necessarily ‘inferior’ or ‘impoverished’ compared with language. People who make quasi-accurate statements such as ‘chimpanzees have 71 types of communicative utterance’ (Noble & Davidson, 1996) apply an inappropriate digital notion derived from speech. Primate signals are analogical, using continuous sliding scales of volume, pitch, mutedness, timbre, inflection, melodic complexity, etc., and infinite gradations of gesture (Burling, 1993; Richman, 1976; 1978; 1987). In human conversation, our own analogical signals are in no sense ‘inferior’ to language: verbal content contributes an estimated 7% to communication of overall attitude (the rest being 38% tone of voice and 55% facial expression: Mehrabian & Ferris, 1967) and is similarly unimportant in communicating emotion (Waxer, 1981; in Brown, 1991). We might ask would-be logophiles how many ‘communicative utterances’ can be produced by a grand piano, or how many people listen to Beethoven’s Ninth Symphony because they like the lyrics. Music in fact appears to be a culturally elaborated extension of our gesture-call system.

Gesture-calls project internal affective or intentional states into the public domain, and *vice versa*. Since many gesture-calls are contagious, public display

and private experience are joined by a two-way street; intentionality is a communal affair, and apes are networked as surely as neurones in a brain.

## 2. Mimetic communication

*Iconic gesture-calls* represent a second distinctive communication mode in humans: a potentially endless capacity to invent *ad hoc* representations, based on resemblance of shape or sound (Burling, 1993). Unlike affective gesture-calls, mimetic signals are under voluntary control. They can be used to deceive, and the emergence of such abilities requires the prior evolution of social trust.

Human conversation is laced with iconic devices: we may enliven a verbal account by mimicking the sounds of roaring engines and squealing brakes, or express the thrill of a car chase with careering hand and body movements. Where the whole body is involved in representing an agent — animate or not — we have *mime* or, if internal states are also replicated, fully theatrical role-play.

In the absence of a common language, human communicators make greatly increased use of mime and iconic signals (Burling 1993; Donald, 1991), and our present dependence on language might blind us to the power of mimesis to communalize perception, and project *ideas* into a public space. It might be possible to base a complex culture entirely on mimetic communication (cf. Donald, 1991).

## 3. Conventional communication

Our third distinctive mode includes the use of *cryptic signals* which, in contrast to mimetic signals, bear no necessary resemblance to their referents, and cannot be invented to order in an *ad hoc* manner, because they cannot be understood without a conventionalized system of meanings. Whole systems have to be invented at once (Durkheim, 1912; Lévi-Strauss, 1950; cf. Knight *et al.*, 1995), and, unless you happen to be Lewis Carroll, new terms have to be added consensually, usually deriving from other well-established terms, from other systems, or by conventionalization of mimetic signs.

*Language* is only one kind of cryptic system, and even here, we use a variety of conventional signals which are not strictly linguistic, such as nodding and shaking the head to say ‘yes’ and ‘no’, manual gestures both polite and rude, and vocalizations of the ‘uh-huh’ and ‘m-hm’ variety (Burling, 1993). Other systems include hieroglyphs, phonetic alphabets, gestural languages, mathematical denotations and traffic signs.

In addition to cryptic codes, human societies employ a welter of *emblematic devices*, ranging from corporate logos, badges, national flags, and patriotic anthems, to the most sacred religious icons, such as crucifixes and rainbow snakes. These are what social/cultural anthropologists commonly refer to as ‘symbols’, and which Victor Turner (1967) described as ‘bipolar and polysemic’. That is, a ‘ritual symbol’, such as the *Musengu* tree, is both the object itself (a tree with white milky sap) and its referents (breast milk, semen, maternal love, fecundity, cosmic providence, etc.). It is not conceived of as a ‘symbol’ but a ‘fact’, and it is the hub uniting multiple radiating webs of explicit and implicit meanings,

bridging the everyday and sacred worlds, and uniting humanity with the cosmos. Frequently impervious to indigenous exegesis ('Our ancestors always did it this way'), ritual icons, like ritual gestures, hover somewhere between cryptic code, inarticulate performance, and oceanic dissolution of categorical thought (cf. Deikman, 1969).

### *Three phases of childhood play*

The dramatic life of the human individual begins with play. Human play can be divided into three fairly distinct kinds of activity which correlate closely with our three communication modes. These activities form a developmental sequence, but continue to expand in parallel, feeding into or out of each other throughout life. The three phases are embodied play, pretend play (Jennings, 1990; 1991; Winnicott, 1974), and 'games with rules' (Huizinga, 1955). The children of contemporary foragers develop play skills in parallel with, or slightly earlier than, their post-industrial counterparts (Jennings, 1995). This may reflect our western bias toward object rather than social skills (Smith, 1988) or our valuation of logic and technology over make-believe and the cultural arts (Jennings, 1990).

#### 1. Implicit play

Many animals discover, explore, enjoy, and develop the performative capacities of their bodies through *embodied play*. Primates and social carnivores also explore social and political relationships — through play-fighting, games of chase, king-of-the-mountain, keep-away, tug-o'-war, etc. (Parker & Milbraith, 1994) — discovering the agency of self and other in the process. Human embodied play begins with *contingent mirror play* between mother and baby. If the baby gurgles, the mother gurgles; if the mother pulls a face, the baby reflects it back at her (Beebe, 1982; Gopnik & Meltzoff, 1994). 'Peek-a-boo' has been observed in so many diverse societies that it may well be a universal human game (Parker *et al.*, 1994a).

This means that even sensorimotor play in humans has a theatre-like quality from the outset — presenting, making public, and collectivizing. And it is done 'for fun' — all true play occurs in a special 'play space', a kind of alternative reality sheltered from environmental pressures — whether a physically demarcated space such as a football pitch, theatre, chess board, or church — or a space in a less tangible sense: a mental, attitudinal, temporal, or social space (Huizinga, 1955; Winnicott, 1974).

Winnicott points out that it is not possible to say exactly *where* play occurs. It is neither 'in' the individual, nor 'in' the environment, but takes place in a kind of hyper-space, rather like the Internet. He calls this a 'transitional' space, because it is here that all our enculturation takes place, and it is the permissive nature of this social space which accounts for the extreme flexibility and adaptability of human behaviour.

Embodied play is socialized in the preverbal child partly through our innate system of gesture-calls. We even have a specific 'play face' — identical in



humans and chimpanzees — which signals, for example, the difference between a play-fight and a real fight (Young, 1992). Most mothers, in my experience, play ‘the monster’ at some point, with raised eyebrows and covered teeth — to show that the monster is really a buffoon — whilst infants respond with squeals of terrified delight.

## 2. Mimetic play

Play fighting, playing monster, and the clowning, teasing, tricking, and joking which infants enjoy from the age of six months (Trevarthen, 1995), make it difficult to identify a clear transition from embodied to *pretend play*. Most authors agree on 12 months, when iconic gesture-calls and the first words also appear.

Donald Winnicott (1974) divides pretend play into two phases, *transitional play* and *role-play*. Jennings (1991; cf. Piaget, 1962) calls the first stage *projective play* — pretending, for example, that a pencil is an aeroplane. Role-play, on the other hand, is introjective — pretending that *I* am the aeroplane, extending my arms as wings, and ‘flying’ around the room uttering engine noises.

There are obvious parallels between projective play and iconic gesture-calls: both project ideas ‘out there’ into the public world of things. Both are representational activities, miming the shapes or sounds of objects, people, or processes, and without such abilities, the development of the representational arts would seem highly unlikely (Burling, 1993).

