THE DEVELOPMENT OF LAUGHTER

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The development of laughter is little understood even though it is an area of human behaviour that long intrigued psychologists and philosophers. A framework for understanding is required. With guidance from existing literature, observational data is used to develop such a framework. It is argued that no one single approach can, in principle, explain the phenomenon. Laughter occurs in too varied situations for it to be possible to claim that it is due to one single cause. Moreover, laboratory studies usually require subjects to laugh at 'funny' stimuli on cue. As a result, they have focussed on responsive laughter rather than on the conditions under which subjects try to make others laugh. Given this background, observational data is useful. In this study observational data from a longitudinal study of two children and from a study of children in a playgroup are used to argue that very young children not only laugh responsively but also create occasions for their own laughter. Moreover, while their ability to laugh develops in many ways linked to their cognitive and social development, they can still laugh at the kinds of situations that made them laugh when they were very young. It is concluded that observations have helpfully added to ways in
which the development of laughter has been conceptualised. It is also suggested that some observations of laughter in young children have implications for research on how young children are capable of intentional behaviour.
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"Our deepest insights must - and should - appear as follies"

Nietzsche. The Birth of Tragedy
There is little historical literature on the development of laughter. Through the ages, philosophers have had many, usually casual, things to say about laughter. As far back as 1473, Erasmus complained in In Praise of Folly that there were too many theories of laughter — and not enough jokes. But philosophers were interested in adult laughter. They did not study how, and why, adults developed the ability to laugh, in general, or to laugh at specific jokes, situations or predicaments in particular. One could read all writings on laughter before Darwin and never guess that children laughed.

A brief survey of some of the philosophical ideas on human laughter may help to highlight some important, but unresolved, issues. Laughter is a very powerful behaviour — an odd adjective perhaps — and it seems to separate the human species from the rest of the animal world. Henri Bergson said "man" was the animal who laughs. Frankl has observed in The Will to Meaning (1971) that human beings are the only creatures who are able to laugh. For Frankl, the ability to laugh at oneself, and at one's situation, is one of the hallmarks of humanity. Frankl argues this in the
context of a larger theory about man's 'need' for meaning but, without accepting that, it is hard to quibble with the view that our ability to laugh at things, at people, at situations and, especially, at ourselves does set us apart from other species. There has been one report of a chimpanzee, Lucy, making a joke but, otherwise, the literature on apes has merely reported that they laugh. Wolfgang Kohler, an advocate, after all, of the abilities of apes, noted (1925); "I have never seen an anthropoid weep or laugh in quite the human sense of the term".

All this could have indicated to psychologists that laughter should be a rather rich field just like language, another specifically human capacity. Where is the person who never laughed? Could it not be argued that one has to laugh (sometimes at least) to be human? Homo sapiens could really be homo ridens. But, until recently, psychologists were not stirred by any of these arguments. McGhee and Chapman (1980) in Children's Humour trawled the literature from 1900-70 and found a total of only 60 papers published on children's humour, less than one a year.

It is not just metaphysically that laughter is such a powerful behaviour. From a physiological point of view, it appears to be one of only four actions in which we appear to cease to be in control of our bodies. You cannot become helpless just in
talking. Yet when we laugh, when we sneeze, when we have an orgasm and, possibly, when we are in a religious trance or frenzy, we are helpless. You cannot stop yourself laughing sometimes. You can have a fit of laughing like you have an epileptic fit. Wolfenstein (1955) reported a case of mad, continuing laughter in a six-year-old boy. Less mad, The Lancet recently noted (1982) with a mixture of alarm and humour, that 25% of student nurses had admitted to having an experience of "giggle incontinence", laughing so much they wet themselves. The Lancet urged restraint on humour. Bottle up!

Yet, there is one tradition that recognises comedy as of fundamental psychological importance. The Greeks saw that there was more to comedy and the laughter it provoked than a good giggle. Comic poets were honoured as much as tragic ones. Aristophanes was treated as seriously as any of the great Greek tragic playwrights. The Greeks seem to have grasped that comedy could be a liberating force, freeing the mind of its usual shackles.

In his Poetics, Aristotle argued that comedy and tragedy sprang from similar religious roots. Both forms of drama developed out of improvisations that accompanied religious rites. Comedy began as a kind of prayer. Aristotle believed that the origins of comedy lay in the actions that took place during the
procession in honour of the god, Phales, whose emblem was a giant phallus. The procession started off marching with the great phallus at its head, paused to pray at the shrines of Dionysius and then moved on, singing Dionysiac songs which may well have been obscene. One of the objects of the cult of Dionysius was to explore all sorts of sensual experiences. Experienced to the full, they helped achieve spiritual and physical ecstasy. Perhaps, people had to laugh as part of the process of reaching such a state of sensual ecstasy. Aristotle seems to have thought so. A psychologist observing the comic rites of the Dionysiac procession might well have concluded that the laughter helped the participants to release erotic energy. The cock up was the root of comedy. Freud argued (1905) that laughter gives us pleasure because it allows us to express erotic or aggressive thoughts that would otherwise be forbidden.

A long time ago, then, the psychological richness of laughter seems to have been recognised. Centuries before Freud, the idea that laughter opened up the expression of taboo thoughts and feelings seems to have been current. Laughter could also provide a safety valve. In an essay on ancient comedy, Sypher (1955) writes:
"Thus it happens from the earliest times the comic ritual has been presided over by a Lord of misrule and the improvisations of comedy have the aspect of a Feast of Unreason, a Revel of Fools - a Sottie".

Comedy allows us to take off masks that we have to put on to deal with others who wear masks to deal with us. And, by a magical counter-point, we can only take off our daily mask usually through putting on another mask. At some Greek comic festivals, all normal conventions of behaviour were set aside. Abusing and making fun of the most respected institutions at specific times was a way of making it easier to live with, and through them, for most of the year.

The mediaeval Church understood this well enough. Just before Lent, the monks used to appoint one of their number to be a Lord of Unreason and chant the liturgy of folly during which an Ass was worshipped and the mass parodied in a ceremony no less religious in its profane way than the revels of Dionysius. When the monks celebrated this mock mass, known as the ludi inhonesti, they brayed the responses. Nietzsche adopted a similar device in Thus Spake Zarathustra. One scene brings together in Zarathustra's cave two kings, a retired pope, a magician, a conscientious man and other "higher men" and this glittering panoply were "all kneeling like children and devout little women, adoring the ass". The ass is no lamb. And
Nietzsche goes on to set out part of the liturgy which is to be brayed.

"Plain looking he walks through the world. If he has spirit he hides it but everybody believes in his long ears".

"But the ass brayed: Yea Yuh".

"What hidden wisdom is it that he has long ears and only says Yes and never No. Has he not created the world in his own image, namely as stupid as possible?"

"But the ass brayed: Yea Yuh".

Throughout the ass-mass, the ass brays the same response. Zarathustra rejoices in this Ass Festival, roguish ritual, and praises the higher men; "how well I like you since you have become gay again. Verily, you have blossomed. It seems such flowers as you require new festivals, a little brave nonsense, some divine service and ass festival, some gay old fool of a Zarathustra, a roaring wind that blows your souls bright". With a final blasphemous flourish, Zarathustra adds:

"And when you celebrate it again, this ass festival, do it for your own sakes and do it also for my sake. And in remembrance of me".

Yea Yuh!
In so far as Nietzsche held a consistent belief, it was that one could get at truth through the excesses of the Dionysian orgy. He wrote in *The Birth of Tragedy*, "our deepest insights must - and should - appear as follies".

Shakespeare had long before taken this advice in writing the grave-diggers' scene in *Hamlet* and the antic-wise Fool of *King Lear*. Modern playwrights have continued to use comedy to highlight the plight of the human condition. In Beckett's *Waiting for Godot*, the tramps, comic and tragic, grovel, sweat and eke out jokes on the edge of eternity. The tramps are ridiculous and, by their very ridiculousness, tragic. Such black comedy, laughter on the metaphysical brink, has had little psychological attention.

One writer on humour, Max Eastman (1921) who was the friend and biographer of Chaplin understood that the causes of laughter have a sombre side. Eastman noted as causes sexual ineptitudes, pomp, stinginess, stupidity, bad taste, politicians, vermin, tramps, excretory functions and corpses. As T. S. Eliot observed: "Humankind cannot bear too much reality". Laughter offers subversive relief, a relief we often need. Satire cleanses.

When psychologists and philosophers after the Greeks looked to the theatre for theoretical inspiration, they seem to have usually missed these roots of the
comic. Bergson in *Le Rire* concentrates heavily on farces. He writes blithely as if the only kind of laughter is that to be found in an audience for Molière and Labiche. *Le Rire* is studded with examples from Molière, Labiche and French farces. It takes genius to know just how, and just when, to make a politician lose his trousers behind a potted plant while three of his mistresses are hiding in a cupboard. But farce is not the only form of comedy. Bergson thinks laughter is always intellectual. His main formula states that we laugh when something mechanical is "encrusted on the living". This assumes that one kind of comedy typifies all occasions of laughter. Bergson saw Molière's comedies as studies in obsession with one idea: it could be said his theory is also very single-minded.

The English author, Max Beerbohm (1939), was also interested in what made audiences laugh. Being of a more practical turn than Bergson he delivered a more specific list. "Mothers in law, hen pecked husbands, Jews, twins, old maids, Frenchmen, Italians, Niggers (not Russians or other foreigners)" all provoke titters in the stalls. Mystifying, it is, why Russians should seem so sombre to Max. From nationalities to peculiarities, Max went on to cite as risible "fatness, thinness, long hair worn by a man, baldness, sea sickness, stuttering and bad cheese". Beerbohm argued that all these were funny because they made audiences either feel contempt or because
the sadists in the stalls loved to laugh at the suffer-ering of others. Did Beerbohm put in "bad cheese" as a joke or as an insight? We don't yet know. Experimental confirmation of the bad cheese effect is still awaited.

Psychologists and philosophers have, by and large, failed to study laughter with the kind of depth that literary critics have brought to the subject of comedy. Yet if comedy has the almost religious power it has been claimed to have, it must force us to laugh at profound dilemmas that face us in our lives. Human beings can laugh at themselves, see their own actions from a comic perspective. It is a remarkable feat but one which psychologists curiously have tended to ignore even though there are a number of interesting, scattered observations of how small children develop the ability to laugh at themselves. Instead of studying these admittedly difficult aspects of laughter those psychologists who have been interested have tended to study the reactions of subjects to jokes that are often very obvious and poor. Philosophers have hardly been any better and have usually failed to follow on the insights of Aristotle and avoided what for the Greeks had been the fundamental roots of comedy. It is curious how ragged most philosophical views on laughter have been. There are many lofty statements about the importance of laughter. Rabelais wrote:
"Mieux est de ris que larmes escripre
Pour ce que le rire est le propre de l'homme".

Or:

Better to write of laughter, if you can.
Laughter, not tears, is the proper mark of man.

But this is hardly a theory. Empirical philosophers have, it seems, had little substantial to say about laughter and many of them have not found time to consider anything as frivolous. Hobbes (1651) does have a theory of laughter but it must be said he manages to squeeze all the fun out of it. He almost elevates laughing into a vice. His brutal analysis remains famous.

"Sudden Glory is the passion which maketh those grimaces called laughter. They are caused either by some sudden act of their own that pleaseth them; or by some the apprehension of some deformed thing in another by comparison whereof they suddenly applaud themselves".

Those who are not gifted have to seek every scrap of good they can find in themselves. This drives them to laugh at "the imperfections of others". In the country of the blind, they guffaw at the man who has also lost his leg. Hobbes does not approve; he merely observes. True, to laugh excessively at
the defects of others "is a sign of Pusillanimity" but, for Hobbes, life is about power. According to Heyd (1982) Hobbes argues that the only other possible cause of laughter is absurdity. This, again, seems narrow-minded.

At least, however, Hobbes noticed laughter. Locke and Bishop Berkeley did not deign to have an opinion about it. David Hume in his Treatise on Human Nature has nothing to say on the subject though he does discuss malice.

Kant, too, did offer a few fragments of thought on laughter. He devotes a small section of The Analytic of The Sublime to a definition of the comic. He refers to the "humourous manner" which is "allied to the gratification provoked by laughter". Unlike Hobbes, Kant does not see laughter in terms of struggle. He calls humour "the talent for being able to put oneself at will in a certain frame of mind in which everything is in lines that quite go off the beaten track (a topsy turvy view of the thing) and yet in lines that follow certain principles". Kant distinguishes between people who can choose and people who can't choose to see the world in this topsy turvy way. He writes simply enough:

"If you can't choose, you have the 'humours'. But if you can make that choice, 'you are humourous'.

Kant does not, however, have any doubt that the comic is an inferior form of art. He states:
"This manner belongs to agreeable rather than to fine art because the object of the latter must always have an evident intrinsic worth about it, and demands a certain seriousness in its presentation".

The 19th Century saw a little more interest in laughter though no mention of children's laughter. Pirie (1858) noted in An Inquiry into the Nature of the Human Mind that incongruity was the cause of laughter. "To cause laughter", he elaborated, "the incongruity of the fact or idea presented to us must not only imply some obvious absurdity but it must be of a very unexpected kind". The French psychologist, Leon Dumont (1862) argued that it was contradictions that provoked laughter. "Le risible peut être défini; tout objet à l'égard duquel l'esprit se trouve forcé d'affirmer et de nier en même temps la même chose". Vasey (1877) also resumed what writings there had been on the subject. Sully (1892) argued that it was wrong to believe "these sources of ludicrous effect can be reduced to one". He anticipated Freud in suggesting that some kinds of laughter might be "an escape valve arrangement after a state of central tension". Sully made one of the few observations of children in this field noting that "the range of ludicrous aspect in their case is surprisingly narrow" - an observation which much of the data in this study
will refute. Sully saw laughter as a mark of a high self-conscious culture which could use it to forget "the heap of cares". Nevertheless, he clearly came to no acceptable conclusion for Hall (1897) said: "We are persuaded that all current theories are utterly inadequate and speculative and that there are few more promising fields of psychological inquiry". Others saw it as promising too. Bergson published *Le Rire* first as magazine articles in 1900: Freud's book on jokes was published in 1905. There was a feeling the subject merited attention.

American psychology largely ignored laughter however. William James seems not to mention it in *The Principles of Psychology* (1890). John B. Watson observed a number of situations in which children laughed at the Manhattan Day Nursery, but never concluded these observations.

Interest fizzled out though McDougall (1919) claimed there was an instinct to laugh and asked one crucial question. What is the survival value of laughter? He went on to suggest that the result of laughing is "a promotion of the respiratory and circulatory processes and perhaps other processes vital, a general stirring up ...". McDougall also claimed that laughter removes depression "by exerting a generally stimulating effect" on the whole organism. He then, it seems,
loses some sense of realism and rhapsodises. "But it does more than this, it diverts us; that is to say, it has a quite peculiar power of arresting the stream of thought and inhibiting all other bodily functions". We do not walk while laughing and McDougall believes, we do not even stand while laughing if "the laughter impulse is excited in maximal intensity, we are apt to sink down, our knees loosened, and to roll and shake helplessly upon the ground". What could possibly be the value of such behaviour?

McDougall asks us to imagine the plight of early man, prey to the depression caused by all these burdens. Nature needed a remedy so that "while leaving men delicately responsive to the more intense emotional expressions about them, should spare them the unnecessary suffering involved in sympathetically sharing all the minor pains and distresses which were the daily lot of each member of the group". So nature gave us laughter, the "tendency to laugh when confronted by the spectacle of any of the minor mishaps and distresses of his fellows". McDougall did not want early man to laugh at real disaster so by some miracle of discrimination, man learned to laugh only at what was not really serious. "We laugh when a man hits his thumb with his hammer; but we shrink in sympathetic pain if his hand is crushed in a machine". This may be true but it is not correct to state that we only laugh at mishaps or minor tragedies.
There is gallows humour as well as fantastic humour. McDougall tried to cram too much into one all encompassing theory. With few studies that observed what actually made people laugh, experts persisted in trying to find the one key, the magic formula that would explain all occasions of laughter. Such an approach is seductive but, perhaps, misguided. Laughter is, and is a response to, many things and many situations. By forcing subjects to respond to jokes rather than seeing where laughter happened, psychologists have tended to ignore many aspects of laughter including how we create laughter and the connexion between emotions and laughter.

It may reflect the psychology of psychologists that many have been attracted by the theory that we laugh at the suffering of others in power-bursts of Hobbes' Sudden Glory. In the flamboyantly titled *The Secret of Laughter*, Ludovici (1932) extended this argument. We laugh in order to survive. Laughter is almost a weapon. We bare our fangs and teeth when we laugh.

In *The Secret of Laughter* Ludovici laid far less stress on what seems a much more interesting idea. To laugh is a sign of superior adaptation. It could be argued that one of the most valuable of qualities is to be able to laugh at oneself in an unmanic way.
That reservation is necessary (though difficult to define) because there are a few psychiatric conditions in which patients do giggle all the time at their own antics. But, usually, one admires people who can see themselves with enough detachment to tell funny stories about themselves, to enjoy being kidded, who can see the ridiculous side of their own behaviour. Lučovici threw out and then failed to expand on that interesting idea. He returned to the analysis of laughter as a sign of power.

Before examining in detail the research on children's laughter, it may be worth resuming the hazards history reveals. Though literature and history pointed to laughter as a complex response touching the silly, the spiritual, the subversive as well as the humourous, psychologists nearly always paid attention to only one sort of laughter based either on incongruity or contradiction. No one was interested in children's laughter much. Those few psychologists and philosophers who studied laughter at all seemed to imagine they could find one, not very complex theory to account for it in all its variety. Though almost no studies observed adults or children laughing, there seemed to be little doubt that the solution would be simple. Henri Bergson's Le Rire can be viewed as an example of this tendency. Bergson argued that we laugh "when something mechanical is encrusted on the human". The translation is itself a little odd since the French says "du mecanique plaqué"
"sur du vivant". Encrusted does not suggest that aggressive slapping of plaque. Nevertheless, the heart of Bergson's theory, relying much on farces, is that we laugh when someone else is reduced to an object. The French philosopher, Jeanson (1950), writing on Bergson, notes that the comic demands; "quelque chose comme une anaesthésie momentanée du cœur. Il s'adresse à l'intelligence pure". This view of Bergson suits Anglo-Saxon prejudices, seeing in the French a fetish for rational humour. Bergson argued also that society used laughter in order to enforce conformity. We laugh in groups at someone. The butt of laughter is the eccentric, the man who commutes in his swim suit; ridiculed, he learns his lesson. He buys a suit for the office. Bergson's stress on conformity marks him as a product of his time. But what is most striking is how rigid and formulaic his ideas are. Where Le Bon thought he could write equations for the psychology of crowds, Bergson thought he had cracked the equation for laughter.

The cinema did Bergson a favour. Good examples of people acting as machines were to be found in the silent screen comedies which followed the publication of Le Rire. There were however few examples of Bergson's theories being tested till a youthful H. J. Eysenck reported (1942) standing around waiting for people to be forced into acting like machines either because they slipped on banana peels or because
their hats were blown off in a high wind. Eysenck observed some examples of such incidents but not everyone laughed on the cue! People let down the theory.

Bergson’s theory drew its data almost entirely from the stage. Though there were a few references to authors like Pascal and Mark Twain, he really seemed to believe that an analysis of farces could explain the totality of laughter. He ignored the emotional aspects of laughter, its subversive side and the human ability to giggle at plain silliness. The young Eysenck, ready to witness laughter, seems a slightly comic figure. But his results are among many that suggest laughter is more complicated than early theories allowed. It also is sadly typical of the history of laughter research that, after three studies, Eysenck stopped being interested in laughter. Higher things claimed him. The point remains, though. Attempts to forge a simple theory for all laughter failed. Research on children suffered from a similar bias.
There is no single starting point to the study of childhood laughter and the following review is thematic rather than historical. Early ideas on laughter have influenced and guided research. It is worth, especially, looking at the ways Darwin (1872), Freud (1905) and Bergson (1911) influenced research because one legacy of their work has been high subjectivity. A theory had to cover all aspects of children's laughter, and, consequently, to be rashly exclusive. Only one such theory was needed to explain all laughter. The parsimonious imperative – the wish to formulate this one elegant, all-encompassing explanation – has not served laughter research well.

A REVIEW OF THE LITERATURE

Darwin associated and gesticulated with apes that were closer to laughter and argued that one with the condition of laughter must be to act as a powerful social signal – usually of agreement. He also noted that laughter was, in many ways, like a talking. He wrote:

"The imagination is sometimes said to be tickled by a ridiculous idea, and this so-called tickling of the mind is curiously analogous with that of the body."

Darwin added:

"Yet laughter from a ridiculous idea, though involuntary, cannot be called strictly a reflex action. In this case, and in that of laughter from being tickled, the mind must be in a pleasurable condition: a young child, if tickled by a stranger man, would scream for fear. The touch must be light, and an idea or event, to be ludicrous must not be of grave import."
There is no simple starting point to the study of children's laughter and the following review is thematic rather than historical. Early ideas on laughter have influenced and guided research. It is worth, especially, looking at the ways Darwin (1872), Freud (1905) and Bergson (1911) influenced research because one legacy of their work has been high ambition. A theory had to cover all aspects of children's laughter, and, consequently, to be ruthlessly exclusive. Only one such theory was needed to explain all laughter. The parsimonious imperative - the wish to formulate this one elegant, all-encompassing explanation - has not served laughter research well.

Darwin (1872) observed facial expressions and gestures in apes that were similar to laughter and argued that one of the functions of laughter must be to act as a powerful social signal - usually of appeasement. He also noted that laughter was, in many ways, like a reflex. He wrote:

"The imagination is sometimes said to be tickled by a ludicrous idea; and this so-called tickling of the mind is curiously analogous with that of the body".

Darwin added:

"Yet laughter from a ludicrous idea, though involuntary, cannot be called strictly a reflex action. In this case, and in that of laughter from being tickled, the mind must be in a pleasurable condition: a young child, if tickled by a strange man, would scream for fear. The touch must be light, and an idea or event, to be ludicrous must not be of grave import".
It took roughly 70 years for a psychologist to test Darwin's proposition about tickling. And it may be that while the Victorians only laughed at things that were duly light-hearted, we have become blacker and more soured. They had W. S. Gilbert: we have Samuel Beckett. The impact of the prevailing culture on children's humour, however, is a field that has hardly been touched on.

What Darwin suggests is that when he laughs, the child is not just responding to something funny but to a particular situation. In fact the Darwinian approach has stimulated many studies that emphasise laughter as a social response rather than as a response to anything funny. The purpose of laughter has nothing essentially to do with the experience of humour. Ambrose (1960) took this line of reasoning, perhaps, to extremes by suggesting that laughter is a degenerate form of crying. Foss (1961) lays great stress on laughter as a social signal. Piddington (1933) and Chapman and Foot (1974) have looked at the social effects of laughter amongst children. Darwin also stressed, as we have noted, that laughter was like a reflex - a point that he owed, partly, at least, it seems, to Herbert Spencer.

Spencer (1860) developed the notion of laughter as a reflex. But he argued that the function is to discharge excess motor energy. Spencer made what seems to be one of the first direct claims about laughter and children. He saw that children tended to run about a great deal and, often, to laugh out of "pure glee". Spencer claimed the growing child is full of energy and, as this energy bubbles over, he laughs. Spencer's
notion certainly guided some early systematic observers of children in the classroom like Kenderdine (1931) and Ding and Jersild (1932), who were all too ready to observe that very young children laughed for "no reason at all". One of the few fairly definite conclusions to which it is possible to come is that such pure "motor" activity laughter is only a small amount of all child laughter.

While Darwin and Spencer saw laughter very much in terms of its external uses and causes, Freud (1905: 1928) saw the laugh as a sort of inner break through. The joke, by cloaking forbidden thoughts, allowed them to erupt into consciousness. To work, a joke has, first, to conceal its true meaning and, then, to reveal, nay, expose it. Freud took as an example not just smutty jokes but hostile ones. A certain Herr N said of a friend that "Vanity was one of his four Achilles' heels". A splendid funny insult since most of us make do with just two heels! But Herr N would never have allowed himself to openly criticise his friend. In a joke the hostility could break through. Freud compared the condensations of the joke-work to that of the dream-work.

For children, Freud implied that laughter was a form of release. Jokes would allow some of their conflicts - like the Oedipal conflict - to express itself. And the release of tension would offer some relief. Freud's analysis led to work by Jacobson (1947) Wolfenstein (1951, 1954), Grotjahn (1957) which we shall consider later in some detail. Unfortunately, though not surprisingly, their work usually ignores that of psychologists who were "inspired" by Darwin. Until recently,
the psychoanalytic tradition tended to be ignored by more experimental researchers. Both McGhee (1971, 1973) and Rothbart (1973), however, have taken a little notice of the insights of Freud into children's laughter.