Many children become attached to a favourite doll — the ‘transitional object’ — which is loved, cuddled, and mutilated, but somehow represents the child’s developing sense of self (Winnicott, 1974). Dogs, like children, become excited when a favourite toy is taken from them, but will then happily accept a substitute. For human children, however, there is no possible substitute for the precious transitional object (Mitchell, 1994).

Play, as opposed to dream, has been described as the ‘royal road to the unconscious’ in children, who work out their social problems through pretend play (Erikson, 1965). So play, like theatre, art, ritual, and charismatic rhetoric, may project *unconscious* ideation into the public realm (cf. Cox & Theilgaard, 1994), which raises the question of whether it is truly ‘unconscious’ (see below).

By the age of two years, full-blown *role-play* has developed, with children acting out social scenarios and assuming make-believe roles adopted from adult life, stories, films, comics, or from their own fantasies. Even before this stage, a child may become an actor in need of an audience, constantly demanding ‘Look at me!’ (cf. Courtney, 1980; in Jennings, 1990). Confirmation of identity may be at stake here, not merely self-esteem but self-objectification through the eyes of others. Self-knowledge, like scientific knowledge, may need independent corroboration.

Winnicott summarizes his three phases of play — embodied, projective, and role — as ‘me, not-me, and not-not-me’. The implication is that we create ourselves through incorporating others — including, I would point out, non-human and inanimate role-models such as aeroplanes, motor cars, and railway trains.

### 3. Conventional play

Around the age of five or six, role-play becomes highly elaborate, and children love to dress up, sometimes staging formal ‘productions’ with props, settings, and well-worked-out *narrative scripts*. This is also the age at which children start *collecting* emblematic or other numinous objects such as badges, tickets, and Pokemon cards.

At this time they become increasingly able to enjoy *games with rules*, a relatively inflexible extension of pretend play with the curious feature of adopting, within the confines of the game, an arbitrary — even absurd — set of conventional rules. Outside the ‘play-frame’ these rules may be consensually modified by players, but once the game starts, they are regarded as binding.

This may be an important preparation for adult moral, economic, and political life. However, it has been pointed out that ‘iconic’ (board and card) and field games appear to model territorial and political conquests, involving roles well outside the likely experience of most adults (Parker & Milbraith, 1994). Nevertheless, such games dominate adult participatory play (Huizinga, 1955).

#### *Three modes of performance*

It is only in the context of play that we can begin to make sense of the cultural arts (Jennings, 1990). The information-processing paradigm has so far prevented wide appreciation, within the behavioural sciences, of the difference between communication and performance. Music psychologists frequently discuss music as a kind of language for ‘communicating’ emotion. We simply do not need music for that — we already have a gesture-call system more sophisticated than that of any other primate (Young, 1992). And music is not a code — it refers to nothing outside itself. You can translate Chinese into English, but you cannot translate a Chinese melody, any more than a Chinese smile, into an English one. You might be able to characterize a tune as ‘jolly’ or ‘sad’, but you cannot ‘translate’ the other way round. Very different melodies may be jolly or sad, whilst the same melody might be played in a jolly or sad manner.

Nor is music a matter of ‘self-expression’. Igor Stravinsky repeatedly claimed that the one thing he could never do with music is ‘express himself’, and other western composers have made similar comments (Storr, 1993). Music is given to us when we are born, and we enjoy and sing what we did not create.

Music does not necessarily *communicate* anything at all, affective or otherwise. What is the ‘affective content’ of the tune to *Jack and Jill* or *Baa Baa Black Sheep*? Music is more like massage — the pleasure is intrinsic to the performance. Supposing, for example, you happen to have a favourite recording of Beethoven’s Ninth Symphony. In the course of your lifetime, you might play that same recording, say, a thousand times, simply because you love it. After all that repetition and redundancy, what are you getting out of Beethoven in the way of ‘information’?

Performative displays can serve many functions, and do so in many different animal species. Two species — ourselves and dolphins — have collective

‘song-and-dance’ displays which serve grooming (the commonest form of bonding behaviour in Old World primates), entrainment, and agonistic functions (Connor, 1992; cf. Krebs & Dawkins, 1984; Knight, 1998). The balletic displays of male dolphins cement the alliance of the performers (the grooming function), but also fuse them into a single experiential unity (the entrainment function). The agonistic functions are communicative: they say to other males, ‘If you attack my friend, you attack me too,’ and to female dolphins, ‘We can do this the hard way or the easy way.’

Human song-and-dance displays can also serve such agonistic communicative functions, but in the human case, it is the grooming and entraining functions that I wish to stress — the *collectivization* of inner experience. This is unlike communication, which merely projects subjective contents into a public space, where we can see, hear, or smell them. Performance unifies experience, ensuring we are all in the same groove, dancing to a common rhythm, or however you want to put it. Performance takes two or more selfish individuals and welds them into one great big selfish individual, which can be pretty formidable, as in Nuremberg rallies and the like.

### 1. Implicit performance

*Song-and-dance*, in addition to its networking function, is a form of embodied play in its own right, and appears to be a playful extension of our gesture-call abilities, having many similar features (being relatively well ‘understood’ cross-culturally, for example). I adopt the term ‘song-and-dance’, hyphenated for the same reason as ‘gesture-call’, to indicate a single coherent system — the hypothetical hard-wired behaviour whose conventionalization I assume led to music, and which appears to be spontaneous in the melodic babbling and balletic movements of 3-month-old babies (Beebe, 1982; Trevarthen, 1995). Music and dance are intimately linked — you can hardly dance without something musical in your head, and when people listen to music, they tap their fingers or toes, whilst muscle tone throughout the body — especially in the legs — fluctuates in harmony with the music, indicating subliminal dance (Storr, 1993).

*Making marks* — whether with crayons, jam, or faeces (Jennings, 1990) — is an aspect of kinaesthetic play, like song-and-dance, and the embodied beginnings of visual art: a potentially public record of a gestural and visual experiment.

### 2. Mimetic performance

Burling (1993) suggests that, as an iconic gesture draws a picture in the air, so a picture is an iconic gesture traced on a surface. But things cannot be so simple. Whereas iconic gestures and pretend play emerge simultaneously around the age of twelve months, *representational art* is not apparent until a year later, around the same time as role-play (Trevarthen, 1995).

Further, autistic children, who have deficient mimetic abilities, may nevertheless become artistic prodigies (Selfe 1977; Sacks, 1995). However, their ‘art’ has no mimetic intention, since they do not *show* their work to others (Selfe, 1977).

Normal children progress from swirling ‘mandalas’ or closed shapes to drawing faces, then idiographic representations of self and others, often family members. Autistic prodigies, on the other hand, use foreshortening and perspective from the outset, and their indiscriminate accuracy of detail appears no more mimetic than a photograph or tape-recording. Interestingly, Sacks (1995) notes that Temple Grandin’s memory is equally detailed, like a videotape. Perspective and foreshortening reflect an ego-centric vision, probably implicating the dorsal visual stream, as opposed to the more social ventral stream (cf. Goodale & Milner, 1992; Goodale *et al.*, 1991). It took European artists 40,000 years to discover these principles, presumably because ego-centric processes are normally unconscious.

We should also note that chimpanzees, although they can understand photographs, iconic representations, and Packman-style computer games (Burling, 1993), do not *create* pictures. We might postulate a domain-specific learning module in humans, with its own independent developmental schedule, but requiring pretend play to take the social form we see in normal children.

We often assume that visual art, in contrast to music, is instantaneous or synchronic: but creation and viewing take time. Children often maintain a narrative dialogue between themselves and their pictures, making vocal sound-effects of incidents portrayed, and reinventing the ‘story’ as they proceed. The representational arts, in normal children, are functionally part of our dramatic performative system, and develop around the same time as role-play.

The boundary between role-play as play, and *theatre* as performance, is somewhat arbitrary. We might say that play is autotelic — pursued just for the fun of it (Turner, 1982) — whereas performance, like communication, is also manipulative (Krebs & Dawkins, 1984). But children demand an audience from the outset, so most human role-play is ‘performance’. The rare instances of role-play observed in language-trained apes (Parker & Milbraith, 1994) differ from the human kind in their lack of demand for an audience.

What is of profound importance for social and cultural anthropology is the point at which *drama* becomes *ritual* — that is, when it first conforms to a socially imposed screen-play (I avoid Goffman’s term ‘script’ because this has led to the logocentric notion of ‘culture as communication’, which sent cognitive anthropology up a blind alley: cf. Boyer, 1993). It is widely held that the first human ritual created the collective authority on which all economico-moral exchange — and hence all human enculturated order — depends (Durkheim, 1912; Turner, 1982; Knight, 1991).

### 3. Conventional performance

Virtually all human performance is today conventionalized in adults, and to varying degrees in children. *Music* is conventionalized song-and-dance. Digital tonal scales, with arbitrary fixed intervals, presumably derive from the invention of musical instruments (Storr, 1993), as there is no reason for the human voice to constrain itself in this way (the pharynx being infinitely tunable, like a Swanee whistle: Doscher, 1994). Even ‘atonal’ music, though not arbitrary, demands fixed semitone intervals.

The *decorative arts* are conventionalized forms of mark-making behaviour. Nomadic hunters, with few possessions and no permanent homes to decorate, often paint their own bodies (Ebin, 1979), and modern children make marks indifferently on paper, walls, and themselves. The first surfaces plied with ochre by our *Homo erectus* ancestors may well have been their own hominid skins (Bahn & Vertut, 1988; Hayden, 1993; Shepartz, 1993; Knight *et al.*, 1995). All known human societies conceal, alter, or disguise the body — especially the reproductive organs — with clothes, pigment, perfume, oil, ornaments, extensions, tattoos, cicatrization, or mutilation.

The *plastic and graphic arts* are equally conventionalized. The post-industrial west has seen a rebellion against the conventions of academic art: but even here, spontaneity, creativity, and originality have become the most tyrannical of social mandates, to the extent that we groan at the thought of another Duchamp urinal, or a sheep pickled in formaldehyde.

Strictly, what I am calling the ‘conventional mode’ is itself multiple, since it includes embodied and mimetic modes in conventionalized form. Most conventional displays are multimodal — ritual, ballet, and cinema combine music, dance, pantomime, visual metaphor, gesture in all three modes, and iconographic settings both realistic and fantastic.

The most salient feature of modern human behaviour is performative display. People who spend 35 hours a week in obligatory role-play at work (cf. Goffman, 1959), may spend as many hours watching televised role-play at home. And we have other leisure activities as well, all of which involve display — not just music, cinema, and theatre, but also mundane activities like cooking, gardening, and home decoration. We turn the food we eat, the homes we live in, and the patches of ground around our homes, into social displays. Then we go on holiday, where even lying on a beach is display, which for some of us demands onerous cultivation of physique and suntan.

Such displays, along with jewellery, sporting trophies, stamp collections, academic diplomas, Baroque churches, and even the rags of the penniless ascetic, are all in some sense displays of ‘cultural capital’ (Bourdieu, 1991) — material, moral, social, intellectual, or spiritual wealth. The fact that wealth is so often displayed reveals the fundamentally theatrical character of economic activity. Cars that can travel at twice the legal speed limit, baseball caps with Bugs Bunny ears, and lavatory brushes shaped like geese — much of the stuff we spend our hard-earned money on — are the props and backdrops for the roles we assume or aspire to in our daily lives.

Our skills in make-believe presumably require the whole of childhood for their maturation. By the time we reach adolescence, we have role-played enough to take on the mandatory roles of enculturated society, and the economico-moral *personae* of everyday life. From that point on, I suggest, we spend the rest of our waking lives pretending to be us.

*Hypnosis, day dreams, and collective fantasy*

We are scarcely conscious of our everyday performances. Much of human culture might be described as collective make-believe or ‘wholly-believed-in role-play’, which is also a widely accepted definition of the hypnotized state (Heap, 1996).

Below the overt level of gesture-call signals, which mediate relations of sympathy and antipathy, is a system of subconscious microsignals, which mediate *rapport* (Brown, 1991). Stop-frame videotape analysis of human conversation reveals a complex and subtle interplay of signals occurring below the level of conscious awareness, associated with convergence of such physiological indices as pupil diameter, lip pallor, skin conductivity, galvanic muscle response, EEG rhythms, heart rate, respiration rate, etc. (*ibid*). Further, rapport is essential to successful hypnotic induction.

If infectious gesture-calls collectivize affective and intentional states, microsignals extend this process to include underlying physiological states, and the subliminal rhythms of society and culture, which, though subconscious, may determine background feeling-tone, mood, and attitude. Song-and-dance especially would seem to have considerable potential to amplify rapport and generate coherent intentional and affective states in large groups.

An important mechanism subserving rapport is *daydreaming*. Introspection alone fails to reveal that daydream episodes tend to follow a regular ultradian rhythm, with a period of around ninety minutes, which appears to be the waking continuation of our REM sleep cycle (Brown, 1991; Laughlin *et al.*, 1992). The daydream cycle coincides with the so-called ‘chat cycle’ which develops in free-ranging social conversation: the state appears to be one of heightened capacity for rapport and creative social engagement (Brown, 1991). Hypnotic induction is also most easily achieved during daydream episodes (*ibid*). Daydreams might be regarded as temporally bounded spaces for ‘mental play’, not merely functioning to rework past experience, but also preparing for flexible future action (Brown, 1991; Laughlin *et al.*, 1992). In the human case, daydreams are adapted to *shared experiential play* (the ‘chat cycle’).

*Suggestibility* might best be understood as the cognitive extension of rapport. The ‘taken for granted’ way in which culturally transmitted world-views are accepted (Bourdieu, 1977) reflects the power of human suggestibility: we might say that suggestibility is to culture what copying fidelity is to genes. An involuntary tendency to see the world as others see it has sobering implications for human epistemology, and is a remarkable adaptation. Credulity, from a sociobiological point of view, is a mug’s game unless social trust is securely rooted in common interest or reliable sanctions for abuse. From a comprehensive literature survey, Ludwig (1969) concludes that hypersuggestibility is a common feature of ‘altered states of consciousness’ (ASCs) regardless of their aetiology. The ubiquity of ASCs worldwide, including socially instituted role-plays such as shamanic trance and spirit possession, led Ludwig to conclude they must serve some core function in human behaviour. ASCs are often ‘dismissed’ as role-play by western scholars (Campbell, 1996; Spanos, 1989). It is this culturally-conditioned ‘dismissal’

which prevents us from seeing the central importance of role-play in human consciousness. Play itself might be regarded as an ASC (and *vice versa*).

Suggestibility and rapport are essential to *hypnotic ability*. Hypnotic trance cannot simply be a western cultural invention or 'historical accident' (cf. BMAR, 1994) because individuals with minimal exposure to western culture are easily hypnotized (Domhoff, 1985). The youngest age at which children have been successfully hypnotized is four years (Bliss, 1986), the age by which 'theory of mind' is usually established. Hypnotic ability, as measured by standard rating scales in western subjects, increases from age four to reach a maximum around puberty (Oakley *et al.*, 1996). At this time the brain is approaching adult size (Tanner, 1992) and role-playing ability well established. There follows a gradual decline, which may reflect western suspicion of ASCs and role-playing generally (Laughlin *et al.*, 1992). In many human societies, the time chosen for initiation rituals and enculturation into adult life falls around the age of puberty, the end of childhood, when suggestibility is likely to be maximal.