One other major psychologist to develop a theory of laughter was William McDougall (1903:1919 - 1922:1937). He did not specifically attend to laughter in children and little notice has been taken of his suggestion by most workers in the field of children's laughter. McDougall proposed that man learned to laugh in order not to expend too much energy on sympathising or distress at life's minor mishaps. There is no point in weeping your heart out if your best friend has just stubbed his toe or tripped over Bergson's proverbial banana peel. When he has to have his leg amputated, it's a different thing.

In order to be able to laugh at such minor mishaps, man has to be able to sort out the serious from the not serious. McDougall's theory is, incidentally, not adequate because we can laugh at quite horribly tragic events or at things that are not mishaps. Nevertheless, the child would have to learn how to identify an event that's fit to laugh at - a minor as opposed to a major mishap. How does a child achieve this skilled distinction? As we shall see, little research till the very recent past has even considered this to be a question.

There appear to have been, in all, 5 major approaches to the study of children's laughter. As has been suggested, these approaches have tended to exclude each other so that a particular investigator tends to only embrace one of them. Yet, until the 1970s, few psychologists stuck long to the study of laughter.
Washburn (1929) published one study - and then no more. Kenderdine (1931) did likewise: Brumbaugh (1939 : 1941) seems to have altered interests after two papers. Brackett (1933 : 1934) also seems to have contributed just two papers. Leuba (1941) did one study. Wolfenstein (1954) is something of an exception as is Grotjahn (1957). In other words, there was little continuous research on the subject and rather one has the feeling of a set of isolated attacks on a very complex problem, each producing interesting but fragmentary results.

McGhee and Goldstein (1972) reviewed the number of studies done on laughter and humour. Out of 101 empirical studies, fifteen analysed children's laughter or humour. Early research held a balance between experimental studies and those that relied largely on naturalistic observation. Washburn (1929), Kenderdine (1931), Enders (1927), Ding and Jersild (1932), Brackett (1934), Wilson (1927) all used a considerable amount of observation and were content to start by seeing either what made children laugh or under what circumstances children laughed. Others did have a more experimental approach like Brumbaugh (1940) and Leuba (1941). The field certainly did not produce a welter of work. One book took children's laughter as its main theme - Children's Humour by Wolfenstein (1954) as did the thirty-page pamphlet Laughter in the Nursery Class by Blatz, Allen and Millichamp (1936). Grotjahn (1957) in his Beyond Laughter dealt at some length with children's laughter. But the point is that, until the late sixties, the area was largely dead with occasional studies that did not seem to lead in any coherent direction. Often, psychologists seemed to lose interest.
Since the late sixties, the situation has changed. A number of psychologists have made laughter their speciality and there are signs of prolonged interest in various aspects of the subject. This is not, however, a totally unmixed blessing. The study of laughter has moved, perhaps, too much into the laboratory. Goldstein and McGhee in their revised bibliography brought up to date to 1976 (1976) found nearly 40 new studies of children's laughter and humour. But 25 of these were experimental: 8 observational: 3 theoretical. Most of the 25 experimental studies looked at humour since it is easier to get children to rate the joke experimenters give them than to catch them laughing in the laboratory. This emphasis on experimental studies will be questioned. Among their possible disadvantages is the fact that they tend to focus attention on stimuli that will make the child laugh. It will be argued that stimuli, in themselves, do not usually make a child laugh. The context of the whole event is important. Next, children enjoy producing funny material as well as reacting to it. But a laboratory is not the best place to make up jokes or funny stories and, anyway, children are not usually asked to do that.

In the review that follows, I have divided approaches into the study of laughter in children into five separate traditions.

A. Observational Studies where the aim is to see what makes the child laugh and what the situations are in which the child laughs. Often, the child sets these situations up himself.
B. Psychoanalytical Studies. These stem from Freud's interest in humour, jokes and wit. What unites most of these studies is the conviction that almost all laughter means more than it seems to mean.

C. Social effects studies. Many writers agree that one of the functions of laughter is social. It helps bind groups together. This body of work examines laughter as a social phenomenon.

D. Cognitive studies. These represent an attempt to look at laughter in intellectual rather than emotional terms. It is the very opposite superficially of the Freudian approach although some workers who use it (McGhee 1971) stress it is only one of a number of possible strategies for studying laughter.

E. Arousal studies. These have an interest in the physiological correlates of laughter and tend to attempt a synthesis – especially of B and D.

This is not an arbitrary division. Usually those interested in one approach have stayed consistently with it. In this there is no harm but it does often seem that researchers are hankering after one grand theory that will account for every laugh. McGhee (1971) advocated the value of many mini-theories. This seems a very realistic view. Too many situations cause laughter to have only one cause. There are plenty of alternative theories but, as will be argued, though some of them are convincing some of the time, none is yet convincing all of the time. It is, in terms of effort, a new field of psychology and there is much that is basic yet to find out.
OBSERVATIONAL STUDIES

One would expect observational studies to enable us to answer some very basic questions about the development of laughter. Such questions include: when do children begin to laugh; what do they laugh at; how do the events or stimuli they laugh at alter through time; what effect, if any, does personality have on the development of laughter; how much of a child's time is taken up laughing. Clearly, the answers to such questions would not enable us to say why children laugh but they would provide a base of data from which to build.

In the 1920s and 1930s, observational studies were fairly common. Washburn (1929), Wilson (1929), Kenderdine (1931), Ding and Jersild (1932), Brackett (1933) all based their work on observing either in the home, the nursery or the classroom as did Enders (1927) and Blatz Allen and Millichamp (1936). Commentators like McGhee (1973) have been critical of the quality of much of this early research. There is some point to the criticisms he makes but that is no reason to abandon observation. Rather, it is a question of improving and refining the way in which children are observed as Groch (1974) did, for example.

Before going on to analyse the results of those observations, it is important to realise that few even of those studies just looked at children over a period of time and noted what made them laugh. Washburn (1929), for example, tried out on her subjects a number of stimuli to record how
successful they were in making them laugh. Brumbaugh (1939) adopted a similar approach as, more recently, Sroufe and Wunsch (1972) and Sroufe and Waters (1976) have done.

Wilson (1929) adopted the slightly different approach of asking mothers to keep a diary of what it was that made their children laugh. The only record of pure observation in the home, in fact, would seem to be Valentine (1942). Valentine and his wife as part of the research for the psychology of early childhood observed their own children from 0 to 5 years. In a rich chapter, Valentine pin-pointed, as we shall see, a number of points that any theory of laughter will have to accommodate.

Pure observational studies usually in nursery schools - have been a little more frequent (Enders: 1927: Kenderdine: 1931: Ding and Jersild 1932: Brackett: 1933). The latest - and perhaps most useful - study is that by Groch (1974) which has suggested a few crucial areas that need investigation. Some psychoanalytic observers have also spent time recording the jokes children tell in class but these studies have usually been heavily influenced by preconceptions so that they are less observations than confirmations. (Wolfenstein: 1954).

**WHEN DO CHILDREN FIRST LAUGH?**

Most of the research presented suggests that laughter begins round about 4 months. Washburn (1929) reckoned that it was at this age that the baby first responded by laughing -
usually in response to a stimulus like Washburn cooing "come on then - give us a smile" and laughing! Sroufe and Wunsch (1972) found that at 4 months babies were already quite receptive to both auditory and tactile stimuli like kissing the stomach, listening to noises like Boom and Aa ah! The fact that they were able to laugh at these suggests some earlier ability. After all, Washburn (1929) only came to observe the babies at 4-weekly intervals from 8 or more weeks on. They might have laughed when Washburn wasn't there.

Sroufe and Waters (1976) in a much more methodical study that followed babies at weekly intervals also concluded that it was at 4 months that they were first able to elicit laughter. They added, also, the interesting point that the 4 month baby does not laugh as soon as a stimulus is presented but with a latency of between 1 and 2 seconds.

There have been, however, observations that suggest that laughter does occur earlier. Wolff (1963) observed laughter in a 5 week old baby. Valentine (1942) recorded the following observations about his own children:

Day 29 first laugh of child Y
Day 39 first laugh of child B

Valentine's wife notes that in both these cases the laugh appears to be associated with contentment after feeding. Valentine attributes this to an "overflow" of good feeling. Two of the other children also laughed before 8 weeks. Child C did so at 6 weeks: child A laughed at 7 weeks. It has to be pointed out that Washburn only began her observations at 8 weeks or, with some babies, a bit later.
The case of Valentine suggests an explanation. If parents are observing the baby, they are much more likely to notice the first laugh than the psychologist who drops in once a week or once a month. How many times has a baby taken his first step or uttered his first word in a laboratory. By 4 months, laughter may be quite easy to elicit. In this context, Valentine first noticed laughter not in response to an attempt to elicit it - even by its mother - but as a response to 'contentment' before 30 days. Valentine noted also the first instance of 'social' laughter much later. He wrote:

"Day 81 - Child Y, the first real laugh in response to my own laugh"

and on

"Day 115 - Child B repeatedly laughed when his mother and I laughed to him even when he was beginning to whimper".

The age of first laugh is theoretically important since some writers like Ambrose (1963) want to delay laughter until the child can realise that there are two competing schemes in mind - one fearful and the other fun. As we shall argue, this ambivalence theory of laughter is useful rather than total.

**WHAT KINDS OF THINGS MAKE CHILDREN LAUGH?**

Washburn (1929) tried out the following devices on her subjects:
1. Washburn chirrupped, looked down and said
   "Come on give us a smile".
   This elicited laughter early, once at 12
   weeks but only once thereafter at 24 weeks.

2. A "threatening" turn of the head done in a
   sudden fashion. Washburn held the baby's hands
   in her own, shook her head from side to side
   and then ducked till it "hit" the baby's body
   upon which she uttered a long "Ah-Baa". Then,
   she withdrew. This rather bizarre action was
   very successful from 16 weeks on in eliciting
   laughter.

3. Rhythmic Hand Clapping: Washburn said "Ah"
   as she extended the baby's hands and "Bo"
   when she clapped them together. This elicited
   laughter in cases at 20 weeks + on.

4. Rhythmic Knee Drop in which the infant was
   held and then dropped 4 to 6 inches. This
   elicited laughter at 20 weeks and on.

5. Peek-a-Boo: Washburn used two versions,
   This elicited laughter both at 16 weeks and
   then at 20 weeks onwards.

6. Tickling: Washburn addressed herself to
   tickling underneath the jaw-bone or knees.
   This elicited laughter only once, however.
7. "Elevator": Holding the baby below the shoulders, Washburn raised him above her head and jiggled him, smiling and speaking to him. This worked from 24 weeks on.

8. Washburn ducked behind and reappeared from under a table. This also worked at 24 weeks on.

Unfortunately, Washburn does not note clearly how successful these various items were. It is hard to understand why tickling failed so miserably to evoke laughter and why chirruping at the infant also only produced one laugh in 15 subjects. It may be because Washburn "performed" the action to be laughed at and Washburn was a stranger. It will be argued, later, that it is not particular stimuli, but a total situation, that provokes laughter.

There are also methodological problems with the study. Washburn did not follow the same 15 babies through each age-level and it is hard to use her evidence for developmental trends. She found, for example, that some tactile stimuli (like tickling) only led to laughter later than some social stimuli. In their systematic study, Sroufe and Wunsch (1972) came, to the opposite conclusion.

Ambrose (1963) argues that Washburn's study shows that for a young child to laugh there has to be (1) sudden onset of the stimulus (2) a rapid change in the level or sort of stimulation and (3) an intensity of stimulation that is high but not too high. We shall see that this formulation while useful, cannot cope with all the observations around.
Wilson (1929) also found that loud noises, being bounced up and down and games like peek-abo did make very young children laugh according to the diaries that mothers kept. Brumbaugh (1939) reported similar findings but again, he tested certain items out on children rather than watched what made them laugh in situ.

The most systematic study to date is that by Sroufe and Wunsch (1972). They used a number of undergraduates to observe what made 70 babies laugh from 4 months to 12 months. Sroufe and Wunsch prepared a list of stimuli and divided them into auditory, tactile, visual and social stimuli. They hoped, therefore, not just to see what made babies laugh but to trace a developmental pattern. Sroufe and Wunsch offered the hypothesis that auditory and tactile laughter items would make the children laugh earlier than visual and social items because the baby's brain would not be able to process the more complex visual and social items till about 9 months of age.

In their first study, much laughter was reported. The following graph (GRAPH I) reveals the detailed results. The problem was that Sroufe and Wunsch suspected their undergraduates had been a little free in recording instances of laughter. They, therefore, trained some undergraduates thoroughly and gave them instructions on how they should get the mother to perform each joke. There was no point for example in comparing the item, "Shaking hair," if one mother would make endearing abrupt noises doing it while another mother did it in total silence. Babies witnessed a much
TABLE 1

PERCENTAGE OF LAUGHTER BY ITEM FOR STUDY 1

<table>
<thead>
<tr>
<th>Item</th>
<th>4-6</th>
<th>7-9</th>
<th>10-12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auditory:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lip popping</td>
<td>12</td>
<td>25</td>
<td>14</td>
</tr>
<tr>
<td>Aaah</td>
<td>17</td>
<td>46</td>
<td>32</td>
</tr>
<tr>
<td>Boom, boom, boom</td>
<td>12</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Synthesizer</td>
<td>8</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Whispering</td>
<td>12</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Squeaky voice</td>
<td>4</td>
<td>38</td>
<td>32</td>
</tr>
<tr>
<td><strong>Tactile:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blowing hair</td>
<td>8</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Kissing stomach</td>
<td>29</td>
<td>81</td>
<td>54</td>
</tr>
<tr>
<td>Coochy-coo</td>
<td>8</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Bouncing on knee</td>
<td>12</td>
<td>46</td>
<td>9</td>
</tr>
<tr>
<td>Jiggling over head</td>
<td>25</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td><strong>Social:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playing tug</td>
<td>4</td>
<td>42</td>
<td>45</td>
</tr>
<tr>
<td>Cloth in mouth</td>
<td>4</td>
<td>25</td>
<td>59</td>
</tr>
<tr>
<td>Gonna get you</td>
<td>21</td>
<td>54</td>
<td>82</td>
</tr>
<tr>
<td>Covering baby's face</td>
<td>12</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>Peek-a-boo</td>
<td>12</td>
<td>62</td>
<td>82</td>
</tr>
<tr>
<td>Chasing, crawling after</td>
<td>4</td>
<td>38</td>
<td>68</td>
</tr>
<tr>
<td><strong>Visual:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covered face</td>
<td>4</td>
<td>25</td>
<td>54</td>
</tr>
<tr>
<td>Disappearing object</td>
<td>4</td>
<td>25</td>
<td>52</td>
</tr>
<tr>
<td>Sucking baby bottle</td>
<td>4</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>Crawling on floor</td>
<td>4</td>
<td>21</td>
<td>36</td>
</tr>
<tr>
<td>Walking like Laurel</td>
<td>4</td>
<td>33</td>
<td>54</td>
</tr>
<tr>
<td>Shaking hair</td>
<td>21</td>
<td>54</td>
<td>56</td>
</tr>
<tr>
<td>Holding in air</td>
<td>8</td>
<td>42</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10</td>
<td>37</td>
<td>43</td>
</tr>
</tbody>
</table>

Sroufe A. and Wunsch J. P. 1972

Child Development

35
more automated performance. Mothers were also instructed not to practise in between the monthly experimental sessions—an instruction that seems frankly unrealistic. What kind of a month did the baby have if its mother could not play peek-a-boo or be jiggled overhead.

In the second study, Sroufe and Wunsch studied 10 male babies of 4 months: 13 male babies of 7 to 8 months: 13 male babies of 11 to 12 months. They tested the 10 4-months olds each month till they were a year old.

In the 4 month old, auditory and tactile stimuli were quite effective in eliciting laughter. Aaah, Lip-Popping, Boom-Boom, Whispering, and all were successful to some extent. Three tactile stimuli were also quite successful—kissing the stomach blowing, bouncing on the knee and jiggling the baby overhead. Most tactile and auditory stimuli were much more successful when the baby was 7 to 9 months. And some visual and social items made the 4/5 month old laugh. The most notable were playing "Gonna Get You" (Social), Peek-abo (Social), and the mother shaking her hair.

Sroufe and Wunsch found that the babies laughed more the older they got. The items were successful in eliciting laughter at:

- 4 to 6 months 13.5% of the time
- 7 to 9 months 24% of the time
- 10 to 12 months 25% of the time

And, despite the fact that 4/5 month olds laughed at
some "social" jokes, at 7 months Sroufe and Wunsch found a dramatic increase in social responsiveness so that the baby, aware of others, could laugh at and with them. Valentine (1942), we shall see, observed this process much earlier. The "social" jokes that depend on contact with another reached a peak at 7 to 9 months and stayed there. From 7 to 9 months to 10 to 12 months, Sroufe and Wunsch found a decrease in the "funniness" of tactile jokes though this was significant only at the $p < 0.10$ level and, also, an increase in the effectiveness of visual jokes like making an object disappear or the mother sucking the babies bottle or herself crawling on the floor. It is clear, however, that this is a far more complex "joke" than another visual joke like the mother shaking her head. To see the bottle joke, the baby has to realise that the mother is doing what the baby usually does and that she ought not to be doing it: she is "playing baby". This, rather than the fact that they were visual may explain why the baby has to be 10 to 12 months old before there is a properly comic response.

Sroufe and Wunsch (1972) made a number of other telling observations. First, older babies laughed much more quickly at jokes. Secondly, older babies sometimes tried to get mothers to repeat the stimulus that had provoked laughter. They also found in their longitudinal study of the 10 babies that 7 out of 10 babies first laughed at their mother crawling around the floor in the month or the month after they first began to crawl. Before the baby can crawl and accepts it crawls, there is nothing odd about the mother crawling.
Sroufe and Walters (1976) duplicated many of the findings of Sroufe and Wunsch. They also noted that as the child grows older he prefers to laugh not just when a stimulus is produced but in anticipation of that. The baby knows he is going to be tickled and starts laughing. It is a way of making sure that he will be tickled. The baby at 10 to 12 months is no longer a passive being waiting for something funny to be done to him. Yet most research on children's laughter has cast the child precisely in this role.

Valentine (1942) reported the following observations of his own children. He found, contrary to many ideas, that the first laughter he recorded from all of his children did not seem to be due to anything sudden or incongruous. All his children from Y who first laughed at 29 days of age to A who first laughed at 7 weeks, laughed first in response to a feeling of well-being after having been fed. Only a little later did laughter emerge as a response to another person or another face. Child B at 10 weeks and Child Y at 11 weeks would begin smiling and laughing in response to one of their parents' faces. Valentine noted that when child B was 0.8 months:

"Does not cry when laughed at: he was crying bitterly himself because something was taken from him and when we laughed at him, he laughed too".

Valentine argued that much laughter is bound up with social relationships but, evidently, not all laughter is. Valentine recorded that the sight of a bright or pleasing
object could make a child laugh. Child B at 11 weeks also
laughed at the sight of a silver rattle. Preyer (1909)
found "loud laughter at objects that please still frequent
in the 9 month".

Valentine also noted an informal experiment in regard
to tickling. Child B laughed at 3½ months when his mother
kissed his feet or tickled his ribs. Valentine's other
children also laughed when tickled much more easily than in
the Washburn study. Leuba (1941) as the prelude to an ex-
periment found it not too difficult to make his children
laugh by tickling them from when they were 80 days old.
Valentine attempted the following experiment. He got his
wife to tickle child Y as she normally would. As long as
the mother was smiling, the child laughed but Y ceased to
laugh when her mother forced herself to look stern. Equally
when Leuba donned a mask, he found his children also did not
laugh when tickled. Instead, they tended to act fearful.
Darwin (1872) said that for tickling to work the child has
to be in a good mood. It seems important that even tickling,
the most stereotyped stimulus to evoke laughter, cannot be
viewed just as a stimulus. Whether or not tickling succeeds
in making a child laugh depends on the context in which the
child is tickled. There are however exceptions to this -
like the solitary laughter at a pleasing object.

Valentine also noted laughter as a response to a mild
shock or surprise. Tearing a newspaper up often got a good
laugh. He saw, too, that all his children enjoyed the re-
petition of a joke. Laughter at mere repetition is puzzling
and perhaps, important. Valentine offered no explanation of
It. An instance with Child Y (at 2.11) showed this. Y pulled a desk slide out I pushed it in and so on: after the 3rd and 4th time, a slight chuckle. Then loud laughter. This is also an interesting instance in which laughter is not caused by something sudden but by a slow build up. Many theorists have been attracted by the idea that suddenness is a sine qua non of making you laugh.

Valentine was more doubtful about instances in which children laughed just because they recognised an object or a face. Adults do sometimes laugh when they recognise each other - a sentimental instance is when two lovers who have been quarrelling bitterly laugh when they are re-united.

Valentine also noticed teasing laughter when his children were quite young. "At 1.2½ Child B teased his mother when she wanted to take something away from him by holding it out, saying Tata and then dragging it away when she tried to take it. Child B laughed until he almost collapsed". Laughter plays an interesting part in the interaction between children and parents. At 4 and 5 years of age, a child's triumph over an adult is often accompanied by hearty laughter. At 2.11 child Y laughs "when she has done anything naughty she makes up a hearty laugh to make her mother laugh". So, of course, that mother will forgive her.

At 1.3, Valentine also noticed the first sort of hostile laughter - laughter when another is discomfitted. At 1.4, B always laughed when his mother pretended to cry. In theoretical terms, this is an important observation. For if Bergson or McDougall were right, one would expect the first laughs to have something to do with the discomfort of another.
Valentine also noted laughter during play associated with the sheer joy of moving - a topic to which we shall return later - but he does not go much into this. He also found his children could laugh at something beautiful and that, from about 3 years they could enjoy puns. Child X heard her mother read out of the paper; "Great speech by premier. House swept off its feet". X looked up from her porridge and laughed: "Houses aren't swept off their feet", she said astutely.

The observations Valentine made led him to conclude that by the age of 3 or 4 it seems "that all types of laughter in adults have appeared in children". Valentine believes that there is no single explanation of laughter - a modest view since many writers have tended to write as if their one theory would cover all laughter*. An account of laughter will have, according to Valentine, to deal with the following: laughter as an original expression of intense pleasure after feeding: its biological and social value in developing bonds - especially between parents and children; laughter as a weapon or expression of hostility: the way in which, as the child develops, he experiences more pleasure in laughter in so far as it sets energy free. Valentine does not define what he means by energy, however, but adds that when the repressed energy is considerable, laughter is intensified. Children like a joke at the expense of others they dislike. Finally, laughter can be nervous especially if one has failed at some task.

These studies in the home highlight how very complex
the occasions of laughter are. They do not in themselves lead to any single theory of laughter being observations though an account of laughter must make it possible to explain the different varieties of laughter. Observational studies are particularly valuable because, as Chapman (1973) found, laughter tends to evaporate in the laboratory. Many workers have taken this as a reason to suppose that studying laughter is, somehow, less valuable than using rating scales to test humour. This surely is a supreme rationalisation. Instead of devising more subtle means of observation, psychologists are invited to opt for indirect observation through getting children to fill in rating scales. Berlyne (1969) noted that only 15% of studies looked at laughter. McGhee and Goldstein (1972) found only 13 out of 122 studies used laughter as a dependent variable. This seems an unfortunate and possibly unnecessary state of affairs, especially as careful and long observational studies in the home do not seem to make laughter evaporate. It is very surprising incidentally, that no psychoanalytic students of laughter have studied laughter in the family since an analytic account of laughter centres round the way in which children use laughter to protect themselves from adults. And adults dominate not just the home but the classroom.

IN THE CLASSROOM

Early studies by Kenderdine (1931) and Ding and Jersild (1932, 1940) appeared to show that nursery school children laughed often for no good reason. Their laughter was often
associated by motor movements. This laughter of "pure glee" would seem to confirm Spencer's notion that laughter was a way of discharging excess motor energy. An early study by Enders (1927) and by Blatz, Allen and Millichamps (1936) also looked at laughter in the classroom through naturalistic observation. In the case of the latter study they believed, a little grandly, after less than 3 months that they had solved the whole question. "Laughter" they said, "is a social tick" Q.E.D. Groch (1974) studied a nursery school class of 30 children. 16 of the children were boys, 14 were girls. 11 of the children were 3 years old and 19 were 4 years old. Groch's method was, first, to do a pilot study which yielded a number of possible "types" of laughter. With a colleague, she then prepared a list of some 20 categories and fitted each laugh into her pre-planned category.