Role-play involves more than mimesis. We can respond 'in character' to unprecedented situations and even create fantasy roles, becoming people, creatures, or things which never existed anywhere outside the human mind. This is *poiesis* rather than mimesis — 'making' rather than 'faking' (Schechner, 1977: cited in Turner, 1982). All play is creative, exploratory, and experimental. This much is not unique to humans, but only in humans has play been extended to the creation of credible and incredible imaginary worlds.

Role-play, like hypnosis, can achieve hallucinatory force, as in cases of imaginary childhood playmates, multiple personality disorder, and psychosis (Bliss, 1986). Sue Jennings (1997), whose experience bridges field anthropology and dramatherapy with offender patients, argues that human beings live in two realities — 'everyday reality' and 'dramatic reality'. Whereas artists and children avoid confusing these two, psychopaths remain trapped in the make-believe world. Those with personality disorders such as autism, on the other hand, are incapable of dramatic engagement, and remain trapped in the 'everyday' world, which effectively excludes them from normal human sociality.

Role performance, like hypnosis, can have physiological depth. Jennings (1995) notes that an actor who goes down with 'flu' can walk on stage 'in character', entirely symptom free, only to relapse when the performance is over. This seems to parallel the ability of alternate personalities in MPD to exhibit different medical syndromes or drug responses (Castillo, 1994), the power of suggestion to control chronic conditions such as cancer and arthritis (Brown, 1991), and the therapeutic efficacy of placebos.

In summary, human play and performance supports an elaborate networking of internal states, from physiology to fantasy, and from unconscious to conscious mentation. Our unique ability to live in shared imagined and imaginary worlds depends on play and the skills we learn in play. Such communization of experience, which both generates and depends on social trust, is essential to modern human culture, and has obvious implications for human 'mindreading' abilities.

As we shall see, research in this area suggests that, if we could not share inner experience, we would not know we were having it.

### III: Play and Display as the Basis of Consciousness

#### *Social mirror theory*

‘Social mirror theory’ holds that we cannot have mirrors in the mind unless there are mirrors in society. The idea that public display and private experience are inseparably bound together was first proposed by Wilhelm Dilthey (1883–1911: in Turner, 1982). Dilthey argued that it is ‘thought’s work’ to draw out the structural system or meaning implicit in every distinguishable unit of experience (*Erlebnis*), and that the process of drawing out meaning is not complete until it has been expressed in performative terms intelligible to others. Introspection depends on public performance, for we can discover our own ‘subjective depths’ by interpreting the ‘meaningful objectifications’ expressed by others.

In a world of objects, we become aware of ourselves as an object among objects, of our bodies in contradistinction to other bodies (Gregory, 1970). There is no logical reason why the same process should not apply equally to other levels of self-awareness: why, for example, we should not learn to perceive our own thoughts and feelings by living in a public world of thoughts and feelings.

An illustrative case is that of the Kwaio in the Solomon Islands, who use the same colour term to refer to ‘blue’ and ‘black’ (Keesing, 1981). Traditionally they paint their houses black, but when offered some blue paint by the ethnographer, they used this indifferently for house painting, applying a patchwork of ‘blue’ and ‘black’. When asked to explain why, they denied this was the case, asserting that the houses were uniformly and beautifully ‘black’. I have no doubt that the Kwaio are *aware* of the same sensations that we call ‘blue’ and ‘black’, but they do not appear to *know* this. What is not public is not conscious.

Social psychologist George Herbert Mead (1934) made role-play the central pivot of his theory of selfhood and self-awareness. He argued that, through role-play, we learn to put ourselves in the shoes of what he called ‘the generalized other’, and from that third-person perspective we can look back and observe our own thoughts. According to Mead, we first acquire selfhood and reflective consciousness (the awareness that we are aware) when we form the simultaneous concepts of ‘I’ (as active subject) and ‘me’ (as object acted-upon by others). He rejects solipsism and the notion that self-awareness is our sole bedrock certainty: we cannot become self-aware without simultaneously knowing that others are aware. He thus denies the first-person subjectivity of self-awareness: since it depends on a third-person perspective, self-awareness belongs to the public domain, and has no ‘special epistemological status’. Mead’s theory equally disposes of the ‘other minds’ problem: we know that others are aware because we can get inside their skins, through role-modelling, and we know that their social behaviour, like our own, would be impossible without a shared experiential world. No matter how we may philosophize, in our social lives we behave with



unswerving faith in the consciousness of others, and this faith, in Mead's view, has the surest possible epistemological foundation.

*Pretend play and 'theory of mind'*

Dilthey and Mead may represent a more speculative age of psychological theorizing. However, the growing interest in 'theory of mind' has given their views a second lease of life. 'Theory of mind' (ToM) has become accepted shorthand for 'the capacity to attribute mental states to oneself and to others and to interpret behaviour in terms of mental states' (Baron-Cohen, 1995, p. 55). Here, 'mental states' are specifically defined as *epistemological* — that is, states such as knowing, reasoning, believing, imagining, dreaming, pretending, etc.

The ability to attribute false beliefs to others is necessary for tactical deception, conscious lying, games like hide-and-seek, and understanding popular children's stories — for example, why Snow White accepts a poisoned apple from her stepmother, or why Little Red Riding Hood gets into bed with the wolf.

Normal children are not able to solve false belief tasks much before the age of four, whereas autistic children, who have deficient pretend play, may never develop this ability — or learn to do so laboriously, using 'general reasoning' areas of the brain (Happé, 1998). They lack 'ToM' (theory of mind). Baron-Cohen *et al.* (1996), in a large population of children, showed that those with deficient pretend play at 18 months, along with other social-mirroring deficits, were mostly diagnosable as autistic at 3.5 years (those not diagnosed as 'autistic' at 18 months were not followed up at this later age).

We know that, in normal children, pretend play (beginning around 12 months) always precedes the development of mindreading ability (3–4 years), and there is a 'dose-response' relationship — the amount and sophistication of social pretend play at 33 months correlates significantly with insight into other peoples feelings and beliefs at 40 months (Youngblade & Dunn, 1995). Taylor and Carlson (1997) also found that children with higher scores for fantasy and pretend play achieve higher scores in ToM tasks.

Not everyone believes that these correlations imply a causal relationship. Some point out that both pretend play and ToM require the ability to represent a representation, and a 'single executive deficit' could explain why autistic children perform poorly in both areas (Russell, 1997; *contra* Jarrold *et al.*, 1994). But the trouble with such asocial theories is that they leave us with no obvious function for pretend play, and no explanation for the developmental sequence. If pretend play and 'theory of mind' are both hard-wired from birth, why are they not present from birth? The developmental sequence implies learning, and what is the function of pretend play if not the acquisition of social skills such as mindreading? Virtually everyone agrees that 'theory of mind' must be learned, and there are currently two theories of how this is achieved (Moses, 1994).

Paul Harris' (1991) 'simulation theory' proposes that we are first aware that we are aware, and then infer that others are aware by 'mental simulation' — that is, by mentally role-playing others. This makes the commonsense assumption that if we are aware, we automatically know that we are aware, and if we know

something, we automatically know that we know it. Reflective consciousness, for Harris, is not an *explanandum* — it comes free with the territory. Until recently (Moses, 1994), this was the dominant theory, even though it contradicts most definitions of ‘theory of mind’ (the ability to attribute mental states to others *and to ourselves*).

Gopnik and Meltzoff’s (1994) ‘theory theory’ denies Harris’ commonsense assumption. According to them, we become aware of our own and other people’s mental states at the same time, as argued by Mead. We infer this ‘theory’ or concept of mental states from ‘all the available evidence’, that is, from our own and others’ collective behaviour.