First there was Responsive Humour when the children reacted to some event or thing that they were not the author of - like finding a baby peanut on a shell or seeing a child fall off a chair. In this category, Groch also included children responding to jokes and listening to stories.

Second category was that of Productive Humour. In this a child had to laugh at or because of something he himself had done. Groch included in this category - clowning, being silly, being absurd. An absurd remark would be: "My fish is taking a shower". She also included humour that was intended to minimise injury to self-esteem like when a child accidentally trips over and then laughs at his own plight. Teasing also came in.
The third category was Hostile humour. In this, Groch included ridiculing others, being rude or hostile to them and sheer defiance.

Her fourth category was a miscellaneous category which included using humour words like a child laughing and saying Ha ha and also, laughter of "pure glee" that just went with excited motor activity.

Agreement with her colleagues on classifying the incidents in each 90 minute bout of observation was good. The following table shows the division into various sorts of laughter:

Both boys and girls laughed more at jokes they made themselves than at jokes others made. With boys the predominance of productive humour is particularly marked (45%) as against responsive humour (26%). But girls also tended the same way (39% productive: 34% responsive). A not inconsiderable amount of humour was hostile. Boys also showed a lead in this though 7% of the girls' laughter was also hostile.

Groch's results also suggest that the laughter of so-called "pure glee" is not that frequent. "Activity" laughter accounted for 7% for boys and 6% of girls' laughter. Also both sexes sometimes laughed just because they used a "funny" word like Ha Ha!

Unfortunately, Groch does not give many specific examples in her paper. But her work does suggest that it would be rash to look at children's laughter essentially from the point of view of how they react to jokes. The teacher's
"funny" stories seem to have been singularly useless in getting laughs - unless one assumes that in 42 hours almost none of the stories told had any comic element in them. Both the cognitive and the psycho-analytic approaches, however, tend to focus on that.

Groch's also noted that children laughed in situations in which they were warding off an injury to their self-esteem. If you can laugh at yourself, you haven't made such a mess of things. That children should show this skill so young is interesting given that so many writers on psychotherapy claim that one index of good adjustment is, precisely, being able to laugh at oneself.

Sherman (1975) looked at the occurrence of group glee in a classroom of 37 children. Elaborate video taped observations found that in freestyle glee was rare. In white male children, aged 51.7 months, there were only an average 8 incidents per hour and even among non-white girls, the most gleeful of all subjects, it was only 2.8 incidents. Sherman made the curious observation that one sort of lesson yielded less glee; lessons which made the children do physical things yielded far more - up to 32 incidents an hour. Unfortunately, Sherman offers no explanation of these observations either in his 1975 paper or in a later one - (1977).
At present, observations have fallen into disfavour. For example, in the latest bibliography offered by McGhee and Goldstein (1976) of some forty studies into children since 1972, only eight seem to be basically observational while there have been around twenty five experimental studies. One problem is that though laughter is easy to spot and hard to mistake, it is not so easy to evoke - especially in the laboratory. In the laboratory, however, laughs may never come. Pollio et al (1972) admitted that they had never observed a "class 4 laugh" as they call it, a very long, hysterical outburst of laughter. Yet laughter is not infrequently like this, as we shall see.

From this review of the observational studies, it seems plausible to argue:

(i) that it is possible to elicit laughter from a baby aged four months but that the first laugh probably occurs earlier - though not in the presence of experimenters necessarily.

(ii) that stimuli which show sudden change and high intensity are amongst those that most often cause laughter, but that they are not the only ones to provoke laughter even in the ten months old baby. Examples of a slowly growing Ah ah sound (not sudden); whispering (low intensity) and, more complex, seeing mother crawl around, seeing mother suck baby's bottle. These suggest that the baby develops
an ability to (1) identify his own role and (2) to see the incongruity of his mother acting it out.

(iii) that as the baby grows older, he widens the range of what he can find funny. It is worth recalling that Sroufe and Wunsch (1972) found that their subjects could laugh at visual and social stimuli after seven months, they did not stop laughing at tactile or auditory stimuli. Recently, I attempted tickling and kissing the stomach of (1) my nineteen month old son and (2) my five year old son. Both laughed. The repertoire of what you can laugh at increases but the child does not stop enjoying earlier kinds of jokes though the circumstances in which he laughs at "younger" jokes may alter.

(iv) that repetition is crucial to laughter. Therefore, while a stimulus may have to be a sudden surprise sometimes, at other times, it is just what is expected that provokes the laughter.

(v) that children find a great deal of pleasure in setting up their own laughs - in creating humour as well as in reacting to it. Studies need to examine children's production of humour as well as their reactions to it.

(vi) that a young child laughs not to any particular stimulus but to a particular situation though
some stimuli when "delivered" by a familiar person seems always to evoke laughter. Ambrose noted that quite often Washburn's subjects whimpered or cried when she did the knee-drop, tried to tickle them or, even, played peek-abo. He cites this as evidence that the level of intensity that helps produce laughter must be middling and that this "middling" level fluctuates. Valentine (1942) noted, however, some infallible ways of getting his own children to laugh. In a next chapter, I shall offer similar evidence for some acts - like jiggling overhead and peek-abo - with my own two children. It seems likely that Valentine's children experienced "being laughed at by Daddy" and mine "being jiggled by Daddy" which is more than just a stimulus but a unit of behaviour. That unit of behaviour seems to provoke laughter quite constantly. One recalls Valentine's observation that by Day 115, Child B could be made to laugh - even if he was whimpering - by Valentine laughing at him. It is hardly an insight to suggest that a joke which went down well in one situation fails in another. Research needs, therefore, to broaden out from just presenting stimuli to children to see if they laugh at them. This approach will lead us later to examine the way in which the child perceives an ambiguous situation and how that perception may determine whether or not he laughs.
It is now time to turn to other approaches to the development of laughter.

THE PSYCHOANALYTIC TRADITION

Freud (1905) was one of the first writers to bring a scientific approach to the whole subject of laughter. The title of Freud's book, however, was *Jokes and Their Relation to the Unconscious*. Though much of what Freud has to say refers to laughter, his central theme remained the nature and power of jokes. Nearly all the subsequent psychoanalytic work on children and laughter has concentrated very heavily on children's jokes. This has been, perhaps, unfortunate. It would seem from Groch (1974) that most of the 'events' which children laugh at are probably not jokes. Wolfenstein, whose long study of children's humour centred on their jokes said that, often, children devised or repeated very imperfect versions of adult jokes. This did not however lead Wolfenstein into considering in much detail, the other things that make children laugh. Instead, she often analysed why children could not produce such "good" jokes. Psychoanalytic investigations into children's humour nearly always concentrate on verbal humour and usually examine humour in one of two settings - the classroom or the consulting room (Jacobson 1947). No studies seem to examine humour or laughter between parents and children. All in all, surprisingly few psychoanalysts have written in any way about children and laughter. Apart from Wolfenstein (1954), Grotjahn (1957) devoted some sections of his book, *Beyond Laughter*, to children's laughter. Jacobson (1947) wrote two interesting case histories that involved humour. Kris (1962) offered some ideas on the
relationship of ego development and the comic. These are all
the major contributions. More minor contributions were made
by Hester (1924), Herzfeld and Pragel (1929), Dooley (1934,
1941), Sachs (1973), King and King (1973) and Ranschoff (1975).
Not all of these writers were formally psychoanalysts but
their work reflects considerable sympathy for psychoanalytical
concepts about laughter.

Freud saw two separate forms of laughter. The first
was harmless wit which had no sexual or aggressive content.
The pleasure in such jokes came from the fact that they con­
densed a number of thoughts. The psyche took delight in such
economy of thought. The second sort of laughter was tenden­
tious laughter in which a joke allowed usually forbidden
thoughts to come through into the surface. Freud gave a
number of examples of sarcastic jokes made by polite Viennese
who would never permit themselves to be openly rude. An
example is:

Herr N said of a friend: "I drove with him
tete a bete".

Herr N would never have crudely called his friend a
beast or a fool. But, cloaked with humour, the thought
could break through. Similarly, dirty jokes permitted sexual
thoughts to be thought and spoken - and Freud saw the telling
of a dirty joke as a form of seduction in which the teller
tries to "seduce" his audience.

Freud wrote little specifically about children's jokes.
His theory did, however, lead to a number of psychoanalysts examining various aspects of children's humour, usually jokes. No specific predictions were made by Freud for children's laughter. But if jokes provide a way for oppressions to break through the usual defences of that psyche, one would expect certain ages to reflect certain preoccupations. During and soon after toilet-training one would expect jokes connected with that. During, and soon after, the oedipal phase, one would expect jokes that are connected with that, reflecting (or coping with) the anxiety of that phase of development.

As we shall see, no psychoanalytic investigation has done justice to the richness of Freudian ideas because the methodology of such empirical studies there have been has been flawed. And empirical here does not mean experimental.

Hester (1924) as part of the requirement for a Master's Thesis collected stories from children in the latency period and found that their favourite theme was that of falling — a common sexual symbol according to Freud. Dooley (1934) observed that patients sometimes produced humourous fantasies when working with their oedipal disappointments. One patient imagined herself as a tiny ant who was in danger of being crushed by her huge father. She felt this predicament to be funny. Dooley often found that patients experienced fantasies like the one above as funny or as a joke though they had not elaborated or condensed them into a joke. Dooley (1941) argued, in dealing with humour and masochism, that humour is closely involved with the super-ego. Classic Freudian theories argue that the super-ego is the heir of the Oedipal conflict.
When the child realises that he cannot 'have' his mother or that she cannot 'have' her father, it helps create a super-ego, a sort of conscience.

Kris (1938:1962) looked at the role of laughter in ego development. He argued that the essential pleasure in the comic allows one to look at things again as one did as a child. When adults talk nonsense, they are recapturing something from their childhood. It can be unnerving to observe how easily parents of young babies slip into and enjoy baby talk. But the fundamental point that Kris makes is that there is more to the pleasure of laughing or comedy than the fact that a joke embodies psychic economy as Freud suggested. When a child laughs, he is often mastering some anxiety or emotion in himself. To laugh is not, in itself, to conquer the anxiety since in order to manage to laugh the child needs already to have conquered the anxiety. Kris writes: "The comic alone cannot overcome emotion or it presupposes a certain control over anxiety before it can become effective. Once it has come into being, however, it combines a sense of mastery with a feeling of pleasure". For instance, Kris makes much of the observation (which, incidentally, will be challenged by some of the present writer's data) that a child only laughs at a movement after he has mastered it because before that it arouses too much anxiety. Kris offered an analysis of the double-edged character of the comic. What we laugh at is closely bound up with "past conflicts of the ego", and that laughter helps the ego to repeat its victory and in doing so once more to overcome half assimilated fears". This
is why children love joke situations to be repeated. For to repeat a joke or a funny situation is to return to the original conflict and experience a new victory over it.

After this analysis of laughter as a means of conquering anxiety or a thrust through habitual defences Kris then adds paradoxically "The compromise achieved by the comic is the foundation of a phenomenon well known to psychoanalysis: The comic as a mechanism of defence. We know it from clinical experience. Here it can appear in various guises to ward off master and ward off emotions, above all anxiety".

One should not be misled by the word master. It means simply that laughter gets the upper hand and prevents or represses any expression of the anxiety as Sachs (1973) and Ransohoff (1975) suggest. To laugh perpetuates the anxiety. Kris gives a graphic example. He discusses a case history of a man who was always cracking jokes and adds: "Psychoanalysis teaches us the outcome of such an attitude. The clown will not remove his cap and bells until he has conquered his anxiety".

Other analysts like Brill (1941) also make much of laughter as a defence mechanism. We appear to have, therefore, a position where psychoanalytic theory sees laughter both as a signal that anxiety has been conquered and how nice that it is which affords pleasure and relief; at the same time, laughter also prevents relief from anxiety since the patient laughs rather than confront what is wrong with him. No one seems too concerned by this paradox, however.
Kris did not provide any observational data of his own. The major study of children's laughter done by a psychoanalyst is that of Wolfenstein (1954). There are, sadly, a number of methodological problems with her study. Wolfenstein never makes it quite clear how she collected her data. Her book examines the humour of children from around four years up to around fifteen years but she never states how many children she talked to, let alone how many children of different ages. In her book, Wolfenstein examines a number of themes - joking and anxiety, sex, names and double meanings; riddles and the legend of the moron; the development of the joke facade and, finally, children's understanding of jokes. Her method is to use the jokes children told her — or, sometimes, children's reactions to particular jokes she told them — almost as a kind of illustration. It is sad to sound like a carping behaviourist but it is almost never possible to be sure how many subjects either produced or listened to a particular joke, let alone what the average reaction was. It would not matter much if Wolfenstein were offering specific case histories. It would be most valuable to be able to relate the sort of humour a child made up and liked to his own experiences and personal situation. A few times, Wolfenstein does this but only in the limited sense of explaining why one child liked one joke but she never broadens her analysis out to a full case history.

Wolfenstein argues that children use jokes "to alleviate their difficulties". She adds:

"They transform the painful into the enjoyable, turn
impossible wishes and the envied bigness and powers of the adult into something ridiculous, expose adult pretensions and parody their own frustrated striving". (p.12)

Very young children especially use jokes to cope with their envy of adults and school age children "turn their frustrated curiosity into a major theme of joking". Children try to transform a painful situation of being small, ignorant, fearful, into a joke, "especially their disappointment and envy in the oedipal phase". Wolfenstein then, in effect, illustrates this theme, by examples. For instance, a six year old girl Rita draws a picture of a man with huge ears topped by an even huger hat. Rita then relates: "Once there was a funny man. He has ears on one side and ears on the other. His hat was as big as the world". She laughs. "When people tried to walk they couldn't. Every time they had to jump inside his hat". (p.39)

Wolfenstein analyses this joke as follows:

"She thus makes a joke of the size of the penis which she symbolises as a hat and of its procreative power (all the people inside it). She exaggerates the size of what the man has so that it becomes at first incongruous (the oversized ears and hat), then incredible (the hat as big as the world)". Wolfenstein also argues that Rita jokingly reverses procreation since the entire population has to jump inside the hat or penis - a way of mocking the father's phallic power. Also, if people have to jump inside the hat or penis their wish for the "living reunion" with father-in-hat, is exposed as most inconvenient.
This analysis may appear bizarre or incredible. Certainly, there is no proof of it except how plausible it appears and, to the present writer, it appears elaborately implausible. Wolfenstein offers no details about Rita that might make it less so. On the other hand, her account of some jokes is quite convincing. A ten year old boy, Alfred, who had learning difficulties was worried that Wolfenstein might think him defective. One day he came in with his jacket and cap on backwards and said: "Some people think I'm backward. Isn't that ridiculous?" By deliberately making himself outwardly backwards through his clothes, Alfred ridicules the idea that he might be really backward. And as young children often place their clothes on backwards, Alfred can safely invoke this earlier stage. It also suggests his present learning problems will pass and become as trivial as those of dressing oneself. Wolfenstein concludes that children use jokes as a way of coping with feelings of anxiety, guilt or disappointment, and argues that mastery gives pleasure - a theme we shall return to.

In her second chapter, Wolfenstein examines Sex, Names and Double Meanings. She explains the fascination the young children have with playing with words as the result of two basic ambiguities that plague them namely am I a boy or a girl?: and am I loved or hated? Hence, children love games in which they switch names. Wolfenstein's best example of this, however, gives far from clear evidence. A group of 4 year old children were switching names. Herbert says to Carol: "You're Billy". And he says to Billy: "You're Carol".
He gives other children others’ names. Wolfenstein reports no specific laughs here. But when Herbert calls Susan by the teacher’s name and the teacher obligingly replies: “I’m Susan”, “That is hailed by particularly loud laughter from the children”, Wolfenstein adds. But if children are anxious about their identity, one would expect that it would be threatening to have the teacher assume a child’s identity. In fact, the laugh is simply explained by the teacher using a child’s name being supremely incongruous.

In her third chapter, Wolfenstein also explains that 9 year olds are addicted to Heinie jokes where Heinie is both a child’s name and a slang word for bottom. Here is an example of such a joke. The mother of Heinie asks a policeman:

“Have you seen my Heinie?” - i.e. my child

Policeman: “No, but I’d sure like to”. - i.e.

I’d love to see your bottom

Wolfenstein makes much of the fashion of such jokes.

In the fantasy of the joke, the child gets to see what he longs to see – the mother naked. It is surprising that Wolfenstein emphasises this so as in her next chapter – on jokes riddles and the legend of which appear round 6 years of age – she stresses the a-sexual nature of jokes in the latency period.

Wolfenstein stresses that children from, roughly 6 years to pre-puberty prefer riddles to jokes. Wolfenstein offers this, first, as a universal generalisation. She adds that
for children between 7 and 10 riddles make up 30% of all their jokes. In a footnote, Wolfenstein, then, says that this is true for children in expensive New York private schools, at least. She explains their liking for riddles as due to their precision. Riddles parody the questions (often sexual) which the child has asked and never really had answered. The child goes further in his love of riddles and parodies the whole of adult knowledge. The "correct" answer to a riddle is, often, really nonsense. Yet, conversely, the child can make use of the fact that he knows the answer to a riddle to lord it over children who don’t. These are rich ideas. Wolfenstein goes on to point out that the answer to a riddle depends on knowing without looking. As the "latency" child has begun to feel guilty about wanting too much sexual knowledge (looking), a devotion to riddles helps free him or her from the guilt that is still linked to wanting to know too much.

Unfortunately most of the examples Wolfenstein adduces are fairly explicitly sexual. If the love of riddles is a means of the child protecting itself from its earlier sexual curiosity, what is one to make of:

"What made Miss Tomato turn red?"
"She saw Mr. Green Pea".

Hardly subtle but hardly inexplicit.

Wolfenstein also analyses the riddle:

"Why does a fireman wear red suspenders?"
"To hold his pants up".

Again, the sexual theme is hardly concealed. In some
cases, there are elaborations of the riddle which are interesting. She adds: "An eight year old boy is led to think of suspenders as robbers" who, for her, symbolise castrators. The boy never says robbers for he asks: "Why don't they have gangster pictures on the suspenders. Then, they could really hold your pants up". Is this elaboration necessarily sexual?

Some of the riddles do seem much more likely to conceal a repressed sexual meaning like:

"What is a lady always looking for but hoping never to find?"

"A hole in her stocking".

But not all the riddles are like that.

Wolfenstein uses these examples as preludes to her analysis of moron jokes. The moron appears to be a lumbering adult figure, never a child, never a being the child would want to be, a Caliban figure. The moron is an aspect of themselves the children do not want to admit. Here is one joke:

"Why did the moron throw the clock out of the window?"

"Because he wanted to see time fly".

This joke is about flying (sex), about stupidity (what a silly idea!) and about aggression (throwing out). Many children of 6 or so fantasise throwing their younger siblings out of windows and, thereby, turning the clock back to when they were the only and adored child. Flying also symbolises
their desire for sexual experience while the idiocy of the riddle pokes fun at the idea of discovering anything sexual. If latency children have to repress their fantasies and, therefore, enjoy precise jokes like riddles, they would certainly condense much into their jokes. But can this riddle about the clock quite bear the interpretation Wolfenstein puts on it? After all, what is thrown out of the window? A clock. In his long list of sexual and other symbols in the Introductory Lectures, Freud never mentions a clock as either a sexual symbol or the sort of object that would stand for a sibling. A jewel case is the closest he gets because that contains sexual "treasure". And, then, what is it that flies? Time. Freud argued that planes, rockets and zeppelins are sexual symbols because they fly and wrote that dreams "in which the dreamer flies himself" are often dreams of sexual excitement. But time is neither an object an animal nor the dreamer but a complete abstraction. Even in terms of Freudian theory, Wolfenstein seems to be asking this joke to mean too much.

It would be interesting if one could show that children of different ages prefer jokes of a different structure. And, we shall see that cognitive theorists argue just this. From an emotional point of view, it is an attractive idea.

But Wolfenstein has really hardly begun to provide evidence for it. She offers only one - often a rather forced - interpretation of jokes. And in her concentration on riddles, she records few other "latency" jokes. Some that she does
like the "Heinie" jokes seem to contradict her main thesis. Moreover, one needs to know much more accurately the proportion of different jokes that children of different ages tell. Only the "suspenders" jokes seem to have to do with falling yet Hester (1924) found falling to be the main theme of latency jokes.

Yorukoglu (1977) claims that favourite jokes reflect the child's preoccupations. One child said his favourite joke centres round father being asked to define war. He stumbles. Mother enters and tells him to hurryup, be precise, do it. The child says it's fine; he now knows what war means. The joke protects. Clearly, overcoming anxiety is involved in some jokes but the psychoanalytic case seeks to make this the main, if not the only, motive for jokes. This seems unrealistic. For example, there is some recent evidence that children as young as five prefer neutral to aggressive jokes. According to Freudian theory, they really ought to prefer aggressive jokes since it would give them the chance to work off hostility - especially to their parents. King and King (1973) found they preferred bland cartoons. Moreover two studies of older children (Sachs 1973; Ranschoff 1975) found that laughter was used as a defence against anxiety and sexual longings. In other words, the laughter did not help overcome fears but rather the laughter provided a way of not facing the fear. The view that all laughter is a way of transforming a painful experience into a pleasant one is too simple. Yet psychoanalysts who admit this do not admit the paradox of their position. Laughter can be both a means of overcoming
anxiety and a way of repression - but one must explain how this feat is achieved. Wolfenstein does not do this. Moreover, she largely ignores a valuable suggestion of Freud's.

Freud (1905) stressed that one of the benefits of humour was that it allowed a person to laugh and, by implication, to cope or to accept his own mistakes or misfortunes. Frankl (1946) has made the ability to laugh at oneself a cornerstone of his own brand of therapy, logotherapy. Grotjahn (1971) briefly explored the relationship between motivation and humour. In the context of such approaches, Wolfenstein might have studied how aware children were that they were laughing at themselves sometimes to cope with or make less difficult a particular situation. But for Wolfenstein, when a child expresses anxiety through a joke, he is never conscious of that and so he can never use that skill to fortify himself. Take the joke Albert made at 10 about being backwards. Albert does not consciously see the point of his joke. It is not clear whether Wolfenstein did not find such examples because they did not happen or because she was not looking for them. This is a pity. Groch (1974) saw that 3 and 4 year olds tended to laugh sometimes when they had been the victim of some mishap like falling over a chair. I observed in a classroom a scene recently where a 5 year old rushed in wearing a cap. Two children saw him and laughed, saying "You're wearing a cap" upon which the boy also started to laugh - and then left the room to get rid of his cap. Children do learn to laugh at themselves - as Freud predicted - but Wolfenstein's study casts no light on that
since they never know consciously the meaning of what they are doing. And to use humour to grow in that way is, in fact, a supremely self-conscious act.

The review of the psychoanalytic work in this area leads one to the conclusion that most of the ideas have not been adequately investigated. The evidence for the fact that pleasure in laughter is linked to anxiety or mastering anxiety is stronger than for almost any other rota. Later, we shall review some more recent work not too removed from that notion. It seems possible that children of latency age should prefer jokes of a different structure but the evidence does not show it. It seems possible, too, that children love word-play because it reflects ambiguities about sex but it seems much likelier that children love puns because they are a way of stretching their linguistic skill. A pun by a 5 year old: "Adele (his 17 year old aunt) is going out with her boyfriend, her toyfriend", could be interpreted in terms of jealousy. The 5 year old reduces his rival from a man to a small, plastic thing, or it could be just a clever linguistic hit. It is a pity that Freud's work has not generated more meticulous research because some of the psychoanalytic ideas appear valid. But they are not - as most psychoanalytic writers on the subject would have it - the whole story.
Darwin (1872) argued that laughter was essentially a social response rather than a humorous one. Only as human beings evolved did they start to laugh because things were funny. Our ancestors did laugh before then to go by the facial expressions of some apes and, then, laughter must have been a social signal, a form of greeting or appeasement or, even, a kind of ritual that promoted unity in the primate group. Piddington (1933) made the social functions of laughter quite central. Bergson (1911) had already suggested that laughter is a social gesture, a device society uses to prevent behaviour that is too eccentric from getting out of hand. The titter and the guffaw are but tools of social control.

There is some evidence that laughter helps to create strong social and emotional bonds between parents and children. Valentine (1942), Ambrose (1963) as well as any decent book on child care would suggest this. Yet, there seem to be almost no studies that look at laughter as a device in the process of socialisation. There appear to be no studies on how laughter can be used as a tool of social control though it is often said that children hate being laughed at. The gaps in this field appear tremendous.