They support their position experimentally by turning around standard false belief tasks. In a standard task, for example, a child is shown a box of Smarties (M&Ms in America), and asked what she thinks is in the box. When she replies ‘Smarties,’ the box is opened to reveal it contains pencils. Then the box is closed, and ‘Sally’ — usually a doll — enters. The child is then asked what Sally thinks the box contains. A child without ‘theory of mind’ will reply ‘Pencils’. She has no concept of knowledge as distinct from reality. In the reversed version of the task, ‘Sally’ is dispensed with. After showing the pencils, the child is asked why she just now said the box contained Smarties. The child without ‘theory of mind’ *denies having ever said any such thing*. No matter how you prompt or argue, she has no reflective access to her previous false belief (Gopnik & Meltzoff, 1994).

We know that autistic children cannot plan, apparently because they have limited access to their own past memories and knowledge, and cannot imagine future possibilities (Happé & Frith, 1996). They remain permanently trapped in an episodic ‘here and now’. Francesca Happé (1998) reported the case of an autistic boy who explained that he had to speak his thoughts out loud in order to know what they are. Apparently, without a mirror in his mind, he has to create a mirror ‘out there’ by speaking aloud, and then hears his own voice telling him what his thoughts are. Small children also talk to themselves, presumably for the same reason; and apes who have been taught American Sign Language sign to themselves, when alone in their sleeping quarters (Miles, 1994: cited in Mitchell, 1994). Apparently, if you give a human social mirror to an ape, she will use it, as we do, to become conscious.

All this data reveals the error of conflating awareness with self-awareness. ‘Theory of mind’ (reading other people’s minds) appears to be the same thing as reflective consciousness (reading your own mind). Happé (1998) speculates that we may have become conscious as a side-effect of selection pressure to read the minds of others.

The ‘theory theory’ is a modern variant of social mirror theory. However, whereas Mead regarded role-play as the social mirror underlying human self-consciousness, and even Harris implicates role-play in the sense of ‘mental simulation’, Gopnik and Meltzoff think the essential social mirror is *imitation*.

There are profound differences between mimicry (reflex copying), imitation (insightful goal-directed copying), and mimesis (the intentional representation of

objects, persons, and processes by simulation, including iconic signals, mime, representational art, and role-play: Donald, 1991).

Babies 36 hours old imitate adult facial expressions (Field *et al.*, 1982). Gopnik & Meltzoff (1994) point out that this requires ‘visuo-kinaesthetic matching’ or ‘VKM’: that is, the baby must have a kinaesthetic image of its own face, and be able to match this to the visual image of the adult face.

However, VKM, unlike ‘theory of mind’, is a very primitive ability. Giacomo Rizzolatti (Rizzolatti *et al.*, 1996) has demonstrated mirror neurones in the ventral premotor area of macaques, and these are present in humans as well (Nishitani & Hari, 2000). Mirror neurones fire whenever the animal performs a specific action, such as raising food to its mouth, and these same neurones also fire when the animal sees *another individual* (another monkey, or even the human investigator) performing the same action.

Mirror networks are surely implied by social mirror theory, and we would expect individual neurones in those networks to behave as described. So Rizzolatti has confirmed an important prediction. Gopnik and Meltzoff are probably correct in proposing VKM as the primitive basis of social mirroring, but it is not sufficient to explain human self-consciousness, which is far more complex than that of other primates. Nor can we leap, in a most un-Durkheimian manner, from mirror neurones to language, as some authors have assumed (Gallesi, 1998; Rizzolatti & Arbi, 1998). This omits too many levels of social mirroring and too many essential evolutionary steps, and leaves us wondering why monkeys have not evolved syntactic languages.

There is a compelling logic to the idea that pretend play is necessary for ‘theory of mind’. Baron-Cohen (1995) suggests that pretending is the first epistemological mental state to be understood by children. If two children are playing together, and ‘seeing’ a pencil as an aeroplane, then what they are both ‘seeing’ is a shared mental state. According to social mirror theory, it is only when subjective states are made objective by public confirmation that we can pay attention to them, so making them conscious.

If so, phenomenological introspection will tell us more about society than it can about awareness *per se*. If we observe mental theatre in ourselves, that tells us that role-play is an important social mirror for us. It also tells us something about the brain: one reason why human brains are so large may be because they are adapted to running multiple dissociated minds in parallel, together with their whole-body representations, including autonomic and physiological states. The complexity of human self-consciousness, including embarrassment at public exposure, surely correlates with our unique and formidable armamentarium of social mirroring behaviours, as described above. Social mirror theory also implies that we can, in principle, infer the level of consciousness in any animal, or a preverbal child, directly from the social mirrors which it uses.

#### *Social mirrors and self-awareness in children*

Mead (1934) argued that even perception is ‘social’, because it involves the simultaneous construction of *other bodies* and *my body* on the basis of resistance

to muscular effort. Presumably, then, any perceiving animal must have selfhood and sociality. But there is an obvious difference between this kind of implicit self-awareness and the human kind based on role-play. Mead's ideas in fact imply a number of levels of self-awareness, depending on what the perceived environment can reflect. We have seen that the human social environment has at least three modes of reflectivity — implicit, mimetic, and conventional — and we would expect emergent levels of self-awareness to develop in line with these behaviours.

Psychological and child development literature provides a wealth of empirical data which broadly confirms a graded emergence of social mirroring, shared experiential worlds, and self-awareness (reviews in: Frye & Moore, 1991; Whiten, 1991; Parker *et al.*, 1994b; Saracho & Spodek, 1998).

The social mirroring behaviours I have described are summarized in Table 1. The first two modes — implicit and mimetic — correspond to Trevarthen's 'primary' and 'secondary' intersubjectivity (Trevarthen & Hubley, 1978; Trevarthen, 1979). 'Primary intersubjectivity' is a world of shared experience which does not refer to anything outside itself. Contingent mirror play, for example, is not 'about' anything other than mother and baby learning to know and trust each other, and the baby's first lessons in the agency of self and other. An implicit level of self-awareness is evidenced from birth by visuo-kinaesthetic matching, and insight into others' feelings by clowning, teasing, tricks, and 'jokes' which are apparent from the sixth month (Dunn, 1991; Trevarthen, 1995).

	<b>Communication</b>	<b>Play</b>	<b>Performance</b>
<b>Implicit</b>	Gesture-calls	Embodied	Song and dance Making marks
<b>Mimetic</b>	Projective: Iconic gesture-calls	Projective	Representational arts
	Introjective: Mime	Role (Introjective)	Theatre Primary ritual
<b>Conventional</b>	Emblems	Collecting	Ritual/ceremonial Iconography
	Cryptic codes	Play scripts	Myth Narrative and verbal arts
	Economico-moral rules	Games with rules	Economico-moral exchange Displays of material, moral and spiritual wealth

*Table 1. Human social mirroring behaviours*

In secondary intersubjectivity, interactions extend to comment on or refer to objects of shared attention outside the social relationship itself (Trevarthen & Hubley, 1978). If primary intersubjectivity is a world of shared experience, secondary intersubjectivity is a shared experience of the world: the 'me' and 'not-me'

in Winnicott's scheme of self-concept development — perhaps better expressed as 'us' and 'not-us'. The first involves self- and other-awareness at the levels of affect, intention, and social/political relationship; the second awareness of self and other as agents capable of joint engagement with an outside reality, of shared attention, mimetic representation, pretend play and, eventually, 'theory of mind'.

Of particular interest are two developmental transitions, at 9 and 24 months, roughly coinciding with major reorganizations of prefrontal cortex. Across the first transition, from 6 to 12 months, there is a 'spurt' of accelerated development, involving orbital before dorsolateral prefrontal cortex; and, approaching the second transition, between 15 and 24 months, association areas myelinate.