Much early research looked at whether it was true that if you laugh the world laughs with you and that, therefore, you can’t laugh alone. If laughter is really a social act,
solitary laughter ought to be rare. The evidence is not con­clusive though it is suggestive. Enders (1927) noted that children tended to laugh more when they were with another child than when they were with an adult. Kenderdine (1931) reported that nursery school children seldom laughed except when they were with others. Wilson (1931) found and her diarists reported that children tended not to laugh when they were by themselves. Ding and Jersild (1932) noted that an older child found it easier to laugh if there was another child or adult present. But younger preschool children were not influenced by such a presence. Perhaps, laughter is not basically a social act. It is just that, as we grow older, we feel embarrassed about laughing out loud by ourselves. Children (and adults) are still found to laugh by themselves. My 5 year old son will often hoot at cartoons that he watches by himself. It would be instructive to compare the situations in which children of different ages do laugh by themselves with those when they don't though, given company, they might. This has not been done to date, however.

The majority of contemporary studies on the social aspects of children's laughter have been done by Chapman, Foot and their co-workers. Much of their work is of method­ological interest. Chapman (1973) showed how laughter can elude the experimenter if he lets on he is watching or, even, just there. Chapman and Foot devised their mobile laboratory in which children are observed while they play or listen to jokes. Chapman (1976) has hinted at some of the problems of relying on funniness ratings made by children. The weakness of measurement techniques, Chapman notes, has its con­sequences. "...it remains to be demonstrated formally that,
for example, people laugh louder and are quicker to respond to humour when in company". Chapman and Foot are evolving a scale of mirth but this requires much systematic research.

Chapman (1973) showed that when children were listening to jokes through headphones, there was more laughter if both children knew they were listening to the same joke - even though each heard it in private on headphones. A joke shared is a joke enhanced. Chapman and Wright (1976) used 9 year old confederates who were trained to respond in particular ways while other children heard jokes through headphones. The more the confederates smiled and laughed and looked at the other children, the more these laughed and smiled. This could be due to the fact that if companions laugh and smile this is infectious and facilitates the same response. It could, alternatively, be a matter of information. If you see X as funny, I should find X as funny. Chapman (1974) had already found that it did not matter whether children thought they were sharing the same joke or a different one. It is not the sharing of humour that matters but the sharing of the social setting. In dyads, when the confederate laughed more, it increased the extent to which the subject laughed, smiled and looked at his companion as well as increasing the funniness ratings given to jokes or funny stories. Chapman and Wright (1976) found that even when a confederate did not laugh or smile at all, a subject would laugh more than when alone. The presence of someone - even if he does not look at you - helps children to laugh more. With adults this may not be the case.
Chapman (1975) also tested the notion that the outsider in a group is likely to laugh less. Chapman had pairs of confederates to exclude a third person - the subject - by smiling and laughing at each other. In such a situation, the subject laughed much less, if at all. The more the confederates ignored each other, looking and smiling less, the more the subject tended to laugh.

By altering seating arrangements in the laboratory, Chapman (1974) found that subjects tended to laugh most if they were gazing at each other side by side or face to face. The greater social intimacy there is, the more laughter is likely. A second experiment found that there was more laughter when children encroached more upon one another's body space.

These last two experiments have led Chapman to suggest that laughter acts as a safety valve against too much social arousal. Sitting face to face, producing much eye contact and encroaching each other's body space is a sign of high 'social arousal'. The child can't take so much. Laughter acts as a release. Chapman also argues, though it is not quite clear how his own experiments relate to this, that laughter alleviates various forms of motivational arousal in a way that is socially acceptable and physically safe. Chapman (1976) also reports a physiological experiment.

Chapman and Foot (1976) report some data on groups of children watching films which partly develop, and partly contradict, some of these results. They found that children were very sensitive to the presence of another companion of either sex. Their smiling and laughter were both enhanced. Girls
were more affected by the sex of their companion than boys. A boy made them laugh and smile more. The effect of an adult presence was ambiguous. If these develop the notion that it takes two— at least— to laugh, research on the distances between the children appeared to contradict the attractive findings with regard to body space. The distance between children up to 1 metre had no effect whatever on their laughter. The curious finding was also made that children laughed more if the film did not have a soundtrack.

Chapman and Foot (1976) readily admit that they are dealing with work in progress. They are looking at the way the social effects— and "causes"— of laughter differ between three and eight year olds. They do not claim to be studying the whole of laughter. They write: "Our aim in the current research is to explore the ways in which laughter and other responses to humour function in children's social encounters". An account of how laughter functions in such encounters is, at best, an indirect attack on the social purpose of laughter. Moreover, both Chapman and Foot individually, jointly and with co-workers nearly always study how children respond to funny stories— especially The Funny Green Hair and The Laughing Policeman. Yet the jokes children crack themselves are important. It could be that in forming social ties, in using laughter against other children by excluding them, in telling jokes in order to 'win' another child over, the jokes children make are far more crucial than the jokes they respond to. The methodological care that has led Chapman and Foot to devise their mobile laboratory where children can listen with headphones to funny stories is impressive. Forgetting the fact that
the situation may be a little artificial, it must be said
that it also neglects the way in which - either amongst
themselves or with adults - children create laughter.

In their latest statement of their position, Chapman,
Smith and Foot (1980) stress again their findings that the
mere presence of a partner increases the amount of laughter
and smiling and laughter. They also report findings which
show that two friends seeing cartoon slides together will get
a higher "mirth score" than non-friends. Both these studies
highlight the "immensely complex social responsiveness" and
the authors continue to argue that one function of laughter
is to act as a safety valve in the face of strong social
stimuli. While recommending their meticulous experimental
approach, Chapman, Smith and Foot note: "Recognising that
experimentation is not well suited to exploring when and
why children tell jokes, or create humour and comedy we
have broadened our methodology in several directions".
Still concentrating on humour and jokes, these researchers
promise results which will come from a mix of ethological,
sociometric, observational, questionnaire and interview
techniques. To date, however, their reports are still awaited.

Foot and Chapman (1976) offered then a modest definition
of their aims which are to examine "the ways in which the
social situation modifies by enhancement or inhibition the
expression of laughter to humour stimuli". But, this seemed
then a second-level question. The prime question must be
the extent to which laughter is a social response and, if so,
in what circumstances. Much of what Chapman and Foot say is tangentially revealing here but one longs for a more direct attack.

...
One of the common theories about laughter is that it is due to the perception of incongruous events or situations. Shultz (1972) spent much ingenuity in testing the ways in which subjects reacted to (i) jokes that presented an incongruity - say, a cow with a sign hanging round its neck reading OUT OF ORDER and (ii) jokes which offered a resolution to such an incongruity. Then, the cow not only has the sign but the milkmaid stomps angrily away from the milkless cow. It is possible to think of more gripping resolutions to jokes. It is also not so easy to be sure what joke is an incongruity joke and what joke is a resolution one. Rothbart (1976) takes one of Shultz's jokes:

"Why did the Cookie cry?"
"Because her mother was a wafer so long."

A wafer is, of course, away for

The answer appears to be a resolution of the joke but it also offers a new incongruity. What else can you say about a cookie that has a mother? Much of the debate on incongruity and resolution assumes that these are definite categories with jokes being either of one sort or the other. Shultz has even suggested that children at different developmental levels prefer different sorts of jokes. But an analysis of a real joke, a professional one, suggests how very elusive these definitions are.

In the New Yorker this joke appears:
where is the resolution here? it is not needed. one could have a second picture showing birds sitting in the nest or birds in a lounge. would that he fanny? sophisticated humor clearly needs no resolution. the relationship of the new yorker is hardly confined to three-axis rule.

given this emphasis on fanny, one might have expected a body of research on the role of which class of people is involved and their amazing.

moral situations — such as those observed in the baby and noted in dr. schlosberg's book (1972) are its first crawling. what one notes, then, is the baby has

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likely, that mother does not act like this. this

"unchildlike" perception may differ from the perception of
Where is the resolution here? It is not needed. One could have a second picture showing birds sitting in the nest or birds in a lounge. Would that be funnier? Sophisticated humour clearly needs no resolution. The readership of the New Yorker is hardly confined to three-year olds.

Given this emphasis on incongruity, one might have expected a body of researchers to investigate the point at which children can discern incongruities and find them amusing. Knowledge of this is anecdotal. Sroufe and Wunsch (1972) reported that at 0:10 a child could laugh if it saw its mother crawling on the floor – a month after it first crawled. That this was to do with incongruity is clear when one notes, too, that it was only in the month or so after the baby had learned to crawl that the child/baby began to laugh. Valentine (1942) noted laughter at incongruous situations early in the first year.

In my own observations of my own children I noted in R at 1 year the following behaviour. His mother, or I, would give him the dummy; then he would try to give us the dummy. As soon as the dummy reached mother's mouth, R laughed. This happened even if we took care not to make any loud noises.

This kind of incongruity seems to be a sort of role incongruity. Mother acts as baby. Baby 'knows' that usually baby acts this way if anybody does and, certainly, that mother does not act like this. This "sophisticated" perception may differ from the perception of
other incongruities, from which the child learns to perceive intellectual incongruities. The way in which the child manages to do this has, however, been very poorly charted. Most of the work involved has been McGhee's. McGhee starts out from a basic Piagetian position. Piaget made many observations that involved laughter in young children. Shultz (1976) reports that his own son, Kevin had made up a sensory-motor scheme for playing with toy cars. At 1:3, Kevin emptied his juice bottle and began to push it on the side making his "car" noises. He smiled and laughed. Shultz calls this "self-constructed" incongruity and argues that till about 6 or 8 years—before they move on to concrete operational thought, children may prefer simple incongruities rather than resolvable incongruities. There is not much conclusive evidence for this. As the New Yorker cartoon suggests, adult jokes often enjoy a mixture of resolution and incongruity humour. Children might go through a stage of preferring 'pure' resolution jokes but it has yet to be demonstrated conclusively.

Shultz reports that children at 7 switch from a preference of "incongruity" jokes to "resolution" jokes. At 11 to 12, he argues, there is a switch back. Rothbart and Pien (1976) showed 4 and 5 year olds visual jokes as opposed to Shultz's ones. Here 4 and 5 year olds were to show no preference for incongruity jokes. It may be that to grasp the point of resolution jokes that are verbal, one needs a much better vocabulary than the average 4 or 5 year old. How many children of that age know what a wafer is? It is not a question of
what jokes children are conceptually capable of but of their linguistic knowledge. Rothbart and Pien (1976) is very persuasive.

Shultz valuably points out that we very poorly understand the way in which children begin to enjoy and to manipulate incongruity, a process which Sroufe and Wunsch (1972) suggests starts at under 1 year. But having made that point, Shultz does not really offer a very plausible way of proceeding. His own use of incongruity and resolution seems, indeed, too simplistic. Rothbart and Pien (1976) have recently suggested an improved analysis of basic joke-types. They argue that the child in the laboratory is confronted not just by two sorts of joke but by, at least, four. They analyse the following:

1. Impossible incongruity - those which involve cookies crying for instance.

2. Possible incongruity - an example would be a grandee slipping on the proverbial banana peel. This may be unlikely but it is not impossible in the world as we know it. The tears of cookies are.

And if there are two sorts of incongruity, could there not be two sorts of resolution?

3. Complete resolution. Such a resolution settles the initial incongruity. An example of such a resolution would be Freud's joke about the two Jews at the bath-house which revolves round the two senses of taking a bath. Once you realise that taking a bath here means washing, not stealing, the resolution is complete and final.
4. Incomplete resolution where the matter is not so elegantly settled. An example would be where the girl stomped away from the OUT OF ORDER cow and said "Maybe tomorrow she'll work". That doesn't resolve the oddness of an OUT OF ORDER description being given to an animal.

So far, however, Rothbart and Pien have not managed to perform any kind of study that examines whether these distinctions - which sound plausible but not exhaustive - do emerge out of the way subjects respond to jokes. There is another problem too. It may well be that there are important differences in the ways that children react to visual and verbal humour. N. recently watched a Bugs Bunny cartoon in which Bugs was mistaken for a baby gorilla and swaddled in baby gear. This made N laugh. But the simple statement that Bugs Bunny is dressed up like a baby did not make N laugh. These differences need exploration. It may well be that very young children can grasp the notion of incongruity but that this is confused if you use jokes that are verbal and that depend on complex double meanings. Even then, children are capable of this quite young. Valentine (1942) reported that one child at 3:5 heard her mother read the newspaper headline: "Premier sweeps House off its feet" and made the swift repartee: "Houses aren't swept off their feet". (And, incidentally, does the repartee constitute an incongruity or a resolution 'joke'?)

Much of the research on incongruity and resolution jokes has been done in the framework of Piaget's developmental theory. This suggests, as we shall see, that before children
are about seven, there will be severe conceptual constraints of the kinds of joke they can see. As a result, very little knowledge has been built up about how children under 5, say, respond to incongruities. There are good indications, however, from Sroufe and Wunsch (1972), Sroufe and Walters (1976), Groch (1974), Valentine (1942) and my own data that children of this age can respond humorously to complicated incongruities and, also, to jokes which have a resolution. There needs to be work tracing in detail the development of this ability. For example, one might predict that it will take longer for a child to laugh at impossible incongruities than at possible ones. The lack of detailed naturalistic research here is regrettable.

One of the difficulties with cognitive research on humour and laughter is that often children do not laugh much at jokes in the experiments. Many experimenters honestly admit this and then blithely go on to study the humour response. This frequent inability to provoke laughter in the lab seems to stem from the positive awfulness of many of the jokes selected - Shultz's cookie joke is enough to make you cry. Also, it is difficult to measure mirth. Hence attention has shifted away to older children who can not only laugh but can also complete rating scales about funniness and attempt to explain the comprehension of humour. How children understand jokes has become a major topic in this field.

McGhee (1971, 1974, 1975, 1976) accepts Piaget's schema of intellectual development and has focussed his attention
largely on differences between 5 and 9 year old children in the appreciation of humour. The effect on humour of the transition to concrete operations is what often concerns McGhee though recently (1980) he has broadened his approach to look at creative aspects of humour. McGhee does not seem to take account of critics who have shown that Piaget under-estimates the logical skills of very young children (Donaldson: 1976 - Bryant: 1972). In a number of experiments McGhee wanted to see the "cognitive resources" available at different ages and to relate these to the level of humour that a child can understand. McGhee excluded tendentious jokes and focussed on 'logical' jokes. He distinguished two main kinds of jokes (i) novelty jokes and (ii) incongruity jokes. A joke was a novelty if it involved some physical discrepancy. Young children could grasp this but just as novel, not as incongruous. McGhee's favourite joke seems to be a dog carrying a car across a road which is, admittedly, a novel way of fouling the footpath. An incongruity joke involves no such aberration. This time, McGhee conjurs up a household in which the wife loves bargains. She sees dog-soap on sale super-cheap. She has to buy it. Then, of course, Father adds: "We'll have to buy a dog now". The incongruity is buying dog-soap as a bargain which forces you to buy a dog which means, of course, that it was no bargain.

McGhee tested 90 boys of age 5, 7 and 9. He first gave them a Piaget test to determine if they were conscious of conservation of mass and weight. Then, each child was given a variety of jokes. They were asked to say if the joke was not funny at all, quite funny or very funny and also asked why it was funny and how they would change it in
order to make it not funny.

The 5 year olds enjoyed all the jokes but were much less able to "interpret" them. There was a small tendency for the 7 and 9 year olds to appreciate more incongruity cartoons that had captions. With novelty jokes, all groups including the 5 year olds could alter the jokes so as to remove the humour. With the incongruity jokes, the 7 year olds showed some traces of this skill especially with the incongruity jokes and cartoons with captions. The 9 year olds could do it but did not seem that interested.

McGhee's explanation of why 5 year old children managed to laugh at these jokes is interesting. First, he argues that children of this age can remember well enough to know that it is novel for a dog to carry a car. This appears to imply that children of this age will laugh at any odd juxtaposition - a proposition not tested and which seems unlikely. It's hard enough to get them to laugh at certain experimental jokes. Secondly, it supposes that children who respond to the incongruity jokes do so because they laugh for the wrong reason or for social reasons. McGhee bases his argument for this on the point that they can't interpret the humour. And not only can they not interpret it, it is beyond their logical grasp according to Piaget's theory.

McGhee argues that the ability to perceive incongruous relationships depends on the use of logic. If we can assume, that the pre-operational child is unable to experience incongruity, it would follow that if an expectation is "dis-confirmed",
that is if something unexpected happens, then "it would follow that expectancy disconfirmation for such a child can be experienced only as novelty". But then the child ought not to be able to distinguish between, say, frightening novelties and funny novelties. Also, repeated incongruities would no longer be novel and, so, unfunny. But young children like jokes to be repeated and can certainly sometimes distinguish the new and fearful from the new and funny.

The young child ought not be able to appreciate the logic in the dog-soap joke though he could grasp the funny novelty of the dog ferrying the car across the road. McGhee found that 5 year olds neither could explain why the dog-soap joke was funny or alter it so as to make it unfunny. But since McGhee found that conservers of weight could understand jokes that required them to be conservers of mass, the ability to dissect and reproduce the logic of a joke may be a later skill than simply getting a joke. I can laugh before I can explain why I have laughed.

In looking at psychoanalysis, we examined the idea that humour either enables a child to master an emotionally difficult situation or expresses his or her mastery of it. McGhee (1971) points out that this is a valuable idea and he himself studied how mastering links with humour. McGhee is not, however, interested in emotional control but in conceptual mastery. Zigler, Levine, Gould (1966) suggested that children enjoyed most jokes that stretched them. McGhee developed their work. McGhee wanted to see if children who
had just mastered a particular intellectual skill enjoyed those jokes which depended on using that new-found skill the most. Zigler, Levine, Gould (1966) had given students jokes of various degrees of difficulty. Jokes that were moderately difficult to understand were rated the funniest and provoked most observed laughter. If a child had just acquired the conservation of weight, the 10 lbs. of mashed potato joke would "stretch" him still somewhat. Conservation of weight might not be an automatic act yet. He would still get some sense of triumph in seeing the joke. The same would go for recently acquired conservation of mass. Children who had just mastered that would also find it (i) possible to "get" the joke and (ii) a sense of stretching their capabilities.

Shultz (1976) has argued that cognitive tension is increased or aroused by an incongruity that doesn't easily fall into place so that it can be explained away. There is, incidentally, no evidence to support this not implausible view. How do you measure cognitive arousal? People don't seek out the "answer" to a joke as they do to a riddle. It's handed to them. People aren't haunted if they aren't told the punch-line to a joke as they can be if you fail to give them the answer to a riddle. The details of McGhee's (1976) experiment are as follows:

McGhee developed specific jokes that were based on violations of conservation and class inclusion. Since these jokes should become less challenging with age, older children should enjoy them less. A typical joke was: Mr. Jones ordered a pizza for dinner. The waiter asked whether to
cut it into 6 or 8 pieces. Jones said: "Oh 6, I could never eat 8".

Having tested the children to see which were conservers of weight, conservers of mass, McGhee found that (i) children often did not smile or laugh much at these jokes though they did rate them as quite funny. Maybe they felt they had to. Also, McGhee found that conservers of weight only could grasp all the jokes that broke conservation rules. They understood the pizza joke as well as jokes like a boy who said he could not lift a 10 lb bag of raw potatoes but that he could lift a 10 lb bag of mashed potatoes. These children were roughly a year too logical according to Piaget. McGhee found that older children - i.e. 10.5 and students - found the jokes much less funny than the children in conceptual transition with average age 6.8 for weight or 7.6 for mass. This is all very well but McGhee fails to explain how the conservers of mass who were not conservers of weight managed to get jokes of both kinds. He adds, a little lamely that, perhaps, the ability to grasp logical jokes generalises early on when the 6 to 7 year old child is beginning to get all the various principles of conservation.

From McGhee's own careful work in this field, it seems clear that neither of the two hypotheses he set out to test can really have been said to have been validated. Children do not need to have mastered a certain logical structure in the Piagetian sense before they can get jokes that violate that structure. There is no formal sense in which understanding the principle of the conservation of weight ought to allow
you, ipso facto, to understand the principle of the con-
servation of mass or of class inclusion. Secondly, the
evidence for the fact that children enjoy jokes most which
stretch them is, at worst, doubtful empirically and, at best,
capable of many differing interpretations. McGhee relies
heavily on Shultz' findings (1974) that children and students
laughed most when they solved difficult riddles and also on
similar findings of Hester's with anagrams (1924). But there
is every difference between a situation being perceived as
one that is a problem-solving one and one that is a joke
one.

Let me take a real instance. I watched MASH with N
who is 5.6. At one point, the MASH unit desperately needed
an extra surgeon. Radar, the "fixer" Corporal, rang round
other medical units to find one and the following exchange
took place. Radar: "They can send us a vet or a gynaec-
ologist". Colonel: "That's wonderful. We need a surgeon
so we can have a vet or a gyno". N laughed heartily. Clearly,
this joke must have been partly difficult - he knows what
surgeon means and what vet means but does not know what
gynaecologist means. The ideas involved are quite subtle.
Still, it seemed he did not laugh more at this joke than at
other jokes and, in one sense, he seemed to be testing out
whether it was right to laugh here. I was also laughing.
Most jokes in MASH and children's T.V. programmes do not
stretch, however, and make adults and children laugh.

There is something peculiar about the whole issue of
whether children enjoy most jokes that stretch them. How
many jokes are difficult? It is almost an odd question. The issue, however, is linked to the question of cognitive arousal which will be the focus of the last part of this review. If jokes are "difficult", they should lead to more cognitive "arousal" and hence the relief from their resolution ought to be greater and, also, the amount of laughter and perception of humour ought to be greater. That this is a convoluted equation seems clear. We shall later examine the evidence for cognitive arousal in the specific sense that a particular sequence of thoughts that are not frightening should lead specifically to more arousal. But that is the rationale for this line of experimentation. The harder a joke, the more the arousal. But such an approach presumes that a good proportion of our daily jokes are ones that are hard to get. This seems to go against experiences. Jokes often cling to familiar patterns, topics, ideas: jokes can be very predictable. How many jokes involve new knowledge? Few jokes in real-life are difficult in that sense. If they involve arousal, it may be because of sexual or aggressive content, not because of logical form. Hence a model that is based on how people resolve the logical problem that they are "set" by jokes is likely to be artificial to some extent.

McGhee (1974) was also interested in the idea that children test what a joke is. The experiment he performed was a very limited one, however. He gave children a number of alternatives to fill in as possible punch-lines and saw how well they could explain their choices. An instance is: "Why did
the old man and his wife drive up to the North Pole?"
Funny Reply: "They wanted to see the Xmas Seals". Serious Reply: "To see how cold it was". They were also given Absurdity Riddles: "Why did the elephant lie across the sidewalk?" Funny Reply: "To trip the ants". Serious Reply: "To rest".

McGhee showed the children (age 8 to 12) 8 wordplay and 8 absurdity jokes. Their reactions were rated and they were also asked to rate the funniness of the jokes. They were then asked what the difference was between "jokes" that were found funny and those that were not. The children were then given 3 more riddles and asked to give a funny answer of their own. Boys from Grade 4 (50%) to Grade 6 (90%) were good at justifying absurdity riddles but much less good at wordplay riddles. Girls were less good at absurdity riddles but a little better at wordplay. McGhee found there was very little insight into the mechanics of wordplay. At Grade 4, no boy or girl could make a general statement about humour though they could still throw up quite apt puns. About 60% of the subjects who could make up a nice absurdity could not explain in what are, after all, theoretical terms why humour is humour. To be able to explain why you laugh is not a necessary condition for laughing. Incidentally, my own observations suggest that children can sometimes explain why they laugh if it is an outburst of laughter, almost hysterical, rather than a humourous remark.

The other interesting point is that though McGhee has
shown that laughing at a particular joke does not mean being conscious of why you laugh or find something funny, he also attacked the problem of the cognitive context of laughter and joking. One of the most intriguing notions about humour is whether there are any differences between the situation in which a joke is prepared for and that in which it is a surprise. If I say "I am now going to tell a joke" or if I accidentally or unexpectedly tell a joke, it comes out. There obviously are jokes of both sorts. McGhee (1975) has done a valuable study of the way in which the fantasy element is crucial for jokes. An event, he argues, has first to be demarcated as "not real" for it to be funny.

McGhee and Johnson (1975) worked on Reality-Fantasy as a major factor in determining whether a particular event was funny or not. McGhee and Johnson set up a series of situations in which children were asked to rate jokes. First they were given either a reality or a fantasy background before seeing or hearing a joke. In the reality situation, E surreptitiously removed some bits of clay so that a balance that ought to have balanced did not and what appeared to be the bigger ball (spherically) seemed to weigh less. Children were asked how unexpected and how funny it is. In the reality-fantasy, children were told stories like the 10 lb mashed potato bag story and then they were given the same experience as the reality children. In the fantasy condition, children were just told 2 stories. In the fantasy-joke condition, children were specifically told that they would hear jokes. First, they heard the 2 stories.
McGhee and Johnson found that the fantasy joke children gave the highest funniness ratings and laughed most. These were followed by fantasy children, reality fantasy children, followed by reality children who had a hard time seeing the event as funny at all. There was the odd result that highly surprised children found jokes funny but did not laugh much. Again differences between laughter and ratings emerge. This experiment is a novel departure and a welcome one. A joke has to be seen — i.e. for what it is — a joke — and not a serious act in order for there to be a joke. It is probable that this is often true. Young children often preface a joke by saying "I am going to tell you a joke" or "Here's a joke". Adults are also susceptible to this kind of behaviour. But laughter does catch us unawares sometimes. Here is a recent adult example. I attended a case conference as part of the process of researching mental health facilities for a film. In that conference, a therapist outlined the case of a 27 year old Syrian who was a virgin and was fearful of sex. He was also socially inexperienced though he did now have a girl friend. The therapist gave him a book of sex instruction and also generalised support. She told the group: "I also told him that he just didn't have to be a passive person who accepted everything that was done to him". Slight pause and then I added ".... which he passively accepted". Boorish as it may be to report success with one's own jokes, this caused much laughter in a situation where, first, little laughter was expected and, second, I was expected to be a silent observer. The group were not slightly slow to laugh. The testing of
this kind of event is difficult but important. Do we have to rearrange our perceptions before we laugh knowing that it is permissible to laugh now? Or do we actually learn to be ready to laugh in most situations. Rothbart (1976) argues forcibly that the situation has to be seen as not a problem-solving one for the child to laugh. McGhee and Johnson suggest the same. Do we perhaps, develop the ability to be ready to laugh generally as we grow up so that we actually have to be very clear that this is not a laughing situation in order not to laugh? There are also individual differences which Eysenck (1949) found in the disposition to laugh and to humour but these have not been investigated at all in recent research though Brodzinsky and Rightmyer (1980) and McGhee (1980) plead they should be.

It will by now be evident that research has led to some but not that much clarity. Children of 4, 5 and 9 laugh roughly the same extent at different kinds of jokes but the older children interpret these jokes more easily. With artificial jokes that often are quite close to riddles, older children laugh a little less than younger ones. This may be due to the fact that older children get bored after say, ten jokes of exactly the same kind of logical type like McGhee's. The evidence for children developing through stages of preferring different types of jokes is rather poor. So is the evidence for children liking difficult jokes best though, theoretically, this is an intriguing idea.

Research needs to free itself from the fascination of Piaget's stages of development. Bryant (1972) and Bower (1974) have shown clearly how inadequate Piaget's stages are if they are taken as absolutes. Young children are more logical than
Piaget allows if the concepts they have to manipulate logically are offered in ways that they can grasp. Given that:

(i) There needs to be detailed working looking at the kinds of jokes - preferably in real life - that children enjoy. It is likely that not even the Rothbart and Pien (1976) analysis exhausts all types of jokes.

(ii) There also needs to be work on the relationship between cognitive jokes, or, more precisely, the structure of cognitive jokes and the structure of tendentious jokes. Does a joke about excrement have to have a structure comparable to that of an intellectual joke? If not, why not? Does an aggressive joke have to have the same kind of structure as an intellectual structure or can it make do with a simpler form? The division of jokes into purely cognitive ones may not be that helpful.

(iii) There needs to be work into the relationship between laughing at a joke and understanding it. Even understanding a joke can have differing elements. It can mean the ability to interpret a joke or the ability to reproduce a similar sort of joke? However, there should be a definite attempt not to become obsessed with the study of humour comprehension because this is technically easier than actually seeing what makes children laugh. The artificial nature of many of the jokes used in the laboratory makes it very hard to know what they imply about real-life laughter and humour. To judge a child's capacity for humour on how well he can dissect a joke is an oddity which the discipline's mania
for respectable results forces on workers, and, of course, workers force on themselves. How competent the explanations at different ages are would be interesting, however.

(iv) At what age do children laugh at what kind of "cognitive" jokes. This main point is not resolved.

(v) Work needs to be done on repetitiveness. Many jokes repeat very well. What are the reasons for that from the cognitive point of view?

(vi) There needs to be work on the way in which fantasy is important for joke perception of humour. What is the relationship between early play and early humour? McGhee and Johnson (1975) have opened up a most interesting area of work that needs further exploration.

(vii) Finally, there needs to be work on when mature forms of humour emerge such as being able to laugh at or make fun of themselves and to use repartee. Links between the intellectual mastery of a joke and emotionally mastering situations ought to be analysed.

The work on cognitive aspects of humour often has focussed on what seem to be oddly intricate questions given that we don't really as yet have a convincing model of what jokes children at different ages can laugh at, enjoy and understand. That must remain the prime objective especially examining naturalistic jokes settings and situations than hitherto.

McGhee and Chapman (1980) in their preface to Children's
Humour (1980) trumpet that: "This volume represents a further milestone in the resurgence of interest in humour and humour-related behaviour which has characterised the decade of the seventies". They list, as signs of this interest that "continues to spiral upwards", 106 publications on humour and laughter in children from 1970 - 1979. Yet of these only 12 deal with laughter and only Groch (1974) and McGhee (1980) had any hint of naturalistic observation. In McGhee's case, children in a camp were observed for a series of eight one minute periods and rated against each other for:

(i) "Overall frequency of laughter in social interaction"

(ii) "Frequency of behavioural attempts to initiate humour"

(iii) "Frequency of verbal attempts to initiate humour"

(iv) "Amount of hostility apparent in the child's laughter"

Reliabilities were high; 0.72 to 0.89 for the older group and 0.74 to 1.00 (!!) for the younger group. But notice what an indirect exercise this is. Even presented with children in vivo, the psychologist gets ratings not of specifically when and at what they actually laugh, but how much in relation to each other they laugh. The children are rated against each other. McGhee does at least link this data with previous data on the children.
Nevertheless, some of the issues explored in recent work are obviously important - challenge in jokes, the more precise analysis of incongruity and, especially, the relationship between seeing a situation as a play or a fantasy and seeing a joke.

Humour with no resolution
AROUSAL THEORIES

In the last section, the question of cognitive arousal raised its confused head. The place of arousal has proved, and will probably continue to prove, important in the evolution of research into laughter and humour. There have recently been a number of theoretical approaches offered that all owe a debt to Berlyne (1960 : 1972). Berlyne argued that we enjoy humour because it allows us to experience either arousal reductions or arousal jags. An arousal jag is a moderate alteration in arousal. So, for example, going from a state of mid-arousal to a rather high (but not very high) state of arousal is a jag and ought to be pleasurable. Rothbart (1976) expresses the details of Berlyne's theory as follows: "In Berlyne's view, moderate boosts in arousal may lead to pleasure while high levels of arousal are aversive. In the arousal jag, slight and transitory jumps in arousal become pleasurable as a consequence of the drop in arousal that terminates them quickly". Berlyne elaborated this. He wrote (1972) "laughter ... seems restricted to situations in which a period or a moment of high arousal is followed by sudden or pronounced arousal reduction. In short, our speculation is that humour and laughter do not work through pure arousal boosts. They appear to require arousal jags or arousal boost jags". Rothbart (1976) argues that Berlyne is suggesting that either an arousal jag or a sudden decrease from high arousal leads to humour. The arousal boost does not lead to humour. We shall return to these italics which seem to suggest that arousal causes humour.
There appears to be some confusion as to the kind of arousal that is being discussed when humour is at issue. Shultz (1976) makes much of cognitive arousal. When Berlyne argues that collative variables like novelty affect arousal, he seems to be talking of arousal that is different from physiological arousal. Most of the collative variables Berlyne identifies, precisely as novelty does, also involve cognitive processes. I must recognise something new or as frightening so that arousal first increases. In other words, it would seem that one of the reasons why we enjoy humour and laughter is because it reduces cognitive arousal or because it leads to jags in cognitive arousal.

There are some clear problems with this. The most obvious is how do we actually measure cognitive arousal? Berlyne does not offer any very clear indication. Shultz does not offer any notion of how we measure or identify cognitive arousal, McGhee does not either. Yet much of McGhee's work implies that jokes which are difficult and challenging lead to greater cognitive arousal which it is a greater relief to resolve and which leads therefore to greater laughter.

Cognitive arousal exists so far in the mind of the believer as an intervening variable which does not appear to clarify the data. That is not to say that arousal is not important. Physiological arousal may be involved with laughter and with humour in some way. But, it could be argued that purely intellectual and cognitive jokes which whip up no tabooed or emotive subjects are unlikely to evoke that much physiological arousal. But the interest that cognitive theorists like Shultz and McGhee have in cognitive arousal
supposes that quite unemotive stimuli incongruously placed create cognitive tension and arousal.

When it comes to physiological arousal, there is some evidence from adults and a little evidence from children. Schachter and Singer (1962) showed how arousal could affect perceptions of humour. They gave subjects either epinephrine or adrenaline injections which were arousing or chlorpromazine which was basically tranquilising and reduced the level of conventional physiological measures of arousal. Schachter and Wheeler found that subjects who had had the noradrenaline which increased their level of arousal perceived a funny film as funnier and a frightening film as more frightening. In other words, being highly aroused intensifies the experience of humour: it does not, however, create it, it seems. These findings do little to reinforce the arousal jag or reduction theory - a throwback to Herbert Spencer's notion that we laugh in order to discharge excess motor energy.

In fact, the evidence with adults is the opposite of what one might expect from Berlyne's theory. Laughter and humour does not decrease physiological indexes of arousal. Martin (1905) reported increased heart rate and breathing in subjects who found cartoons amusing. Averill (1969) found heart rate went up with mirth and concluded that humour led to greater arousal of the sympathetic nervous system. Fry (1969) in experiments that have sometimes been questioned claimed to show that both heart rate and ECG increases during laughter. Jones and Harris (1971) correlated funniness of cartoons with cardiac acceleration. Langevin and Day found heart rate and
GSR changes - both tending to increase in laughter. (1972) All these designs were relatively crude with measures being taken in response to cartoons where arousal and humour were measured just at one point.

The most convincing evidence, however, comes from a study by Chapman (1976) and one by Godkewitsch (1976). In both these studies, undergraduate students were used and, as we shall see, the situation with children is intriguingly different. Chapman (1976) studies E.M.G. (electromyograph) responses while subjects heard jokes. His subjects were female undergraduates as were Godkewitsch's.

Godkewitsch ingeniously divided the presentation of his jokes into three parts. First, subjects saw for 15 seconds one part of the joke body; then, for another 15 seconds, subjects saw the second part of the joke body. Finally, again for 15 seconds, subjects saw the actual punch line. Godkewitsch used two kinds of jokes - sex-jokes and "harmless" jokes. He also used female subjects exclusively since women show a more definite physiological response and since he thought the sex-jokes would show clearer arousal effects with them. Godkewitsch measured heart rate, galvanic skin response and basal skin response, during both the presentation of the joke bodies and the delivery of the punch-line. He could, therefore, ingeniously measure whether or not arousal grew during the build up of the joke and was dissipated by the punch-line. He continued measuring for 15 seconds after the delivery of the punch-line. It is telling, incidentally, that there is no measure of that intriguing construct - cognitive arousal.
There were 12 sex-jokes and 12 quite "harmless" jokes.

Godkewitsch's results were, certainly, interesting. He looked essentially at heart rate, skin conductance and also asked for verbal self reports so that subjects could say how aroused they felt. All these three measures correlated well and suggested that a person's estimate of how aroused he or she is may well suffice to measure arousal in many situations. Godkewitsch found that during the presentation of the joke bodies heart rate tended to increase. Only one measure of skin conductance rose significantly. There was no evidence of any decrease in arousal after the punch-line. There was sign of continuing rise in arousal but this was much more marked with the sex-jokes where it was not so much incongruity as emotional subject matter that seems likely to have contributed to the arousal.

Chapman's joke was also not an incongruous one that had no emotional overtures. It was about two brothers competing for gifts and involved manure. Hardly natural material.

In Godkewitsch's study, during the presentation of the actual joke punch-lines, all the measures of arousal seemed to increase. Basal skin resistance and galvanic skin resistance increase. The heart rate peak went up. Verbal self reports also indicated a higher degree of arousal. There was no sign of cardiac deceleration. Moreover, the actual degree of humour experienced - judged by how funny subjects rated the jokes - appeared to vary positively with
arousal. In other words, the more aroused a subject was, the more likely she was to find a joke particularly funny. This squares with the Schachter and Singer (1962) findings. On the other hand, it could also be that the funnier a person finds a joke, the more it arouses them. There is no way of distinguishing the two and the two mechanisms may in certain situations overlap.

Chapman (1976) measured EMG by the frontalis muscles of 18 female undergraduate students while they listened to a joke through headphones. Chapman had used these subjects before and was able to divide them into those who traditionally rated jokes highly funny and rather unfunny. He measured EMG every 10 seconds into the telling of the joke and up to 20 seconds after the punch-line. He found that EMG rose regularly during the telling of the joke. There was a positive association between subjective evaluation of a joke and levels of arousal. So, Chapman also found that arousal increases during the presentation of humour.

The findings of both Godkewitsch and Chapman suggest what seems to be a paradoxical situation. With adults, or, at least, with female undergraduates, arousal appears to increase during the presentation of a joke. In other words, when the to-be-resolved incongruity is being presented and, also, after the resolution is given, arousal increases. It has already been pointed out that half of Godkewitsch's jokes and Chapman's one joke are not "conceptual". The effects are much less marked, Godkewitsch found, with the non-sexual jokes. This is very different from the model that
Berlyne, Shultz and others would like to present where the resolution of the joke is like the solution to a riddle and decreases the arousal built up during the joke body.

Curiously, however, the one study to have looked at levels of arousal in children has come to a radically different conclusion. Sroufe and Wunsch (1972) found that after young children laughed there was a massive cardiac deceleration. They argued that the baby did not know whether or not the stimulus confronting it was threatening or not. Once the baby found that it was not frightening and discharged that massive energy by laughing. Sroufe and Waters (1976) noticed similarly a muscular quieting in the instant before a baby laughed - a sign of the impending "discharge of energy".

In observations of my own children - especially at three with N - there seems to be a period when frightening situations seem particularly to provoke laughter. Here is an example of N at 3:6:

"I threaten to jump on Nicholas. He knows quite well that I am not going to jump really but, at the moment that I stand over him, he begins to laugh".

A few days earlier, we had been playing a chase game and I finally caught up with Nicholas on the rug. Looming over him, arms outstretched, he laughs - the laughter here was usually quite a hysterical sort of laughter.

Moreover, N certainly often invited one to play this
kind of frightening game as if it was a situation that he enjoyed - and wanted to test. In this, his behaviour resembled a young child asking you to play peek-a-boo. During the actual lead up to the laughter, N seemed to be highly aroused and, sometimes, the laughter would appear to calm him down. Sometimes, it just provoked an additional fit of laughter.

Rothbart (1973) argues that moderate increases in arousal will be pleasurable and lead to humour as "long as they are associated with the subject's judgment that they are in a situation that is a "safe" or a non-threatening one". This is an intriguing and plausible thesis but, as we shall see, not a complete one.

On the basis of the evidence so far (and it is not extensive) it seems arguable that very young children often do not know whether a situation is one that is funny or not. They can only laugh when they have become sure it is a safe situation - and so there is a longish latency to the laugh which is also accompanied by a loss of arousal. The laughter is much more relief than comic. As children grow older - say 3 may be a critical age - there are certain kinds of situations which they know are safe situations but others, especially involving aggression, about which they doubt. As a rule they like to and need to test whether it is a safe situation. As a result, one might expect very volatile results which sometimes gives high arousal and sometimes relief. It is noticeable that as they get older, there are new levels of humour which children do not know how to respond to. At 5:6 N finds it difficult to cope with sarcastic teasing. Sometimes, of
course, it gets him in the emotional raw but other times, he is confused as to whether or not it is a funny but nice remark or actually a funny and hostile remark. Children have to learn to understand quite different levels of humour. N can now (5:6) sometimes use humour for his own ends in a situation that is not such a safe one.

4/12/76: At breakfast, I am quite angry with N because he is not sitting down. I tell him to sit down as I get up to take the toast off. For a few days, N has been quite angry with me for getting angry with him. "You stand up, I sit down, I stand up, you sit down, you stand up, I sit down", he grins at me. And I have to laugh.

But he is not at all consistent in being able to produce or to react to such a sort of humour.

Rothbart (1976) has argued that humour involves either arousal jags as suggested by Berlyne provided that these jags do not take arousal too high and as long as the basic situation is perceived as safe. The notion of the arousal jag seems inadequate perhaps, since laughter is followed often not so much by fluctuations in arousal but by more or less a steady rise. But the perception that a situation is safe is important though it only seems to apply to some forms of laughter and humour. There are many situations in which it seems odd to talk of safety. Children often laugh while playing or talking.

We are at dinner N is 3:6.
Aileen : You're a dried prune, Nicky.
David : I'm a wet prune.
Nicky : You can be a watermelon. And you can be a watermelon.
Aileen : I don't want to be the same thing as him.
Nicky : Then you can be a mosquito.
Aileen : What's David?
Nicky : David can be a lump. (N laughs).
David : A lump?
Nicky : David can be a light. (N laughs).
David : That's better.
Nicky : You can be a pie. (N laughs). You can be a lump of light. (N laughs). You can be a lamp. (N laughs). And a shrimp. (laughs)

The last statement is interesting. There is a quickening as David and Aileen are cast as a variety of objects. This sort of imaginative play in which much laughter is produced does not really fit the safety condition except on a banal level. The relationship between play and laughter intuitively seems important but to date, hardly investigated. Miller (1968) in her book on play only mentions laughter twice.

If, therefore, adults perceive joke situations as not threatening and so can allow their degree of arousal to rise while young children do not, it must follow that there is a cross over stage. There comes a point during which
children learn what sort of situation that might seem menacing is, in fact, funny, test their perception of it and become adept at this very social skill. We mock those who don't know when to laugh. It is arguable that, for different kinds of humour, this process happens at different ages. It does not take that long for a child to realise that Daddy playing the Dinosaur is not going to eat him up. On the other hand it is much harder to identify joke attacks and sarcasm as being safe when they are safe, in fact.

What is being suggested is that there are a number of different stages in the development of laughter and that these stages involve different levels of both cognitive, social and emotional complexity.

At the beginning of this section, italics were used to underline sentences like: "the sudden decrease from high levels of arousal lead to humour", or, "the arousal boost does not lead to humour". It is important to understand at what sort of level arousal models and humour work. It is bizarre to say that arousal leads to humour with the implication that arousal causes humour even in a safe environment. Such an explanation at a physiological level is important evidence but it does not make it meaningful to claim that I laugh because I am aroused. That is only done, probably, because there has been some discussion of cognitive arousal. Writers on the subject have not been very careful to make distinctions between physiological arousal and cognitive arousal. There have been to date no studies of
EEG or evoked potential which could, conceivably, inform us about the state of the cortex (which is not the same as cognitive arousal). It would be wrong to infer from that evidence arousal leads or does not lead to humour. There could be situations - though few have been recorded - where arousal is such that a person laughs inappropriately. But "correct" laughter or humour can not be due to arousal. Rather, arousal itself partly depends on the actual content of a joke since in the studies by Godkewitsch and Chapman the level of arousal rose during the telling of non-neutral jokes. In other words, it is because of what the subject sees the joke to be about that it increases arousal. Godkewitsch tacitly accepted this when he chose female subjects because they might react more clearly to the sex jokes but he does not comment except to suggest that arousal might act "as a mediating agent between perceived properties of jokes and the humour response". It should be clear what sort of things about laughter and humour an arousal theory can tell us. And, when dealing with the laugh that is a repartee, arousal cannot change very much so that Godkewitsch argues "that humour cannot be explained simply in terms of cues that operate independently of arousal". Perhaps, an unaroused person will not laugh but to suggest that arousal always is a mediating or a major factor in when we laugh and how much we laugh is, perhaps, excessive.

To conclude:
There would appear to be different kinds of physiological response among children and among adults when they laugh. It is suggested that children have to learn when to laugh as they are less sure when to laugh and have to learn to perceive a situation as not being a frightening one. They test such situations by asking parents and other children to play with and repeat them. It is also argued that there is no one definite period of learning - i.e. at the age of four children learn like Valentine could be taken to have suggested. Rather, different kinds of humour require different levels of conceptual and emotional maturity before they can be judged as safe. Sometimes, as in one example for N, children can use humour to make a situation safe just like adults do. It is a tool for defusing the situation that could be threatening. Rothbart (1973) would seem to want a more radical condition. It has to be seen as safe to be funny.

These conclusions suggest a number of studies both experimental and observational.

Finally, research workers must beware the temptation to be seduced by arousal theory which certainly has generated much of the most interesting experimental work. One cannot explain humour totally in terms of arousal. Schachter and Singer (1962) showed clearly enough that arousal affects the way you respond to a situation in terms of intensity, not the way that you label the situation. The very aroused person responds more to the frightening or funny situation.
But you cannot, therefore, explain why he finds a situation funny or frightening in terms of his arousal. We need different levels of explanations. Arousal is an important factor and, clearly, children have to learn how to interpret their own state of arousal. Nevertheless, arousal is not the whole story.

Over the last 15 years, the question of how children develop the ability to laugh and to experience humour has not been resolved. It is easy to rehearse the inadequacies of previous approaches and suggest reasons for it. It remains true, however, that the emphasis on laboratory studies, particularly of humour, has tended to ignore some key questions about laughter. The Sroufe and Wunsch study (1972) was a promising development even though their observational techniques were only partly naturalistic; however there has been little follow up.

McGhee and Chapman (1980), in their summary, are pleased to note the "spiral" of interest in humour but do not comment on the absence of observations on children in the home over long periods of time. Oddly, their otherwise excellent bibliography does not mention Valentine's important contribution to this field. There would appear to be some value in a longitudinal observational study. Sroufe and Wunsch's study is both longitudinal over a short period - and observational - in a limited way. It requires amplification.
These criticisms suggest that one area where work is needed is the garnering of observational data in situations as close to 'real life' as possible. One merit of this approach is that it could build on the work of Valentine (1942) to discover where laughter occurs in the context both of family life and in the playschool. The next chapter offers a 'case history' of the development of laughter in two children; the one after that offers observations on a playschool. These seem to be useful alternative strategies for examining a behaviour that is often unpredictable.

Observational data may also shed light on one interesting problem. As adults, we say that we can make someone laugh. Comedians on stage, and in real life, tell jokes with the deliberate intention of making others laugh. Not all laughter takes this form but it is a frequent form of adults' laughter. The question occurs of when, in the development of laughter, children become able to have such an intention and to carry it through. How old can the deliberate comic be? This question is especially intriguing given some theories of the uses of laughter.

The use of observational data is not immediately likely to make theories of laughter any simpler. But it has been argued throughout this review that studies of laughter have been unrealistic, jumping to great conclusions from little data often taken from artificial
situations. Students like McGhee have suggested that more mini theories are needed. This review of the literature has outlined some of the defects in all the theories, grand or mini, to date. Observational data would seem to offer a valid complement to the studies done so far in that they can flesh out developmental theory and explore the role of intention.
METHODOLOGY

In order to understand the impact of different educational interventions, the study adopts an experimental approach. The participants were selected randomly to receive one of three different treatments over a period of three years. In this, for example, the intervention, which is designed to assess the impact of educational reforms, aims to measure the long-term effects of the new policy. Through this method, we can determine the effectiveness of the program and make adjustments as needed. This process would involve observing the changes in student performance from the day of the intervention on. The results obtained can then be analyzed to assess the overall impact of the educational reforms.
The purpose of this thesis is to look at the development of laughter in a naturalistic setting through an intensive study of two children in their family setting and, also, through observation in a playgroup. One reason for approaching the subject through observation is that the study hopes to shed light on the ability of young children to act intentionally, something hard to capture in an experimental situation.