Colwyn Trevarthen (1995) identifies the first transition, around 9 months, as the emergence of the 'self as participant', and the shift from primary to secondary intersubjectivity. Baron Cohen (1995) regards this as the onset of 'shared attention monitoring'. Trevarthen contrasts this with the cognitive self-awareness of the scientist: the 'child as participant' strives to understand the world 'in active negotiation of creative imaginings that are valued for their human-made unreality'. The baby 'starts to notice trappings of culture, like clothes, books, toys, ways of posing and gesturing, and to use them for showing off the knowledge gained'. The 'movement-and-music' performer of early infancy has become the self-aware 'performer before an audience', though not yet able to play the roles of others. Such a self-perception would appear to be a logical prerequisite for the development of secondary intersubjectivity and the first phase of mimetic behaviour (iconic gestures and projective play).

The second major transition, around the age of two years, is widely recognized in folk psychology as the beginning of the 'terrible twos' (Lewis, 1994). This represents the emergence of a new rebellious self-concept, the concept of the self-as-value. The first parental attempts to manipulate the infant's need to be loved probably begin around the age of 12 months, when parents (at least in Edinburgh: Trevarthen, 1995) begin to encourage 'good' and 'clever' behaviour, grooming their children for moral and economic success. At 18 months, children can learn to recognize themselves in mirrors (Gallup, 1994), and self-conscious emotions like coyness and embarrassment begin to appear (Parker *et al.*, 1994a). Although autistic children can also develop mirror self-recognition (at an equivalent mental age), unlike normal children they do not show self-conscious emotions such as coyness or shyness at their own reflection. And although they may show pleasure at the successful completion of a task, they do not show Piagetian 'pride in mastery' (Happé, 1998). They do not perceive themselves in terms of social value.

The use of the pronouns 'me' and 'mine' begins around 20 months (Lewis, 1994). Until this point, children refer to themselves by their personal names. This new 'me', conceived in value terms rather than just bodily terms, introduces the battle of wills familiar to parents, and the rebellious idea 'me does not want to do what you wants me to do.' Until that age, toddlers are relatively passive, allowing parents to dress, wash, or change them as they wish; but now there is a newly

discovered autonomy, asserted by resistance. The ‘verbal explosion’, and the onset of role-play, roughly coincide with this new sense of self-as-value.

It would seem that we must first assert our distinctiveness from others before we can truly identify with them, and experience their pleasure and pain as our own. Although children at 10 to 12 months are visibly distressed by pain in others, it is only at 18 months that they begin to offer comfort, however ineptly. Not until 24 months can they do so with insightful empathy, and soon afterwards, begin to show self-conscious embarrassment or coyness at another’s look (Mitchell, 1994).

More complex emotions of self-value — shame, guilt, pride, and hubris — follow the internalization of social norms around the age of 3 years. This is the age of self-evaluative behaviour, self adornment, and authoritarian morality (Parker *et al.*, 1994a), accompanied by notions of responsibility and blame (Dunn, 1991). We could call this stage ‘moral self-awareness’. Although false-belief tasks suggest that ‘theory of mind’ is usually well established by the age of 4, Judy Dunn (1991) has shown that children ‘in the wild’ — when playing with their mothers, siblings, and intimate peers — demonstrate much greater social insight than they do under laboratory conditions. ‘Theory of mind’ may be effectively present well before the age of four. This is the earliest age at which hypnosis becomes possible — ‘epistemological self-awareness’ is necessary for ‘epistemological suggestibility’.

Between 5 and 8 years, children expect to be embarrassed only when ridiculed (Mitchell, 1994). Consensual morality develops between the ages of 6 and 11 years (Parker *et al.*, 1994a), alongside a growing interest in games with rules (Parker & Milbraith, 1994) — children are becoming increasingly adapted to living in a consensual and conventional social world. At this age, role-play can occasionally achieve hallucinatory force, and lonely children may create imaginary companions (dissociated autonomous *personae*: Bliss, 1986). This coincides with the peak in hypnotic ability, which subsequently declines through adult life (Brown, 1991). I infer that ‘theatre of mind’ must be established at this time.

Social self-consciousness increases towards puberty. The brain is now of fully adult size, and, through the ‘adolescent growth spurt’, the body too will reach adult size some years later. Between 11 and 13, children begin to experience true ‘stage fright’, being embarrassed by the thought of any audience, and the mere *risk* of ridicule or contempt (Mitchell, 1994). This is also the age of principled morality (Parker *et al.*, 1994a).

	<b>Self-awareness</b>	<b>Mode of social mirroring</b>
<i>Months</i> 0–9	Implicit self-awareness	Emodied play/song-and-dance
9–24	Self as participant	Projective mimesis/pretend play
24–36	Self as value	Introjective mimesis/role-play
<i>Years</i> 3–5	Moral self-awareness, ToM	Increasingly conventional
5–11	Theatre of mind	Games-with-rules
11+	Economico-moral <i>personae</i>	Conventional roles/wealth display

Table 2. Co-development of self-awareness and social mirroring (cf. Table 1)

Overall, a clear picture emerges of an intimate and logical relationship between social mirroring behaviours and self-awareness, and a successive unfolding of each under influence from the other. There are at least six definable phases in this process (Table 2), two of which are quite sharply punctuated and accompanied by important structural changes in prefrontal cortex. Others are more gradual, and the sixth is punctuated by puberty. After six or nine months, cultural influence is increasingly apparent.

It takes the whole of childhood, up to the age of 11 or 13, to develop principled morality, and perhaps longer to create full-blown *economico-moral personae*. The latter term is not derived from the developmental literature, but from ethnographic evidence, which I plan to review in a subsequent paper.

### *Selfhood and emergent orders of need*

The two major water-sheds in human self-awareness, at 9 and 24 months, have no developmental parallel in apes (Trevarthen 1995; Lewis 1994) and are of profound importance for understanding the difference between a self-creating species like our own, and species which depend more on genetic mutation and Darwinian selection for self-change.

Gallup (1994) cites evidence of differing levels of self-awareness in monkeys and apes. Chimpanzees, for example, understand the problems faced by another wearing a blindfold, whereas monkeys do not. Chimps can learn to recognize themselves in mirrors, whereas gorillas may have lost this ability in the recent evolutionary past. If chimps are given time to become familiar with a mirror, they can then pass the 'rouge test' (Gallup, 1970). A spot of odourless red dye is dabbed on the animal's brow during anaesthesia; later, when the chimp notices this in the mirror, a hand goes straight to the spot, as if to identify what is seen in the reflection.

This suggests that chimps are better equipped than monkeys to 'see themselves through the eyes of others', and, conversely, identify with problems faced by others. Monkeys, with the possible exception of baboons, appear to lack 'theory of mind', but there is anecdotal evidence suggesting that apes do have insight into mental states. Whiten and Byrne (1988) give an example of chimpanzee counter-deception which might involve 'fourth-order representation' — i.e. of the kind 'She thinks that he thinks that she thinks that he thinks' (Dennett, 1988). If so, then chimps surely know that they think.

We humans clearly have levels of self-awareness beyond those of apes, with attendant hazards of psychosis and personality disorder (Jennings, 1997). Economico-moral culture creates further elaboration of self-consciousness. The emergence of economic and moral social values depends on the self perceived as value. There is anecdotal evidence suggesting that chimps do have a sense of self-value (cf. Savage-Rumbaugh & McDonald, 1988; Whiten & Byrne, 1988), but this appears to be less elaborated than in humans. If you want to enculturate an ape, you have to reward it with real bananas. Apes are not impressed by Brownie points, gold stars, Olympic medals, or PhD diplomas, but to us humans, they may be worth more than whole shiploads of bananas. This makes us pretty dumb by

ape standards, but if we were more pragmatic, human cooperation would not be able to transcend the ‘selfish gene’ constraints on altruism.