In general, developmental psychologists have used two quite different research strategies, the 'longitudinal' approach or the 'horizontal' one. The longitudinal approach focusses on studying the same children over a period of time. In 1916, for example, the behaviourist, John B. Watson, declared that the essential problem for psychology was to chart the progress of development. Once we knew how children developed, the science could move forward. Watson went on to carry out a series of observations on infants from the day of their birth on. The basic approach was not new to him; his doctoral thesis, Animal Education (1903) had followed a group of rats, day after day, through their early learning experiences. Watson used a very similar method with babies. Every day, he or his assistant,
Rosalie Rayner, would spend an hour or so with each child being observed. Usually, the mother was present. They both observed the general behaviour of the child and performed a series of experiments which included dropping the child on a mat, dunking him in a tub to see if there was a 'swimming reflex' and seeing how the baby reacted to a candle. Being Watson's subject might be risky but there is no doubt that the technique was impeccably longitudinal. Watson's study was never concluded because of his divorce which led, in effect, to his dismissal from John Hopkins.

Watson himself never rehearsed the advantages of the longitudinal approach since he seems to have assumed there was no other way to monitor development but his results do highlight some benefits of the method. It is helpful in gathering wide and complex data; it is possible to keep track of how each individual in a sample develops differently; ideas often occur for more systematic experiments as a result of impressions gained in longitudinal studies. Little Albert was initially, it seems likely, a baby in Watson's longitudinal programme. All these factors make the longitudinal approach particularly useful, perhaps, when studying a form of behaviour that has been relatively little studied.
There is also in psychology a tradition of psychologists studying their own offspring. Valentine (1942) and Piaget (1936) are far from being the only scientists to have turned their children into experimental subjects. Since Piaget is usually studied in terms of the stages of development he proposed, it is easy to think that his first studies were the longitudinal ones of his own children. In fact, however, his first work was, it could be said, a flawed horizontal study. The Language and Thought of The Child (1924) set out to chart, and compare, the conversations of children aged roughly between five and eight. Piaget wanted to crystallise their cognitive development. In showing that children like Lev and Pia were egocentric, he was implicitly comparing them with older children who were not so handicapped. It is that lack of an actual comparison group in The Language and Thought of the Child that permits one to suggest it is a flawed horizontal study.

Though there have been tremendous improvements in the research design of horizontal studies, the basic notion remains simple. Instead of studying the same child over time, the psychologist examines different slices of development. One gathers a sample of, for example, groups of three, five and seven year olds. It is then possible to see how such children will handle tasks such as Piaget's conservation problems. The results are then
generalised, in theory, at least, so that they are meant to inform us of differences between all three year olds, all five year olds and all seven year olds. Much attention has been paid to the problems of research design within this general framework. Many studies critical of Piaget have focussed on the fact that he gave the same instructions to children of differing age groups. Hughes (1975) and Donaldson (1979) have both argued that great care needs to be taken in telling young children what is wanted of them if one sets out to compare their skills with those of older children. Hughes' study of where children think a doll can be hidden is a good illustration of the horizontal technique. Hughes took three, four, five and six year old children, took care to explain the fundamental problem to them and then studied how they handled it. Later, he made the problem more complicated and teased out rather more age differences than in his first study.

The advantages of the horizontal approach are very different from those of the longitudinal one. It allows the researcher to focus on a very specific problem; it permits considerable rigour; one experiment leads, as with Hughes, to another more particular one. There is also the practical benefit that horizontal research is generally quicker since one does not have to wait for the child to grow up. In the field of laughter and humour, the horizontal approach has dominated.
McGhee and Goldstein (1984) in their two volume *Handbook of Humour Research* cite no recent longitudinal studies, it seems.

The model for longitudinal studies remains Piaget's studies of his own children (1927, 1936). Longitudinal studies do not have to be quite as meticulous nor do they need to be carried out on the researcher's own children. It is possible to return to the same children only every week, every month or, in a few cases, every year. Much depends on what kind of behaviour is of interest. Few longitudinal studies, like Terman's of gifted children, last a whole lifetime but even far shorter ones do offer a kind of continuity missing from the horizontal approach. Finally, and perhaps important in the field of laughter, longitudinal studies allow the psychologist to study what he is interested in in the context of a child's whole life. An important example of that is, perhaps, Tizard's study (1977) on late adoption, assessing the whole of the child's life, intellectual, social and emotional, over time through repeated visits.

It is important to stress that longitudinal studies do not have to be naturalistic. As will be clear from the review of the literature, Washburn (1929) returned throughout a year to her subjects but she did not really observe how they behaved normally with their mothers. Equally, naturalistic studies do not have to be longitudinal. Psychologists could sample the naturalistic
behaviour of different groups of children and attempt to study their laughter that way. In fact, however, few studies in the development of laughter have been either longitudinal or naturalistic, let alone both naturalistic and longitudinal. The closest has been the study of Sroufe and Wunsch (1972) as reported in the review of the literature, who looked at the question of when children up to 12 months of age laugh. But their method was to send a student once a month to take mother and baby through a series of tasks that were supposed to make baby come out laughing. This revealed much interesting material but it was limited. The students went into the situation with a check-list of stimuli, like bouncing on mother's knee, that ought to provoke laughter. Each mother and child were seen for an hour or two a month: thus, they could hardly see what, in a natural setting, evoked laughter. The study, therefore, hardly answers all the questions one might have about laughter up to 12 months. Moreover, no follow ups to this study that look at behaviour past 12 months have been published.

Two case studies - observations over time

The first aim of this research is to describe my own observations of my own two children. I first began to record when Nicholas (hereafter N) laughed when he was 3 years and 6 months old in October 1974. At that time, our second son, Reuben (R) was not yet born. He was born in January 1975 and I have tried to record his laughter since birth.
Most of the observations have been simply written down in note form on the day when the laughter occurred. For some time in 1975 and 1976 I had available video and audio equipment so that I recorded some of our life in the house and, especially, at meals. But the bulk of the observations were simply made by me with no external check on my accuracy. Clearly, this presents a number of methodological problems.

Without any other observer there, I might simply have been inventing some of the occasions of laughter. There is no clear cut answer to this except to say, first, that I did not and, second, that many of the situations in which both N and R laughed will seem familiar and plausible to people who have had young children. Also, those sections of our life that were recorded on tape (especially on audio) some reveal laughter, and jokes, not radically different from those that I just recorded on paper.

There are two other objections - which are perhaps even more serious. Anyone who begins to observe a particular form of behaviour is bound to develop certain hypotheses about it. It could well be that the way in which I describe, and attempt to explain, particular bouts of laughter reflect my own particular hypotheses. I might add that I started with no specific hypotheses in mind in October 1974 but, naturally, I have developed
more than a few since. It could well be that I have failed to note occasions of laughter that would contradict some of these hypotheses—and that my failure would not be one that I would be conscious of. I am conscious of the fact that I may well have failed in this respect at times but I have tried to guard against the risk throughout. The second objection is also important. My children—especially N—have been aware of the fact that I am interested in laughter. It may well be, especially when there was a tape recorder in the kitchen and a video camera in my room, that both N and R produced far more laughing than normal children would under the pressures of the "experimental" situation. There may be some truth in this. But since my interest is not in measuring the amount of times a child laughs a day or a month—such quantification is premature—I do not think it is a crucial failure. After all, there are few laughs noted where it seems impossible to comprehend why the children laughed though there do remain a number of mysterious laughs.

The advantage of such long term studies in a family setting are clear. It allows one to see the way in which a child develops his ability to laugh at things. It allows one to see the relationship between laughing and other parts of the child's life. These observations have to be treated as observations; they are neither experiments with all their attendant sanctity of research
design or are they replicable, though sometimes I
attempted small and informal experiments as will be seen.
For all that, the way I have classified these observations
implies certain hypotheses. Explanations - all very
post hoc - are also offered.

Methodological justifications are, alas, much easier
to make than conceptual leaps. The data gathered is rich
but it is hard to classify. The only attempt so far has
been Valentine's. He argued that he had seen laughter
at the following situations and in the following order:

1 as an expression of pleasure and delight
2 as laughter responsive to the laughter of
another
3 at the sight of a bright or pleasing
object
4 at tickling or jogging
5 at a mild shock or surprise
6 at repetition
7 at something that is comic or incongruous
8 at laughter at mere recognition of his own
face in the mirror
9 laughter while teasing
10 laughter at the sight of mild discomfiture
in another
11 laughter in the course of play
12 laughter as an attempt to appease
13 laughter at incongruity in words and ideas
Valentine also argued that, by the age of four, each of his own children had already laughed once at least for each of these reasons. Adults, moreover, had no other basic reasons for laughing; all causes of laughter were here.

The framework for examining the data here is slightly more complicated. Valentine's list includes social items such as teasing or laughter in response to another's laughter but he is still rather concerned to isolate the stimuli which will lead to laughter. The observations that follow suggest that one cannot isolate situations and physical stimuli as neatly as Valentine wished. Many of the observations that follow attempt to describe in some detail, not just the stimuli that appeared to trigger laughter, but the social, even emotional context in which it occurred. To label a laugh as being caused by or at incongruity or mild surprise or noises may ignore some salient aspects of the social situation in which the laughter occurs. It may be a mixture of all three together that makes the child laugh and an identical stimuli in a different situation may yield only a smile or, even, nothing remotely risible.

Secondly, most research has concentrated on seeing whether a stimulus, usually chosen by an adult, has made a child laugh. Laughter is seen as a response. The observational methods used here show that, very often,
the child creates the chance for himself to laugh; he makes his own opportunities - to laugh himself and to make others laugh. There is nothing surprising in this since children seem to enjoy laughing and do not appear to wait around, glumly, waiting for adults to come along to provoke them into it. Observational data makes it possible to, in principle, track not just the development of laughter but the development of the intention to create laughter.

It is in the light of these suggestions that, like Valentine, I shall offer a classification of the kinds of laughter I have observed and the age at which each kind first appeared. I have, however, reservations about this. It seems to me that, quite often, the children laugh for a number of reasons that are combined. Each reason for laughing is not exclusive. A second, and perplexing, reservation stems from the fact that the same situation or stimulus will, sometimes, make a child laugh and sometimes not. This is not a simple matter of arousal, for example, R at 9 months refused to play peek-abo because he was crying. Without such dramatic bad moods, both N and R have, a number of times, not laughed at events that made them laugh a little while before. This is also true of observations I have carried out in the nursery school and playgrounds. The classification shows, then, what can, not what necessarily will, provoke laughter. There are no guarantees. This fluctuating presence
of laughter is, from a theoretical point of view, a fact that needs a good deal of explaining.

In order to make these observations as useful as possible to other researchers who may well disagree either with particular interpretations of particular laughs or who may with a theoretical angle, the material has been set out in the following way. Each section has:

i. an introductory section briefly explaining the kinds of laughter included

ii. the actual observations. Each observation is numbered and there are letters for each section to label its origins. Thus, the first observation of laughter due to elaborating a noise is labelled B.1. Chapter 4, on laughter in the playgroup, uses the same prefix for observations of the same kind of laughter so that it is possible to compare occasions when N and R laughed in the home with apparently similar occasions in the playgroup. Some observations are short; others long. Included within the observational material are occasional facts about the children. Every attempt has been made to keep the observations distinct from the interpretations but, sometimes a certain small amount of interpretation may have crept into observations.
iii. interpretative statements. These are comments on particular instances of laughter and offer, at times, an immediate on-going interpretation. They will be set out distinctly in italics since they often occur in the middle of a group of observations. This typographical distinction will serve to make them separate while to keep going a certain flow in the text. Not every observation requires an attendant interpretation and it seemed more practical to punctuate the observations with interpretations than to bunch all the observations at the back of a section. That would have obliged the reader to refer backwards all the time. The interpretations occasionally include facts about N and R which, as their parent, I knew.

iv. a theoretical summary. Each section ends with a summary which involves theorising in the light of the observations on that particular section.
This arrangement will, it is hoped, make it possible for other researchers to use the observations without being in any sense committed to my interpretations or theoretical ideas.

The classification offered has the following main headings derived from Valentine and the literature:

1. Laughter due to changes in arousal or due simply to high arousal. This category would include when children laugh at loud noises that are made at them or at noises which they themselves make. Each observation in this category is labelled with A for ease of cross-referencing.

2. Noises and their elaboration. This category examines the way the children embroider and expand on the noises they make and incorporate sounds like "Bulabaloo" into longer sequences of laughter. Each observation in this category is labelled B.

3. Physical Games and "Glee". This section does not include chasing games which are examined under the section on aggressive laughter (section 13). Instances of laughter due to "Glee" or involving either "Glee" or physical games are labelled C.

4. Tickling. Observations of laughter involving tickling are labelled D.

5. Peek-abo. Observations of this are labelled E.
6. Games like Peek-abo but which involve the appearance and disappearance of objects. These are labelled F.

There is a connexion between all these first 6 kinds of laughter in that they all appear to involve either drastic changes in arousal or high arousal. It will be argued that even with these basic forms of laughter (where arousal appears to be a useful explanatory concept) a model which depends on arousal or changes in arousal cannot provide a total explanation; often, the children create the occasions for their own laughter. The remaining headings under which laughter is classified become even more complex to account for solely in terms of arousal.

7. Affection and Gentle Physical Stimulation. There are also under this one or two laughs of "joy" included. Observations under this heading are labelled G.

8. Laughter due to Incongruity. This heading includes both verbal and visual incongruities. Incongruity involves also, perception of social roles. At 9 months, for example, R would laugh if he saw his dummy in his mother's mouth which is not where he would expect it. From an intellectual point of view, this kind of laughter is interesting because, when children are presented with an incongruity they often go on to elaborate it - and to produce new incongruities of their own. I shall argue that this is an important element in what one might call learning to laugh. The physiological actions of laughter may be innate but we obviously also "learn" to laugh. Incongruity often shades into Laughing at
Nonsense and Absurdity when there are no expectations rather than when there are expectations to be violated. Observations here are labelled H.

9. Rhymes and Puns. Under this heading come the rhymes and puns that the children make, developing incongruities and, at times, getting carried away by the lilt of rhymes. It will be argued that the making of some kinds of puns and, especially, rhymes, marks an important stage in which the child appears to assemble some of the skills he needs to begin to try to make jokes. Observations under this heading are labelled I.

10. Contradictions. The contradictions here are not logical contradictions but personal ones when the child refuses to do what a parent says or, simply, rebuts what is said to him with a firm "No". Observations under this heading are labelled J.

11. Jokes. This section examines the way in which the child begins to try to make jokes of his own using, it will be argued, some of the skills whose development has been shown in sections 8, 9 and, partly, 10. Observations under this heading are labelled K.

12. Obscenity - from before the age of 2, children produce their version of dirty jokes. There is first the idea in itself and secondly, the fact that the idea shocks or disturbs adults. Observations under this heading are labelled L.
13. Aggression. This heading includes both physical aggression and verbal aggression. It is not mock aggression which comes under pretending games. Aggression laughter is often close to "Naughty" laughter which follows. This often involves mock aggression. At 2.5 R, for instance, quite often has mock battles with N where both do know that they are playing. But laughter is not confined only to such play fighting. Observations under this heading are labelled M.

14. Naughty Laughter. Perhaps the most interesting forms of this are when a child laughs because he is being told he is naughty, and in battles of contradiction where the child often says "No, I'm not" or "It is not" even though he knows, perfectly well, that he is or that "it" is the case. It will be argued that this kind of laughter is a necessary prelude to a child learning to laugh at himself and his own mistakes. The roots of irony may well be here. Also, laughter that depends on knowing of social skills and customs so that a child will laugh at a social gaffe. Observations under this heading are labelled N.

15. Pretending and Games. This section looks at games - some long - which involve and provoke a large amount of laughter as well as at the child's ability to pretend and act roles. Given the emphasis on social incongruity presented in under heading (H) it seems important to relate pretending to laughter since often when N or R play act at being Batman or some other creature, the performance
is accompanied by laughter, squeals and giggles. Observations under this heading are labelled O.

16. Jokes Against Oneself. This section examines the ability of the children to make jokes against themselves. It will be argued that this is an important kind of laughter and one which manifests itself quite early. Observations under this heading are labelled P.

This classification is tentative. It leaves out some important factors. These include the repetition of jokes, the way children learn jokes and the way that children use laughter in the way that they deal both with their parents, siblings and peers. One point of the classification is to show that there are very many kinds of laughter and that it is hard to "reduce all laughter to one or two causes" as classical theories like Bergson's tried to do. Rather, my observations suggest certain hypotheses about how laughter develops but accepts that there are, probably, ten or more "basic" causes for laughter. My observations serve also to question whether the traditional kind of "cause" is always appropriate since the children often create the occasions for their own laughter, an early intentional act.
In the following chapter, a detailed list of observations and experiments is given under different headings.

OBSERVATIONS OF MY OWN CHILDREN

One of the most commonly heard sights laughter is the
As is natural, caused by pleasure or stimulation. One if the looks the baby turns on one with such to be laugh-
not, when the baby learns that his chance to stimulate is not seriously to laugh. This is to attractive to it.
OBSERVATIONS OF MY OWN CHILDREN

In the following chapter, a detailed list of observations and interpretations is given under different headings.

HIGH AROUSAL AND CHANGES IN AROUSAL (A)

INTRODUCTION:

One of the most touted ideas about laughter is that it is basically caused by changes in stimulation. One of the ways the baby learns to cope with them is by laughing. When the baby learns that the change in stimulation is not fearful, he laughs. This is an attractive thesis.
It will be shown to be partially true. But it is not just sudden changes in stimulation that cause laughter. Sudden, and expected, changes in stimulation often make a child laugh. By the age of four, a child who plays "peek-abo" expects perfectly well what the end of the game will be. There may be a sudden moment of contact that provokes the laughter but it is anticipated. Also, simply high levels of stimulation without change will, on occasion, make a child laugh. One of the benefits of observing in one's own home is that, sometimes, long sequences of laughter take place in these games or sequences. Two detailed transcripts of such games will be set out later. In such sequences, it seems likely that some of the laughter is due to the fact that there is a high level of arousal. Almost anything seems funny - even actions or "events" that are normally quite neutral in terms of producing laughter. The problem comes when you then seek to attribute this laughter to sheer high arousal for (i) no one has carried out objective physiological measures on people giggling hysterically as such laughter tends to elude the laboratory and (ii) superficially, it certainly seems as if laughter produces arousal quite as much as arousal produces laughter. If you oblige a child to stop laughing in such a sequence, he often becomes less aroused and "calm" quite fast. The arousal hypothesis also has to account for the fact that quite gentle and affectionate events or actions can make people laugh.
There are two classic forms of high stimulation that should lead to changes in arousal. One is the loud noise: the other are a host of physical games like bouncing a baby, tossing him or her up in the air and catching them, tickling. First, let us consider loud noises.

**OBSERVATIONS:**

From 5 months, R responded to loud noises by laughing—sometimes. Sometimes, it was just a loud noise like Boo. Sometimes, it was a loud word.

For example when R is 7 months, I am reading to N and R a book called "The Stones in America" in which there are bison who charge. N turns to R and says loudly "R is going to charge". R laughs. (A.1)

On video, from 7 months on, there are a number of instances of R laughing when either his mother or I or N make a loud noise at him.

**INTERPRETATIVE:**

One of the more interesting developments here is the way that N notices that he can make R laugh by producing loud noises. From 9 months on, N provides R with physical stimulation that makes R laugh.

At 11 months, N can use his skill in producing loud noises either in order to make R laugh and to feel good or he can use it as a means of teasing R mercilessly.
At 11 months, N first torments R by placing a block of LEGO on R's head. Then, N says: "Bububububu" to R. R is upset and does not laugh. N asks: "Is that funny, Dubie?". (A.2)

But also at 11 months, N is being naughty and producing a series of noises that start as Woow. N tries to enlist R as an ally in naughtiness. He makes another Woow at R and R begins to laugh. (A.3).

INTERPRETATIVE:
What is hard to tell is whether R is also laughing because he is joining N not just in the noise but in being naughty.

By 11 months, R can respond quite often to loud noises by laughing. Even if the noise may be a little frightening, this happens. In the transcripts of the games it is shown that at 11 months, R laughed at balloons being popped, the sound of them bursting and, also, at many of the high noises that were evoked during these games (p.18). More interesting is that R is beginning to produce loud noises himself for the apparent purpose of making himself and also N laugh. The first instance of this is at 11 months when R begins to make deep cackling noises which make N laugh. R goes on making them for a little while. (A.4)

By 11 months, too, noises have begun to be a part of games in which R responds to more than mere noises. To get a laugh depends on a mixture of noise and movement.
At 11 months, R laughs at me jumping up and down in the corridor as I come towards him. (A.5)

**INTERPRETATIVE:**

As he laughs on jumping up and down, up and down, this incident does not seem to be one in which the level of stimulation is changing much.

At 11 months, R can laugh at quite complex mixtures of rhythms. R laughs as I sing to him: "To bed, to bed, to bed, to bed". I add another "to bed" but this time he does not laugh till I tickle him. In tickling him, I say "Woow". R laughs. I start to sing again "didididi - to bed". But this time the song gets only a smaller laugh from R although I try to make the last bed very loud and a big change. I sing "to bed" again. R laughs again. I am bored with the game now and he also seems to be; I say, quite seriously to him, "Maybe you should go to bed". This time, there is no laugh. (A.6)

**THEORETICAL SUMMARY:**

By 13 months, R can laugh particularly at loud noises that signify disgust. N makes loud noises like "pooo" and "yuck" and laughs at himself as he makes these. R laughs hysterically. This game is one that both of them enjoy considerably and it goes on a long time. It seems clear that R has already acquired some notion of disgusting things being funny. Originally,
there is a clear link between loud noises and the disgusting but by 2.0, R can laugh at disgusting things that involve no great element of noise or noise change.

The noise of disgust is, we shall see, important in the game of Mummy-with-Dummy which is the first R plays in which he toys with incongruities of role.

At one year, then R has developed the ability to laugh at loud noises. He shows no signs of being able to distinguish loud noises from loud nonsense but he is beginning to associate some loud noises with disgust or mess. In the next year, he will begin to exhibit "disgusted" laughs from ones based on noise. N is aware of the fact that he can make R laugh by producing such noises. Occasionally, N has developed certain characters and routines. One of these is a pompous, fat and loud man called Mr. Babu. Mr. Babu yells a great deal which makes R laugh. N has evolved a more complex routine involving Laurel and Hardy and imitates Hardy which makes R laugh. And R is beginning to act as if he knows quite well that he can make both himself and N laugh by producing such noises. Observations such as A.4, A.5 point to the conclusion that R's intention is to produce laughter, both in himself and others - even at this young age.

NOISES AND THEIR ELABORATION (B)

INTRODUCTION:

Loud noises are, according to much psychology,
both one of the few innate causes of fear (Watson; 1931)
and, also, one of the earliest reasons for laughing.
The hypothesis can, therefore, be developed that when
an infant hears a loud noise in a situation where he
knows there is really no danger, he laughs.

At 11 months there are many instances of loud
noises making R laugh, as we have seen. Between 12
and 24 months, noises continue to fascinate R.

OBSERVATIONS:

At 12 months I address R in loud nonsense talk
saying "Nabbabboloo". He laughs, and, often, wants a
phrase or one like it repeated. (B.1)

INTERPRETATIVE:
It is not clear still whether he can tell that this
is not real language.

At 18 months, I say "Boo" behind R. He turns and
laughs, expecting me to say "Boo" again. He laughs when
I do though not as much as the first time. The sur­
prise provokes more laughing. The noise game does not
hook him further as he begins to fish in my pocket. (B.2)

At 1.7 I get N to talk seriously and slowly non­
sense to R. P listens seriously. He laughs out, though,
when N says something very loud - both when it is a
real word like BUMP and when it is a nonsense word. (B.3)
INTERPRETATIVE:

If R laughs at loud nonsense, it seems much more likely that it is because it is loud than because it is nonsense for now.

Pure noises which are not that loud can also make R laugh. At 1.7 he watches Play School when someone plays a tin whistle. R smiles at the sound and the smile expands into a laugh. R, laughing, puts his hand up to his mouth and does his chewing routine. Is he eating the whistle or imitating the action of blowing it? (B.4)

At 23 months, a slightly fearful noise seems to provoke laughter. R is playing with Lesley who is 30 years old. He snaps and whizzes a strong stick at her. She makes a fearful Oooh sound. R laughs. When she does not make the sound and withdraws from the stick, R laughs much less. He needs her Oooh to make him laugh more. (B.5)

At 26 months, Aileen simply makes a Plop sound with her lips as she attacks R's ears. This still drives him quite hysterical. (B.6)

By the age of 3.6, N still laughed at loud noises but these had to be incorporated into more complicated games. At 3.6, for instance, Aileen and N were pouring imaginary wine out of bottles over each other. N, as he poured, would say Whoosh and then laugh. Aileen
would also make a noise as she poured the imaginary wine over N. He would laugh. I then tried to do it without making the noise - and N still laughed. It is not possible to know if he still would have laughed if this had been the first way round we played it. (B.7)

Often N now produces the noises that made him laugh. At 3.6, he and I are pretending to be a band. He sings out Bulabao and laughs. By itself noise does not always make him laugh. For example, I accentuate the PEEP of a car's horn in a book I read to him without getting a laugh. Equally at this age, Aileen and I are making up nonsense. Loudly, N suggests "Babagoboola" but does not laugh. (B.8)

**INTERPRETATIVE:**

There is also more of a ritual to N's laughing. While R at 1.0 or 1.6 can laugh just at the loud noise, N usually needs a contrast. It could be said that he requires a marked change in the level of stimulation. It seems no longer enough for the noise to be a shock just because it is loud; it has to be a shock that is both loud and inappropriate.

**OBSERVATIONS:**

Also, the production of loud noises can come to be naughty. N starts at 4 to drum with his fork on a nappy pack and to make musical sounds. He laughs well aware that he is being naughty by making so much noise. (B.9)
At 4.8 for N silence followed by a burst of noise is funny. N has seen a cartoon (Bugs Bunny) on TV which he thinks is very funny. A man is lulling a baby to sleep. He says, very softly, "Go to sleep, my little baby". But when he says Baby, the man yells. And so the baby bawls. N laughs each time the man shouts Baby. This sequence makes a deep impression on N because he repeats it in the bedroom in the evening before he goes to sleep. He goes through the "Go to sleep my little baby" routine a number of times, laughing each time he does so. A few days later, he repeats the whole sequence. He does it with a little bit less gusto though as much noise. He finds it very funny. In the next weeks, he weaved it into games that he plays with R on a number of occasions. (B.10)

At 4.9, a loud noise in a defensive position makes N laugh. He is under the kitchen table when R is "attacking" him. I say "Boo" four times to N and he, trapped under the kitchen table, laughs. (B.11)

INTERPRETATIVE:
I am not attacking N and it's curious if laughter dispells fear that N should laugh when the much smaller R "attacks" him.

Also, at 4.9, during a boisterous game, a balloon floats. Whenever I or Aileen or N push it, we say "Oah". This syllable together with the act of pushing the balloon provokes hysterical laughter. The synchrony
of noise and movements seems important. This laughter builds up and up.

At 4.11, N is quite able to laugh still at simple disgust noises. One night N gets up and wants to talk. After a while, he begins to feed me a meal of all the things he finds under the bed. These include a book, a stewed pen top and bits of nappy. I say "Yuck" — disgustedly — to each of these incongruous offerings. Each "Yuck" makes N laugh. The next morning, N plays a game in which he makes disgusting noises at R who is 1.2 and laughs. (B.12)

At 5.7 N is still capable of laughing at loud noises, especially in the context of a game. There is something like hysterical laughter as N and Aileen do what he calls a funny dance. N begins to skip, pretending to be an ape, and to hop from one leg to the next. Aileen laughs and makes loud booing noises. These make N laugh even more and R laughs too. (B.13)

THEORETICAL SUMMARY:

Loud noises make N and R laugh. At 5.7, N can still laugh at loud noises pure and simple. But from the time of 5 months on, the way that loud noises are used in games by the children becomes more complex. Loud noises join in with movements and imitations and play acting. There seems to be a way in which the mixture of movement and noise does often provoke laughter. Both N and R
have become, R by 2.0 certainly, adept at producing noises together with movements in order to make themselves and others laugh. Again, the observations like the whoosh of B.7, singing Bulabaco B.8 and B.12 powerfully suggest that N intends to produce laughter and produces actions that are appropriate to this end. The section on rhymes and puns will show that noises and sounds are elaborated by both N and R - often for laughs. There are instances with noises - some when the children produce laughter but others when they react - that fit the arousal jag hypothesis well. Examples are when N enjoys the Baby Game, going from whispering to yelling or laughing in disgust on every new yuck. But there are other instances when it seems less well supported. If in the middle of a boisterous game when all signs would seem to indicate a high level of arousal, does uttering "Oah" and pushing at a balloon signify an arousal jag? Yet "Oah" and the movement make N laugh hysterically. The arousal jag hypothesis is developed out of a model of cause and effect in which the laughter appears forced by the "jags". The contrast between this and the intentional model will be discussed later.

**INTRODUCTION:**

Spencer (1860) argued that much of the laughter of
young children is pure glee, excitement that spills over into laughter. In her analysis of children in a nursery class, Groch (1974) found that 7% only of the occasions of laughter could be construed as being pure glee. It is argued here that this kind of "uncaused" laughter is, actually, quite rare both in the home and in playgrounds though the evidence for playgrounds will only be alluded here a little.

But if pure glee does not seem to often lead to laughter, there are many kinds of physical action that can cause laughter. These do sometimes involve a clear change in the level of arousal. For example, if you toss a child up in the air above your head and catch him - a game I have played and seen other parents play - then there usually is laughter. But other games which seem to involve either no obvious change in arousal - for example, bringing R's feet together - or which depends on a consistently high level of arousal also
seem to cause laughter. One such game is chasing which R plays at 11 months with N and which he plays with a friend of his, John, when they are both 1.3 and 1.4.

OBSERVATIONS:
On the videotape, there is film of R from 7 months on laughing in response to various forms of physical stimulation like being bounced up and down, being allowed to swing back and down between Aileen's knees so that he loses support and might fall to the ground but Aileen always catches him in time. Sroufe and Wunsch (1972) found few children laughed at any of these before the end of their sixth month. (C.1)

By 9 months, R can laugh at N's physical actions. He can see physical stimulation and laugh rather than needing to have it done to him. At 9 months R laughs at N stamping his feet on the seat of a chair. N repeats the stamping. R laughs again. N then slides down the back of the armchair and nearly hits R. This near miss makes R laugh though he might have been hurt. (C.2)

Another instance of seeing physical activity making R laugh also from 9 months is when R is in his play pen. N charges around pretending to be an elephant — during which he walks very heavily and slowly — and then pretending to be a bird and flapping his arms. It is done for the benefit of R and R laughs. (C.3)
N has also evolved ways of playing games a little like peek-abo and tickling with R. At 9 months for instance, N gets hold of R's feet and bangs them together. R laughs. And N does this knowing quite well it will make R laugh. N gets exactly the same effect by holding R's arms and waving them up and down straight up and down like a proper gymnastic exercise. R giggles like anything at this. (C.4 see also M.4)

At 2.3, incidentally, I try to do both of these things to R. He smiles at me but there is none of the wild laughter there used to be. (C.5)

By 12 months, Aileen picks R up and slings him above her shoulder and then down so that his head is near her bottom. She then slides R gently up and down her back. He laughs tremendously at this whenever either she or I do it to him. (C.6)

**INTERPRETATIVE:**

This seems to be a good example of where the tension between danger and safety provokes laughter.

At 26 months and at 2.6, this game still makes R laugh. (C.7)

Also, at 12 months, R laughs enormously during what is called N's Action Show. For N, this consists of jumping around on the bed, producing all kinds of somersaults and would-be acrobatics. N appears to be
imitating gymnastic displays he has seen on television and, though he laughs, he often also provides a running commentary on what he is doing, on his "Super Jumps" as he calls them. R crawls on the bed - and laughs. Usually, R is not allowed on the bed. This may make R more excited and he certainly moves around a great deal. Aileen then holds R by the arms and, holding him, gets him to jump up and down on the bed. R is being "trampolined". He laughs. (C.8)

At 1.1, R laughs because one of his limbs is "captured". R is in my arms with one sock off. We are on the porch. N points out to Hilda that R lacks a sock and laughs. N grabs hold of R's foot. R laughs. N says: "He's laughing because his sock's off". (C.9)

**INTERPRETATIVE:**
R seems to me to laugh because N has grabbed his foot.

At 1.4 R and his friend John (also 1.4) are chasing each other in a vague kind of way. It is not a fully fledged "chase". Both R and John are quite capable of interacting in this way for short spells at least. They laugh as they "chase". (C.10)

Seeing less dramatic physical gestures can make R laugh. We have already seen how at 9 months he laughed while N charged around the play pen. At 18 months, N wakes up and waves his hands in front of R. While he waves his hands like that, N makes a sound as
if sand were running through his fingers. R laughs.

"Chasing" games between N and R are now quite common with an element of violence, as we shall see under aggression. (C.11)

At 22 months my throwing R down can make him laugh. (C.12)

At 24 months R, and 5.10 N, they have developed quite active games. They continue to play the Action Show in which R can now take part. R has begun to incorporate elements of what can be conveniently described as his fantasy-life into the Action Show and leaps around saying he is Batman and laughing. N is more concerned to show off excellence and peppers his jumping with comments like "This is a Super-Jump"!

But when N jumps, it makes R laugh and when R laughs, it makes N jump. They both laugh when Aileen tells them to jump into her arms. Aileen bounces N on the bed. He has gone from bouncing himself up and down to being bounced down. N laughs a lot at this transition. (C.13)

**INTERPRETATIVE:**

Here, surely, the change is in the kind of bouncing — not in the actual level of stimulation. It's interesting that N sometimes resents having to play at the level of R. But, tonight, there is no sign of such resentment.

When R is 26 months, Aileen picks him up and swings
him up to her shoulder. R laughs — and so does N who is watching. A few moments later, R charges around the room merrily but does not laugh. (C.14)

Often, given the opportunity, the children seem to turn glees and running into games. That phenomenon will be examined in the special section on pretending and games. At 3.6 N could often laugh when describing himself as a fire cracker and whistling around. (C.15)

At 3.7, N was in the garden in Greece laughing. But such occasions of laughter — for no "reason" — tend to be rare. Making a fire cracker out of himself is, after all, a reason for laughing. (C.16)

At 4.9 N can still laugh at doing something physical. He stamps around the kitchen and laughs. Often N likes to wriggle into our blanket and to cover himself entirely with it. He laughs as he covers himself and, then, deliberately wriggles himself to the edge of the bed and, still in the blanket, falls off the bed. This makes him laugh. (C.17)

At 5.6, N has begun to listen to pop music and to dance. He quite often laughs as he dances, especially when he contorts himself into the shapes of disco dancers or of singers with microphones. On video tape, I recorded a number of instances in which, with a real microphone, N and his friends laughed themselves
silly as they imitated being singers on the television. Here, at 5.6 N says that he is going to do a funny dance. He begins to skip and to hop from one leg to the next - he knows that this is not how you dance. N laughs. Aileen laughs and makes Booping noises. N hops more. R joins in trying to hop. Both the children laugh until N, suddenly, rushes out of the room. Outside the room they begin to gun each other down and laugh. About two minutes pass, then N yells that he wants to do the funny dance again. He takes R by the arms. R stamps his feet. N makes painful noises. R laughs at those painful noises. (C.18)

**INTERPRETATIVE:**

N seems to have a complex idea behind the funny, even ironic, movements because N informs me:

Nicholas: It's meant to be funny because it's a crying dance.

Me: Is crying funny?

Nicholas: Yes - that sort of dance is. Don't laugh.

Me: What can I do if it's funny but laugh?

Nicholas: It's over now. Don't laugh. (C.19)

**THEORETICAL SUMMARY:**

Observations C.18 and C.19 show, perhaps, how
laughter due to high arousal is woven in with other kinds of laughter. Finally N had made an attempt at a conceptual joke - a crying dance is funny. Also, here, N tries quite deliberately to involve R which R likes.

There is very little evidence from these instances of laughter due to high arousal that the children laugh themselves out. If the object of laughter were to get rid of excess tension, there would have to come a point when, all tension gone, laughter flagged or, even it became unpleasant to laugh. On one occasion, N did say he was laughing so much it hurt but all he meant was that his face was acheing from so much laughing; he still went on, and seemed to enjoy going on, laughing. It is important to note from all the examples offered how often the child initiates the opportunity for laughing. This kind of physical laughter is, clearly, something the child enjoys and aims to get into. Bruner et al (1975) in their account of peak-abo noted that only 3 out of 33 peek-abo games were initiated by the child up to the age of 15 months. By that age, R was often able to initiate occasions of laughter - and liked to do so. The child not only responds by laughing to outside stimuli; he acts very much as an agent who creates reasons for laughing.
INTRODUCTION:

Preyer (1909) got a baby to laugh at 8 weeks when he was tickled. Valentine first noted tickling in his children making them laugh at 3½ months. Sroufe and Wunsch (1972) noted that the youngest age at which children could laugh when tickled was 4 months; the average age for most responding to tickling by laughing was between 7 and 9 months. Then, they found only 3 out of 9 children laughed when tickled — an odd finding surely.

OBSERVATION:

R first laughed when tickled at 4 months. By 7 months, N was able to tickle R — and allowed to — which also made R laugh. Even by 7 months, tickling tended not to be always an isolated event but part of other games. N and R were at my mother’s flat lying on a soft furry rug. R was naked and cuddled up to N with his back against N’s back and his head on N’s shoulder. N laughs nicely and there is a little tickling intermittently over five minutes. (D.1) It is an interesting case of a non-aggressive tickle, but, a few times, R pulls N’s hair which makes N laugh stridently.
Also at 7 months, N tickles R as Aileen is rocking him back and forth. R laughs. N tickles him under the chin. This is a game the two children can play for a long time with R going on eating. As R laughs when being tickled, the laugh is very much centred round the mouth. His head does not sway backwards. (D.2)

Between 7 months and 11 months, tickling is usually a fairly certain way of getting R to laugh. There are various parts that he can be tickled to near certain laughter on like the tummy, the chest, the toes. But Aileen can also provoke laughter by kissing him round the neck and the back of the ear. (D.3)

**INTERPRETATIVE:**
The laughter produced by such kissing looks very similar to the kind of laughter provoked by tickling. But while tickling may be a modified attack, kissing on the ear or neck is hardly that. The same effect can often be got by kissing R's toes. But while ear and neck are essentially vulnerable, that can hardly be sustained of the toes. Also, unlike loud noises which as we shall see develop into games, tickling remains very much the same.

R, by 21 months, has begun to tickle other people sometimes. And also the capacity not to laugh at being tickled. (D.4)
At 24 months when R is not well, Aileen tries to cheer him up by tickling him. He does not burst into tears but ignores the whole absurd proceedings with some dignity. (D.5)

Given Leuba's (1941) emphasis on the friendly aspect of the "tickle", I attempted a small experiment on R at 2.5 when he is still highly ticklish. I lean back, yawn and close my eyes. I tickle him - in the tummy - and I make no noise. This blind, noiseless tickle makes R laugh. (A useful test could be to tickle blind babies). (D.6)

INTERPRETATIVE:

It is possible to stand behind a baby and tickle him when there is no way the baby can perceive the face. One suggestion has been that tickling is a modified form of attack. The child laughs, however, as he knows the person who is tickling him and that, basically, he is not in danger. There are three problems with this hypothesis. First, how does one know the child knows it is safe? Second, it is possible to tickle non-vulnerable areas of the body - like the toes. Third, in one experiment with B, as we have seen, I successfully tickled him while yawning and having my eyes closed. By these gestures, I tried to negate every threat posture. If it is the tension between the threatening face and the friendly adult, why did R laugh then?
At 6.3 N, 2.5 R, I try to get both N and R to tickle themselves. N rubs his chest and says he's not ticklish any more. Then I tickle him. And he doubles up laughing. But the idea of tickling himself did not amuse him at all — and he failed to make himself laugh. R also failed to make himself laugh though the idea of tickling did make him laugh. As he doesn't laugh I ask him if he did tickle himself. "I did," R says and puts his hands to his armpits again. The idea makes him smile but, again, he can't do it. (D.7)

By 3.7 N tickles competently enough to tickle me. I tickle N. He laughs. I let him tickle me. He laughs. I stop laughing and I stop being tickled. But I still wriggle as if N had me in his power. He laughs but not as much as before. (D.8)

There is one other odd observation which suggests that the motive of attack need not be involved. At 6.1 N laughed twice in bed because he was being tickled by the cat. (D.9)

Also older children do not disdain tickling each other. At 4.11 N and his friend Judith are playing. Judith falls down on the sofa and laughs. She can't get up. N puts out a hand to tickle her. "Don't do that", Judith laughs. (D.10)
THEORETICAL SUMMARY:

Tickling remains, obviously a mystery but it is one of the more eccentric forms of laughter in that it fails to develop. This may, of course, mean that it is very old but it is not very plastic. It's lack of plasticity and development sets it rather apart from other kinds of laughter though, yet again, it does seem tickling can be incorporated into more complex games.

PEEK-ABO (E)

INTRODUCTION:

Peek-abo seems to be a veritable "jeu sans frontières." Studies of peek-abo have been reported not merely in Western Europe and America but also in cultures as far apart as Japan and Africa. Two main theories have been put forward for the popularity of peek-abo. First, it has been argued that this game in which the mother is generally the first person to play the game with the child, prepares the child to deal with separation anxiety. He sees that his mother disappears and appears. She disappears and he 'knows' that she will reappear. Bruner has also argued (1976) that peek-abo is a game through which the child learns the structure of social rules.
There may be a third purpose to such games which involve the appearance and disappearance both of the mother and of the child. To set that in context, it is necessary to explain an unfortunate event in this research project. While studying the playgroup, I took a number of children to the Institute of Education studio. The idea was to film some of their laughter. In many ways, the attempt was unsatisfactory because the children reacted so much to being in a television studio. The tapes of these sessions went missing, however, from Bedford College. During the session in the studio, we played to the children pictures of themselves — both of themselves watching T.V. and playing a variety of games. The children went in and out of vision naturally in their games and, also, using simple video techniques, they were made to appear and disappear on television monitors. The effect was remarkable and, unfortunately, hard to describe in words. Giggles swept through the groups of children as they saw themselves appear and disappear off the television screens. There seemed to be little doubt that they knew they were seeing themselves come in and out of vision. It is tempting to compare this with the obviously rather more precise research of Duval and Wicklund (1972) on the reaction of children to seeing themselves in the mirror. They found that the infants spent more time
looking at themselves. There have been methodological queries about this work but it is true that mirrors are curiously fascinating. In myths, they often appear as aids to self-consciousness. Freud, of course, used the myth of Narcissus to suggest that the child who does not learn to recognise his own reflection for what it is is in peril of losing his identity (Freud 1913). Hamilton (1982) has recently attempted to bring together this Freudian idea with some of the latest work on developmental psychology. Looking at oneself is, therefore, a difficult, but intriguing area, liable to all kinds of over-interpretation.

The observations that follow record games of ordinary peek-abo and, also, games in which objects were made to appear and disappear. The observations also record games in which N and R either reacted to the appearance and disappearance of images of themselves - either on video or on sound tape. They also record instances in which N and R created, for themselves, the opportunity to appear and disappear (on video or tape) and, apparently, monitored their own comings and goings. Very speculatively, on the basis of these observations, I want to suggest a third reason for the popularity of peek-abo. It is a game which offers the child the chance to control how he appears and disappears. That sounds highly metaphysical but the observations appeared - admittedly intuitively - as remarkably powerful.
By 9 months, R is well practised in peek-abo. In bed, one morning, Aileen attempted an experiment with him. She tried doing peek-abo in four ways. The first way was to hide her face, turn it towards him and say peek-abo at the same time.

By 9 months, R is well aware of the fact that heads do not float off bodies. He laughs even though he can see the rest of her body. In the second condition, Aileen says "peek-abo" but does not bother to hide her face or turn it away. This produces some laughter. In the third condition, Aileen just turns her face away from R and buries her face in her shoulder. This, too, makes R laugh. (E.1)

At 12 months R can resist peek-abo. One day, he is annoyed. I try to play peek-abo. He looks cold. Later, a friend of mine called Mike is here. He and R play peek-abo but they use the syllables He Hum. R laughs. (E.2)

By 16 months, R can initiate peek-abo. After one game, R grabs a copy of the New Yorker out of my hand and uses it to cover my face. He takes the active part. He laughs as he covers my face – which is, curiously, not the usual point of laughing. Also, now, the face need not be the part covered. Aileen covers
and uncovers R's toes with a blanket. He laughs on each appearance of the toes. (E.3)

At 30 months, R still enjoys peek-abo. Aileen and N and I sometimes play it with him. I hide behind the door and come out saying "Peek-abo" which makes R laugh. He follows me into the room, laughing and then says "Boo" himself and laughs. (E.4)

R can also now play the game with his friend John who is also 30 months. Each of them hides in a curtain and, then, steps out in one version or simply lets his face be seen. On each discovery of the face, there is a laugh from both but the whole game is much less formal than when played with an adult. At times, both R's attention and John's attention gets too distracted for them to play the game properly. The laughter is much more random than when R plays with an adult or, even, with N. (E.5)

Another form of appearance - disappearance is one which always makes children laugh. From 9 months or so, R laughed when he saw himself on a video screen and rushed around excitedly. (E.6)

When I first began to observe N, I had a tape recorder. The listening to himself on the tape recorder always made him laugh. At 3.6, I played back to N some of our talking after I had read part of Dr. Doolittle to him. He laughed hysterically and said:
"I'm funny. That's funny. I'm funny". (E.7)

By 1.10, R has also taken to laughing whenever I take out a stills camera and suggest I am about to snap him. (E.8)

INTERPRETATIVE:

Hysterical laughter in such situations - involving photographs and tapes - is not an area which has been much explored. During the course of this thesis, the playgroup studied in Chapter 3 was brought to the television studio of the Institute of Education and filmed. The videotapes of these sessions were, unfortunately, lost from Bedford College before it was possible to analyse them. The videotapes showed one very remarkable form of behaviour as described earlier.

A comparable form of laughter can be seen in N and R. They nearly always laugh when they hear themselves appear on tape or see themselves on the screen. In their home, their situation in relation to the screen is different because they know where they have to dart up and down in front of the cameras in order to flash up on the screen. They have some control over their appearance and disappearance in a way that the playgroup in the studio did not have.

The powerfulness of the reaction to seeing themselves appear and disappear is very striking. It could be
argued that here one is dealing with a different form of peek-abo. Where one of the 'functions' of peek-abo is to defuse the terror of seeing mother come and go, seeing the appearance and disappearance of one's own self - and creating that as N and R do with the video screen sometimes - may also have a metaphysical edge. Could peek-abo also be a way the child plays with his own body-image and, even, identity? In peek-abo, the child 'teases' others when he takes the initiative but, perhaps, he also teases himself now that he is secure in his identity. These are, clearly, difficult areas in which it is all too easy to claim too much but something must account for the sheer force of the laughter witnessed in the television studio - and not to speculate on it might be all too timorous.

Allied to peek-abo are, in that laughter is produced by seeing each other, games in which children find each other.

**OBSERVATIONS:**

When R is 1.7 and N is 5.3, they face each other at the kitchen table at lunch. N pokes his head under the table. R laughs. Then R imitates N and tries to poke his head under the table. R partially manages to do this. N laughs. Both give out sounds throughout the peak but the peak of laughter is reached when N sees R under the table and R sees N from under the table. (E.9)
Even at 5.6, N can enjoy peek-abo. In the midst of a boisterous game, Aileen insists on a minute of quiet. N manages to keep quiet for most of the minute and this "jag" from boisterousness to calm does not make him laugh. But, at one point, N breaks the quiet by hiding behind my chair and playing peek-abo with R who laughs. (E.10 see also P.17)

Even at 6.4, N can still enjoy games in which he hides himself - usually in blankets - and then appears. He does this twice one morning, wriggling around, covered from head to toe and bursting out with a laugh. First, N does it on his bed. R is there, too, watching. R laughs as he watches N and also jumps up and down on the bed. Then, they play the same game on the big bed but R hides himself, peeks out and laughs as he appears. I try to initiate peek-abo with R but he does not want to play my game: he wants to play his game. I also try to make a simple loud noise at him, "Boo", but it evokes no laughter. Then, out of the blanket, R begins to jump up and down and sing "Catch the pigeon" which is the theme song of a cartoon show on T.V. (E.11)

There is also laughter in the occasionally truly unexpected appearance. At 5.1, N is in Helen's house. N asks where Helen is and we all say we don't know. N: "I don't know either but I'm going to look for her". He goes out of the room. They meet in the corridor.
N: "I was looking for you". Helen: "I was looking for you". They both laugh hugely at this. (E.12)

**INTERPRETATIVE:**

There is one interesting aspect to this game. It is something of a resolution to a problem. They found each other. And at 6.1, N is still having difficulties in grasping resolutions quite often.