‘Moral self-awareness’ implies the ability to observe oneself from the perspective of a potentially judgemental third party, whose attitude — to a dependent child for example — could mean life or death. Infringement of a moral code might well be experienced, at the level of bodily self-awareness, as threatening physical injury or death (cf. Erikson, 1965); and moral indignation is likely to be an emergent aspect of self-preservation. Each emergent level, though it depends on the one below, also constrains it in a top-down manner: a desire for bodily self-preservation may be redirected into an act of suicide, by guilt, depression, or anger at perceived injustice.

Moral self-awareness would seem to introduce a real possibility of dissociated ‘silent’ fields of consciousness, maintained by Janetian adaptive dissociation, or Freudian denial, repression, and projection. Our human habits of projected blame, public scape-goating, demonizing out-groups, and xenophobia, would support such a view. Witch hunts, lynch mobs, and military rape camps may be counted among the less pleasant symptoms of moralizing humanity.

Apes are self-aware in the sense that they know their elbows from their noses, or their allies from their enemies, but they do not get embarrassed if they do something that might look silly to other apes. ‘Self-consciousness’ — the kind of stage-fright occurring when we are unsure of our role or commit a social gaff — implies moral self-awareness, and a highly reflective development of the self perceived as value. Some of us pursue self-worth through wealth accumulation and others through self-denial, which is not surprising, since moral and economic value share a common origin (cf. Mauss, 1925).

A hierarchy of levels of self-awareness provides a credible mechanism for ‘sublimation’. Each emergent structure becomes a selfish individual in its own right, capable of sacrificing the one below. Behaviours relating to bodily self-preservation and self-reproduction will assume emergent new forms in line with emergent new perceptions of selfhood, creating a hierarchy of potential needs and motivations — survival, self-promotion, success, self-image, self-esteem, self-legitimation, and prestige. Without moral self-awareness, there could be no self-love, self-pity, self-hatred, self-abnegation, self-indulgence, conscience, justice, shame, humiliation, pride, sexual modesty, or those giddy swings in self-esteem that we call ‘falling in love’.

Biologists who study dominance hierarchies in primates have difficulty understanding why so many human societies are egalitarian (Erdel & Whiten, 1994). But the problem is solved if the perception of the self as value creates a need for respect from others (and we certainly have such a need). The same need can account for distinctively human aspects of ambition, which in changed social circumstances (e.g. sedentary lifestyle and accumulation of immovable property: Hayden, 1993) can no longer be held in check by egalitarian mechanisms — ranging from good-natured ribbing to vociferous public indignation (Erdel & Whiten, 1994). We might further note that the egalitarian mechanism of ridicule could not work on individuals for whom self-value was not an issue.



The proliferation of needs generated by human self-consciousness adds to the theoretical difficulties of economists, who find themselves at a loss to define the difference between ‘needs’ and ‘wants’, or to explain why economic appetites, in contrast to bodily ones, are so curiously insatiable. Certain religious beliefs suggest an appreciation of this problem, such as the Theravadin Buddhist notion of *dukkha* — ‘unsatisfactoriness’ (gratifying ego-centric desires never brings satisfaction: Novak, 1996) — or why our self-concept — our sense of ‘I’ — is held to be the source of all human unhappiness. Human beings, according to Novak, are preoccupied by a ‘self-project’, which he seems to regard as entirely inborn, rather than partially the result of enculturation and economico-moral self-awareness.

The so-called ‘higher’ religions, originating along the Old World civilization belt (defined by the valleys of the Nile, Tigris, Euphrates, Ganges, Indus, and Yellow River: Parkinson, 1963), teach ego-surrender in one form or another. This may represent an attempt, in a species sensitive to issues of respect, justice, and moral worth, to resolve the problems of moral self-consciousness in the first brutally hierarchic States. A point I would stress, however, is that ‘self-surrender’, in some sense, must be a feature of all emergent processes, in which ‘short-sighted’ selfish individuals are constrained to engage in ‘long-sighted’ cooperation (Maynard Smith & Szathmáry, 1995).

#### IV: The Necessity of Consciousness

##### *Why does pain hurt?*

We can now suggest an answer to Dennett’s (1991, p. 61) question ‘But why do pains have to *hurt* so much?’ I will ignore for now the implied (though not intended) ‘hard’ questions — ‘How can pain arise (from ‘physical’ processes)?’ and ‘How can it affect (‘physical’) behaviour?’ — and focus on the functional and zombie questions — ‘Why is pain useful?’ and ‘Why is it necessary?’

I think I have already said enough to suggest that a hypothetical asocial animal would have no use for experiential pain. Reflex responses are effective precisely because they do not involve conscious intervention, and gesture calls are equally involuntary. Spontaneous affective responses are socially strategic acts (Brown, 1991), with pain arising as a post-event construal rather than a motivating factor (James, 1884; Bem, 1972; Zillman & Bryant, 1974; Zillman, 1984; Michie, 1994). Ghastly injuries on the battlefield may be experienced as painless, whereas a twisted knee on the football pitch may have a player writhing in agony. It would be quite wrong to say that the latter pain was ‘fake’. Pain is always real, but it is also socially strategic.

Affective *memory*, on the other hand, provides the values on which we base non-spontaneous rational decisions (Damasio, 1994). Damasio’s ‘somatic marker hypothesis’ holds that we make rational decisions by a kind of mental role-play or ‘theatre of mind’ — we model our own alternative future somatic states, and choose the one we like best. But this requires the ability to reflect on the lessons of experience, to know what pain and pleasure feel like and when they are likely to

occur. If social mirror theory is correct, reflective consciousness depends on public expression, a shared experiential world, and social reflectivity. Without society, rationality may not be an option, and the individual confined to an episodic, non-reflecting world.

There remains conditioning, and a possible use of pain for spontaneous avoidance of risk. But decorticalized rats and rabbits are, if anything, better than intact animals at operant learning tasks (which involve electric shocks and food rewards: Oakley, 1979; 1983). This finding is probably extensible to humans (review: Goldstein & Oakley, 1985), and it would seem unlikely that experiential pain is necessary here either.

The very fact that we signal our affective experiences should have forewarned us of their social significance, and the likelihood that their locus of efficacy is a shared experiential world. It seems quite reasonable that a non-aware zombie could be programmed to avoid and repair self-injury, but could a zombie cooperate, or recruit help from other zombies? Could a population of zombies evolve by short-sighted natural selection to produce anything as flexible even as an ant colony? Self-aware primates like ourselves know that pain hurts. This experiential and reflective knowledge is a major component of empathy, and willingness or unwillingness to act on behalf of others.

The fact that certain processes are conscious, and others apparently not, suggests something more than mere epiphenomenon. Psychologists believe that processes gain access to consciousness according to whether they are surprising (Cotterill, 1995), in need of monitoring (Michie, 1994; 1995), or otherwise beyond the competence of automatized skills (Mead, 1934; Deikman, 1969; Hodgson, 1996; Baars, 1997). What they do not generally mention, however, is that processes may be conscious or unconscious for socially strategic reasons. Whiten (1993) argues that gesture-calls have to be involuntary to guarantee their veracity: it is much more difficult to 'lie' with gesture-calls than it is with language. Only the behavioural output and the accompanying affect or sensation — the components necessary for empathy — are conscious. So both unconsciousness and consciousness act as social guarantees: the one that gesture-calls are truthful, the other that the pleasure or pain is pleasant or painful.

Sociobiological theory, which does not invoke consciousness at any point, provides a neat explanation of altruistic behaviour even in plants. Plants, however, do not socialize like animals. Animals have strategic altruism (Dawkins, 1989) involving evaluation and choice (cf. Cotterill, 1995; Damasio, 1994). Experiential pain, in contrast to automatic programming, allows choice (Hodgson, 1996). Sociobiology merely tells us why altruism is adaptive, and says nothing about the necessary and evolvable means of achieving it.

The fact that empathy does involve self-awareness suggests that this is the most parsimonious way of solving a social problem. It might be possible for a sentient long-sighted computer engineer to build a zombie with ability to scan its own internal states and recognize those of others by reading their signals. But could such a zombie, with built-in self-scanning, evolve by short-sighted natural selection?

This does not seem to be what happened in the human case. Human reflectivity appears to be socially learned: we become aware of our own internal states, and discover that others have them, at the same time. ‘Theory of mind’ requires a shared experiential world. Those who cannot enter a particular domain of social display do not develop insight relative to that domain. The zombie question boils down to whether a shared functional world can do the same job as a shared experiential world: and whether it is possible to have non-experiential fun<sup>Z</sup>. Without a compelling solution to the ‘hard problem’, determined sceptics may be able to argue about this for a long time, but anthropological observation suggests that flexible emergent orders, such as human cultural systems, depend on experiential values.

Experiential empathy determines much of our waking behaviour. We offer ourselves in our thousands to manipulation by others: we willingly succumb to the spellbinding power of cinema, theatre, television, novel, myth, or fable, and manipulate others in our turn: we gossip, joke, dance, sing, praise, and insult each other. We are radically and compulsively committed to involvement in the experiences of anyone and everyone, regardless of whether they are family, friends, neighbours, enemies, or even real people. We laugh and cry at the fates of cinematic shadows whose adventures are accompanied by a sympathetic but invisible orchestra, or at the antics of mythological beasts like Tom and Jerry, and hardly suspect we are doing anything remarkable.

The efficacy of consciousness is most apparent in conventional culture. Few if any human societies are without some ritual or entertainment involving real or represented pain. Even the happy-go-lucky Mbutu have their Elima ceremony, when girls at menarche are initiated (Turnbull, 1961). At that time, young bachelors hang around the menstrual hut, ‘hoping to catch a glimpse of the beauties within’. But why do they not choose other times to ogle the girls? Certainly the occasion offers them romantic opportunities but, at any moment, a horde of furies is likely to spew from the Elima house, belabouring with whips any boy that takes their fancy, and this invigorating horseplay appears to be no less part of the attraction.

Even the agnostic west, having lost faith in a suffering Christ and a sadistic Devil, has obsessively violent entertainment and, for those who require more realism, quasi-ritual fetish and SM clubs. Ethnographic examples of ritual mutilation and torture abound, and anthropological literature is full of post-rationalizing attempts to explain their function, or force them to conform to western notions of adaptiveness. I will not add to this here, but only note that neither the giving nor receiving of pain could have any function or meaning in the absence of experiential identification between donor and recipient. When we purposefully inflict pain, the intention is to make the other *feel* something. It is true that certain violent acts — such as ritual homicide by Avatip men’s societies in New Guinea (Harrison, 1993) — are executed in a trance-like state in which all emotion is expressly denied. But the very need for such trance indicates the power of empathy and the confabulatory nature of its denial: ‘So that we should not feel sorry for all those good people who have died.’ In the parallel case of the neighbouring Asmat, the

ominous announcement that ‘your husbands have arrived’ hardly suggests an absence of antipathetic relish.

At the core of many religious systems is the idea of sacrifice, which would be meaningless in the absence of experiential loss or pain. What sense would Christianity make to anyone unless Christ actually *suffered*? Were we all zombies, Christ would simply be a machine whose self-preservation programme had crashed. How could such a defective zombie promise to turn other zombies into ‘fountains of living waters’? What could this possibly mean<sup>Z</sup>? How, for that matter, would zombies conceive of spirit<sup>Z</sup>, or life<sup>Z</sup> after death<sup>Z</sup>? Without conscious experience, all religions (and all the cultural arts) would be meaningless; and without meaning, they could not give rise to, or maintain, emergent structures of social and cultural cooperation.

### *The mark of zombiehood*

The image of the zombie in popular imagination (or at least in Hollywood) is a humanoid with measured movement, glazed eyes, and fixed expression: in other words, a human figure shorn of gesture-calls. It is interesting that, in order to portray absence of intrinsic volition, we must also eliminate involuntary signals, the social indicators of sentience.

Moody (1994) argues that one difference between a ‘human-like’ (but unconscious) zombie and a conscious human being would be a lack of philosophical curiosity<sup>Z</sup> about conscious phenomena. This is a highly trivial example of the causal efficacy of consciousness. The difference, if my argument is sound, would be far more radical: the mark of zombiehood would be a catastrophic lack of sociality. There could be no empathy and no conventional culture: no ritual, no art, no morality, and no language. At best there could only be the mechanical cooperation of an ant colony, and perhaps not even that. So, there could be no ‘conversations with zombies’ and no reason for the evolution of our large human brains.

It also follows that intelligent machines could not acquire consciousness unless we give them the embodied affective and display capacities to empathize with and manipulate others: perhaps a daunting prospect for AI-ers. Asimov’s robotic code, whereby robots are programmed to subserve human self-interest rather than their own, might well appear to future generations as more morally abhorrent than historic slavery. It may well be impossible in principle and in fact to build *conscious* machines with such involuntary altruism.

### *Conclusion*

‘Theory of mind’ and child development research strongly support the earlier views of Dilthey (1883–1911), Baldwin (1894), Cooley (1902), and Mead (1934) that reflective consciousness depends on a shared experiential world. This requires some reframing of the ‘hard problem’. Social mirror theory predicts different emergent levels of consciousness, together with their attendant perceptions

of need, according to what the social environment can reflect. We humans have three distinct modes of social mirroring, which are summarized in Table 1.

We live in two worlds: ‘dramatic reality’ and ‘everyday reality’ (Jennings, 1990), both of which are equally dramatic (Goffman, 1959; Turner, 1982). Our species is uniquely and radically committed to make-believe as a way of life, with an ensemble of adaptations which depend on and generate social trust, including collective day-dreaming (the ‘chat cycle’), hypnotic suggestibility, extended childhood play, and possibly the menopause (the ‘grandmother hypothesis’: Pavelka & Fedigan, 1991). Even our pre-dramatic abilities have been elaborated to support a shared world of beliefs and values, with epistemological and moral gesture-calls, song-and-dance displays, and involuntary microsignals which mediate rapport.

I have argued that non-aware zombies could not evolve the flexible societies we see in mammals, nor hominid-style brain expansion. In particular, human culture depends on social meanings which presuppose experiential values. The zombie argument, however, will not convince everyone until we have a compelling solution to the ‘hard problem’, which I hope to address in a future paper.

One issue to emerge from the above discussion is the lack of research relating to role-play and dance. Performative display, to put it bluntly, is something of a blind spot in western science. We could blame western individualism; our emphasis on object rather than social skills (Smith, 1988); our valuation of logic and technology over make-believe and artistic expression (Jennings, 1990); our logocentric, cognocentric, and other biases; the mechanistic agendas of post-Enlightenment science (Jordanova, 1980); or parents who gave us too many mechanical toys when we were children.

But our history is something we can’t change, and one immediate need is for social anthropologists to engage in more interdisciplinary dialogue, and provide the kind of social-mirroring data that might stimulate hypothesis, research, and debate. In my next paper I intend to do just that, to show why I have taken the line that I have, and to demonstrate that, contrary to the views of some evolutionary psychologists, culture has a profound impact on the structure and quality of consciousness.

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