There are also games which do not involve the disappearance and re-appearance of a person or part of a person but which involve things. R is fascinated by these and manipulates the situations so that he can play such games quite often - especially round 11 months or so.

**PEEK-ABO WITH OBJECTS** (<i>F</i>)

At 11 months, Aileen tried to teach R what it meant to get down. R was sitting in his high chair. She used her finger to make a gesture in which the finger swooped down. R laughed. Aileen tried the gesture with no sound. R still laughed. (<i>F.1</i>)

At 12 months, R is in the pram on the way to Blackheath. He starts to drop his glove out of the moving pram. First, he shows me the glove. Then, he drops it. It disappears briefly from his vision.
Then, I pick it up and toss it back into the pram. He laughs as I bend to pick it up and, also, as I toss it back. He insists on repeating the whole thing. (F.2)

Also at 11 months, we play a game in which balloons are hidden and then appear. At one point Aileen hides both balloons in her sweater so that she looks huge. As the balloons appear from "inside" her, R laughs enormously. This happens twice. On each "appearance" R laughs. (F.3)

THEORETICAL SUMMARY:

Bruner et al (1976) stress that the object of peek-abo is to enable the child to begin to learn certain rules and structures. It is a game with a set form. The child learns that form. He begins to be able to start games off. He begins to be able to vary them. My observations neither serve to confirm nor to deny this. Rather, they suggest that peek-abo also enables the child to toy with the appearance and disappearance of his own self and that of his significant others. There is also a question that the end of a peek-abo game is an anticipated surprise, a surprise that is not really surprise. Lastly, one should note that peek-abo shows again that a mixture of movement and noise - the appearance from behind the pillow with a noise being uttered - is particularly
good at evoking laughter. It is better than movement alone or sound alone though both of these, sole, can sometimes evoke some laughter. There is also the fact that both N and R not only respond to peek-a-boo but create occasions for it - and, especially, for playing it together.

AFFECTION AND GENTLE PHYSICAL STIMULATION (G)

INTRODUCTION:

In his observations, Valentine (1942) noted that the first laughs of all of his five babies were simple expression of well being. I am a well-fed, well-cuddled baby, therefore, I laugh. But Stroufe and Wunsch (1972) found that in their sample, laughter of well being was not found at all because they did not test for it. It shows the vagaries of much research to date.

In these observations, I noted more with R and N what might be called affectionate laughter which is relatively rare. It first occurred with R just before 7 months.

OBSERVATIONS:

He and N are lying naked on the rug at my mother's. R is cuddled up against N's back and his
head is on N's shoulder. N laughs a lot and R joins in the laughter. (G.1)

At 9 months, R laughs often when he is held and happy. He often does this with N. One morning, I'm reading to N and holding R. R laughs. Part of this is that R quite often laughs now when N is laughing even though N is laughing at him. Typically, there is a small pause after N has started to laugh and then R begins to laugh. This kind of joining in laughter becomes very evident in the next few months. One of R's most frequent phrases between 1.0 and 1.8 is "And me". (G.2)

At 11 months, I say "Hello" to R in his pushchair. R laughs and turns his plate upside down. (G.3)

At 1 year R and N (4.11) are in our bedroom. R is in the bed but N is not in the bed. He creeps round the outside of the bed and gently comes towards R who coos and laughs. There is nothing sudden about it, no discontinuity of stimulation. It is rather lovely and both laugh throughout. (G.4)

At 1.3 R and N (5.0) have developed a number of routines. N usually initiates these but R can imitate him and giggle. R likes it especially when N imitates Oliver Hardy - they watch the Laurel and Hardy shows - by puffing himself out, crossing his arms, saying
sternly with a finger pointed: "A fine mess you've got me into". (G.5)

Sometimes, affectionate laughter can erupt into the middle of a quite aggressive game. At 1.9 R and N chase each other or, rather, N chases R and the games usually involve a lot of shooting. In the middle of one such game, N points a gun at R and says Gaga in a baby-like voice. Both children laugh wildly. Then, N strokes R on the head with the gun. There is no actual laughter on this gesture, but, a second later, N points the gun again at R to huge laughter from both of them. (G.6 see also M.13)

Occasionally, too, N (5.9) is protective of R (2.0)

Me : I'm going to throw you out of the window.

N : Don't worry it's only a joke. (G.7)

THEORETICAL SUMMARY:

This kind of laughter does not fit easily into the arousal modal since it occurs at times of gentleness. Nor do any of the observations here really support the idea that N or R wanted to produce laughter. Rather, the laughter seems here to mark or signal affection.

CONCLUSIONS ABOUT AROUSAL

Berlyne (1969), Rothbart (1973), Rothbart and
Pien (1976) make much of the arousal jag hypothesis which was reviewed in the introduction. The evidence adduced here must suggest that while arousal jags may sometimes happen at the same time as laughter, they can hardly be said to be a prime cause of laughter.

There are cases in which sudden changes in the level of stimuli — going from a whisper to a loud noise — do seem to lead to laughter. Even if we assume that changes in the level of stimuli equal changes in the level of arousal, it must also be noted that laughter can often occur without this happening. In the case of affectionate laughter, where is the jag? If the hypothesis were right, one might expect laughter at orgasm rather than through affection and, though there are instances of such laughter, they are rare.

Second, there are a number of cases in which laughter seems to be provoked by a consistently high level of arousal. In such instances — like some of the boisterous games — anything seems funny. Chases hardly seem good instances of arousal jags either. In such boisterous games, also, the children hardly ever seemed to laugh themselves out which is what one would have expected if laughter were a way of discharging tension. Laughter seems, if anything, to have a tonic effect. It produces arousal rather than being a way of coping with arousal. This proposition needs some better physiological proof than that yet supplied.
Third, the arousal jag hypothesis does not adequately explain why laughter sometimes does and sometimes does not occur when (i) children confront exactly the same stimulus and (ii) there seems to be no identifiable change in the level of their arousal due either to a change of mood or, say illness. Sroufe and Wunsch’s data bears out the intermittent nature of laughter.

It must be argued, therefore, that while changes in the level of arousal do sometimes seem to occur at the same moment that laughter does, these "jags" are not always the cause of laughter; that laughter seems to be provoked by different sorts of arousal levels; and that as a "cause", such jags seem to beg too many questions. If, for example, you laugh at a repartee in a dinner party, in what sense could the words (and let us assume it's a hostile barb, not a dirty one) be likely to lead to change in the level of arousal and how could the change be quick to "cause" the usually immediate laughter that follows the barb.

Like a number of hypothesis, the arousal jag is useful, partially true but far from being the global truth which its proponents sometimes seem to argue it is.

INCONGRUITY (H)

INTRODUCTION:

The idea of incongruity has often been seen as
the root of all humour. What makes us laugh is that what we expect fails to happen. But, clearly, just the unexpected does not always make us laugh. We do not expect to see a man run over in the street but the sight does not make us titter. Only the violation of certain expectations can make us laugh. The problem with the development of laughter in the child is to see the kind of expectations whose failure makes us laugh.

The observations here offered suggest that the first incongruities are to do with roles. Already at 12 months, the child is a sufficiently keen social observer to know when his mother does something that, really, a baby should do. Sroufe and Wunsch noted that children often laughed at their mothers crawling in the month after they had first crawled. Despite this finding, most incongruity research continues to focus on things. Rothbart and Pien (1980), for example, studied the response of 8 two-year olds to a jack-in-the-box in the lab. Despite sessions of up to 21 minutes, only 5 of the children laughed leaving the authors with "not enough data for a meaningful analysis" (p.14). Given the Sroufe and Wunsch finding, this emphasis on objects is disappointing. R crawled very early - round 5 months - and I failed to test this in that month as I was not aware of this finding at the time. But R's first laughter that is
not due either to well-being or to simple arousal levels seems to do with this kind of incongruity.

Laughter that is due to incongruity with objects seems to come later. It involves exaggeration, mistakes and with N, as we shall see, there is by 5.6 some sense of social incongruity. Children also often develop and build on the incongruity — which is an important exercise, I shall argue.

In the literature on laughter, much has been made of whether young children prefer jokes that involve incongruity or jokes that have resolutions. These observations show that young children do often create incongruous jokes early but that they struggle both to appreciate and to create jokes that involve resolution though, by 5.0 N is beginning to offer some almost elegant resolutions to jokes. Some observation of adult jokes in the New Yorker suggests, however, that it is not clear that they always prefer resolutions.

**OBSERVATIONS:**

At 12 months, R is beginning to cope with one kind of incongruity. He is very amused by the dummy game in which either Aileen or I put his dummy in our mouths. This game can make him laugh even at times when he might cry.
At 13 months, one evening, he is in a very
miserable mood and he holds out his dummy for Aileen
to take. He inserts the dummy in her mouth and he
laughs at that. At the origin of playing this game,
Aileen put the dummy in her own mouth. (H.1)

With this game, Aileen often makes a noise that
sounds like disgust. At 10 months, R laughs when Aileen
puts the dummy in her mouth and says "Yuck". But at
13 months, the noise is not obligatory. It might be
the action of her opening and shutting her mouth —
Aileen makes her mouth very wide — which might trigger
the laugh. But, by 13 months, R finds this amusing
in itself — at least at times. (H.2)

At 9 months, I attempt an experiment with R and
do something incongruous to see if it will make him
laugh. I put an empty fruit basket on my head. There
is no reaction at all. I smile at him. Then, I put
the basket on his head. At first there is no laughter.
Then, I smile and I get a smile out of him — to please
me, I suspect. (H.3)

The first perception of an incongruity appears
to be of an incongruity related to the self. R often
joins in situations when N is laughing at something
incongruous but then R laughs because he wants to be
part of the situation. For instance, at 9 months, I
am bathing N and R. N is being obnoxious and I threaten
to smack him unless he brushes his teeth. I hold R.
N picks up the toothbrush and brushes his teeth but an inch away from his mouth. Then, he puts the brush near R's toes. N laughs. "I'm going to brush his toes". I laugh too. N adds: "I'm going to brush his feet". N laughs and R joins in the laughter. (H.4 see also N.11)

INTERPRETIVE:
R appears to perceive the social value of joining in a laugh long before he can see the reason for doing so.

At 9½ months, R also laughs when he puts his finger in my mouth and feels teeth. Aileen says that he does this quite often. This may be a preliminary to the dummy game. (H.5)

INTERPRETIVE:
It may be that it is a sensual game since he puts his fingers inside the mouth. On the other hand, the ridges of the teeth which one would not tend to describe as sensual seem to be the particular stimuli that makes R laugh.

At 11 months, R begins to laugh at pompous language like "Nahbaloo". Often this is loud but, sometimes it is not. I make a number of efforts to say words like these without any odd facial expression. R laughs but
whether he can or cannot recognise these as not being of the genuine language is far from clear. (H.6)

At 13 months, I try the dummy trick with R. One evening I do it 6 times. I put it in my mouth and make a "Yuck" noise. He laughs hugely. Then I simply put the dummy in my mouth without a "Yuck". He smiles and laughs, but laughs much less. I then make the "Yuck" noise with the attendant contortion of the face that goes with it. R laughs hugely. (H.7)

INTERPRETATIVE:
There seem to be two elements in the dummy game. The noise and face are by themselves able to trigger laughter. The simple dummy in the mouth is either not incongruous enough or not perceived as being incongruous enough to lead to as much laughter. But it does lead to some laughter. At 17 months, R laughs at this without my making the slightest noise.

Distortion of the face does seem to amuse rather than to frighten. At 9 months Aileen sticks her tongue out at R. He laughs. Aileen is careful not to make any noise. The laughter is still very loud. She does this about 5 times until R gets bored and stops laughing. (H.8)
By 15 months, there is the first example of R laughing at an incongruity that involves an object. N has sat himself at my typewriter. R points to N and laughs. Partly, too, the ping of the keys as N hits them, but R clearly notices the fact that N is where I usually am and this makes him laugh. (H.9)

**INTERPRETATIVE:**

N from 3.6 on, seems to have some awareness of incongruity of roles: then N can swap roles and find that funny — playing games that may lead to his being able to handle sarcasm and being sarcastic at someone's expense.

At 19 months, R can make N laugh by doing incongruous things which R cannot recognise as being incongruous. R is playing with the pepper pot. He has it the wrong way round but he firmly believes that he is peppering on his chocolate cake. N cannot stop himself laughing at this. (H.10)

**INTERPRETATIVE:**

N uses this ability — that he can laugh at silly or wrong things that "the baby" can do — quite often. The behaviour seems to fulfil, at the very least, two functions. The inappropriate behaviour of R confirms N in his own superiority in the fact that he is older and more competent. But, also, it is a way of playing
with R and thus becoming closer to him.

By 19 months, also, R has begun to be able to pretend to eat. There is a particular gesture in which R puts his fingers close to his mouth, wiggles them and then his mouth chews at them without quite touching. It is obviously like eating with his fingers. N often points to edible things and R makes his "eating" gesture and laughs. More interesting is that R can now do this gesture when N points to toys. R "eats" the toys - and laughs. (H.11)

It is also hard to know how quite to classify some new experiences that R laughs at. At 19 months, I take R to a launderette. We arrive and R is fascinated by the sight of the clothes spinning in the machines. He does not laugh out loud but he looks at the clothes spinning with the lower jaw dropped and mouth wide open. The next day we have to return to do some more clothes. The machines fascinate R a little less. But he laughs for about 30 seconds as he stands in front of a tumble dryer watching the clothes go round. About five minutes later, I have to put a new coin in a tumble dryer. I get R to watch hoping that he will laugh again. But though he attends to it, he does not laugh. (H.12)

Distortion of the human face makes R laugh as we have seen. At 1.8, he brings into the living room a
plastic mask of a monkey face. R laughs. I ask:  
"Is it you?" He says "Daddy"! (H.13)

At 22 months, I try on R the experiment mentioned by Sroufe. I crawl around the floor. I get no laugh from R at all. All he does is to say "I sit here". (H.14)

By 22 months, too, Aileen and R are still playing the dummy game. R has a dummy in his mouth. He puts it in Aileen's mouth. Aileen makes no noise. R laughs. She throws her head back and makes a "delighted" face - as if she were a baby who was delighted. But again, there is no noise and R laughs. In the past, the noise was an important element. (H.15)

There is an interesting climax to the dummy game which involves N. When R is 1.11 and N 5.9, N is having a bath with Aileen. R comes in with two dummies. R gives one of them to Aileen and smiles. The fact that R gave Aileen a dummy sends N into transports of laughter. N begins a long, hysterical outburst of laughing. R looks concerned rather than amused. The dummy then passes between Aileen and N. As Aileen wails that she wants her dummy, N laughs. N then demands the dummy himself. N sucks the dummy himself but this does not amuse him very much. It was Aileen wanting the dummy that was so funny. (H.16)

INTERPRETATIVE:

One obvious interpretation is that N is still too close to dummy-sucking age to really laugh at himself sucking a dummy. The game then goes from the dummy sucking
to the rubber duck. Again there is here an incongruity. Adults should be serious in the bath and, whatever else, they should not play with rubber ducks. Both R and N want the rubber duck which makes both N and R laugh uncontrollably. They begin to splash each other. (Does R laugh much less because he is not in the bath?)

At 2.0 R can recognise incongruous behaviour in N. N insists on wearing Aileen's red jacket so that the arms are too long for him. N flails the arms around and they flap. R laughs - again it is not pure incongruity. (H.17)

At 2.1 R creates for himself his first truly successful conceptual incongruity. R picks up a cucumber in the kitchen. He says "Cucumber fly!" He grins at this. N picks up the joke. That week, we had watched a performance of The Flying Dutchman on television. N had been mesmerised by it and had insisted on staying up. N now declaims: "Tonight, instead of MASH and The Flying Dutchman, we present The Flying Cucumber. This woman is in love with the image of a cucumber". (Oh Freud! What would you have given for this observation). N laughs and says he likes being silly. (H.18)

INTERPRETATIVE:
Over the next weeks, the notion of The Flying Cucumber
is repeated on a number of occasions. R, sometimes, himself brings it up. He knows that it was well received. And, also, it is a way in which N, Aileen and I try to make him laugh. I will give in some detail here how this basic incongruity got played with because it introduces something which seems important. Children elaborate incongruities. They play with them. Often, the playing is quite simple - the flying cucumber sometimes turns into a flying carrot, a flying potato (just the kind of responses that make for high divergent thinking scores).

While the first incongruities R responds to are those of role, the first incongruities he creates are conceptual. The evidence of my two children suggests that the ability to elaborate on conceptual incongruities is the first playing with ideas and structures of ideas. It precedes jokes - and the attempt to construct jokes. Later on, N began round 4.6 to try and put jokes together. He understood some of the basic elements of jokes and laboured to construct his own. It is arguable that the first skill a child learns, after the initial recognition that an incongruity is an incongruity, is to develop that incongruity, to elaborate it so that its basic structure gets fixed in his mind. It is not unlike learning a skill.
Round the time of cracking the first flying cucumber, R is beginning to be fascinated by Batman and Superman. He incorporates this with the flying cucumber. A month after the initial laughing at this, R laughs a good deal about the flying cucumber. He often takes on the part of being the flying cucumber in which incarnation he whirls around energetically.

At 2.2, two months after the original, R picks up Aileen's sandals and waves them around. He laughs as he says: "Flying boot" and dips them into his potty. I tell him not to - which makes him laugh but also makes him desist. (H.19)

Also, now, one evening at dinner, N is asking R testing questions about where we are. N is displaying his superior knowledge. After this, R gets up on his chair, laughs at a few gestures and says "Flying cucumber". He laughs - and he seems well aware that it will make us laugh. (H.20)

Given that this flying cucumber has so lodged itself in R's mind, I decide a few manipulations of it. My first were to sub turn it into CRYING CUCUMBER - tearful or airborne the vegetable is after all, incongruous. This gets no laughter out of R. I also try LYING CUCUMBER. Now, R knows what crying is though he probably does not know what lying is. There is no laughter with LYING either. Instead of playing with
the first word, I try playing with the second word. I say FLYING MUMUMBER. On this, R laughs hugely. He likes this so much that he repeats it himself twice. (H.21)

The next day, we return to this theme. R is lying on the bed. He says first, with a grin, "I thought I was alone". I lie down by his side. After a while, he says "Flying Cucumber" and laughs. I laugh too. I try, again, with "Lying Cucumber". R does not laugh. He says: "Flying cucumber", again, and laughs. I say to him "Flying mumumber". Again, R laughs hugely. Finally, I say to him "Flying mumumber". This also makes him laugh. (H.22)

Five days later, R repeats – and again, he originates this repetition of the Flying Cucumber jokes. The Flying Cucumber is not the only incongruities R laughs at. He pretends to drive a bus round the kitchen and laughs. Then he says "Swimming Bus" and laughs. (H.23)

At 2.5, I try on R the idea which comes from Chukovsky – and which was this point that she discovered that dogs miaow. R reacts to this by saying seriously that dogs go "wof-wof". I try to develop the incongruity by saying that dogs go "moo-moo". No, says R, cows go moo-moo. Yet he has by this age a quite rich
fantasy life. I change tack and I say to him that since he has just said "moo-moo", he must be a cow.

"No, I aren't", he says.

"But cows say moo and you just said moo-moo so you must be a cow".

"no" says R.

I repeat, again, the logic behind it. R now says to me: "You say moo-moo".

"Moo-moo" I say.

"You're a cow", he says and laughs. He enjoys that idea and laughs with a certain sense of triumph.

By 2.5, as we shall see when we come to rhymes, R has also begun to develop a feel for playing with incongruous rhymes and for elaborations based on them. Also at 2.6, R can make incongruous use of objects. At breakfast, for instance, he tries to use a Mr. Man finger puppet as a spoon to eat cereal with. He laughs at himself - and wants us to laugh with him. (H.25)

When I began to observe N in some detail, he was 3.6. He was already quite adept, at creating and expanding incongruities as well as responding to them.

On holiday in Greece, I had missed N and Aileen and gone to look for them. When I returned to the house
we were renting, Aileen said they were wondering if I had been turned into a tree. N added: "I decided you turned into an orange". He laughs. (H.26)

Later that evening, N says: "I decided you turned into a dog". He laughs at this and adds: "I decided you turned into a brick". He laughs. "I decided you turned into everything". (H.27)

**INTERPRETATIVE:**

This game with its accent on changing into something weird is, perhaps, linked to games which are based on switching identities and roles - a developed version of the baby who laughs because he sees his mother crawling on the floor.

At 3.6, also we play a game in which Aileen has said that I am a prune. N says that we can both be watermelons. Aileen wants to be something different from me.

N : David can be a lump.
Me : A lump.
N : David can be light (laughs).
Me : That's better.
N : David can be a pie (laughs). You can be a lump of light (laughs) and a light (laughs). (H.28)
There are many other examples from this time of this kind of stringing out with incongruities that have an obscene or a disgust basis.

At 3.11 N can enjoy the kind of simple incongruity. He is playing with a roll of cotton wool and the new baby's powder. "They're sausages", he laughs. (H.29)

As R begins to be at all mobile and an active presence in our life, N derives a good deal of laughter out of him.

At 4.5 when R is 7 months old, N looks at R crawling under a chair and laughs: "R is driving a giraffe". The comment is bizarre, to say the least. Two days later, R tries to grab hold of the broom which must be five times his size. He leans on it and the broom falls down nearly hitting Aileen. N laughs. (H.30)

At 4.7 being in any way identified as being a baby makes N laugh. One morning he and R are in our bed and N laughs: "His dummy's in my ear". (H.31)

Odd things that seem, but may not be, incongruous make N laugh. At 4.7, N notices that there is a sponge on the kitchen balance. "Weighing a sponge", he laughs. (H.32)

**INTERPRETATIVE:**

Now it is perfectly sensible to weigh a sponge but a
sponge does have that airy quality like the proverbial feather so it is not so strange N should laugh at it although an adult would not. But, if what he is doing is learning to laugh - and, to an extent - relying on adults to tell him when, then the laughter is understandable.

It is also important to notice when a sophisticated incongruity fails. For example, in the Dr. Scarry books, there is the story of Dr. Krunchew, and animal dentist. After working all week on the molars of moles and the wisdom teeth of elephants, Mrs. Krunchew packs off her hard working husband to the museum. There he is fascinated by the whale and her giant teeth. Scarry means one to laugh at the fact that, yet again, Krunchew finds himself facing teeth. At 4.2 N laughs at this story but what he finds so funny is the gigantic whale. The adult irony that the dentist should hark yet again to teeth is lost on him. (H.33)

But also by this age (4.8) N can turn on an adult. On a bus, N asks who puts the posters on hoardings up. I say companies hire people to put them up. N: "What are the men called?" "I don't know. Poster putter uppers". This gets no laugh. N is not satisfied. I say "I don't know. They stick them. Maybe they're called stickers". N laughs knowingly. "No", N says, "stickers are things you stick". (H.34)
By 5.3, N can grasp the incongruity that is reflexive. N can laugh at a W. C. Fields film in which Fields on the set always has whisky but he calls it pineapple juice. One day a joker puts pineapple juice in instead of booze. W. C. Fields says: "Who put the pineapple juice in my pineapple juice?" N laughs. The funny thing is that that's what the pineapple juice is for. (H.35)

By 4.8 N is becoming interested in jokes — and we shall deal with that separately. His first jokes are based on contradictions as much as incongruity.

R and the fantasies and fantastic possibilities of a baby afford N much amusement. At 4.9 N toys with the idea that R should play the baby Jesus in the nativity play at N's nursery school.

Also, incongruities which are threaded into games that we play touch off quite hysterical laughter from N. One day when N is 4.9 we are playing with a cowboy hat. N has hidden the hat from me. Aileen suggests that it might be in the freezer. I say it'll be a frozen hat. N laughs hysterically. Then, Aileen guesses it might be in the mustard jar. N laughs. She then suggests to N that it might be cooking in the oven. N laughs. And, therefore there will be hat for dinner. N laughs maniacally. (H.36 see also 0.17)
What is socially appropriate can also now be played with. At 4.11 N is in school. We have to go to school one evening to see his book in which his work is. Oh yes, we say, but the talk suggests that we might have to spend the night at school.

A : But you can't spend the night at school ... where would you sleep?
N : Laughs at this. Then, he adds:
   No, you couldn't sleep. (H.37)

At this time, N often seems to repeat the punch-line or end line of something funny. This repetition is very like the questions N asks about whether his jokes are funny. They seem part of the learning process.

Classically, exaggeration also makes children laugh. Many incongruities involve exaggeration - we have seen that N at 3.7 decided on the exaggerated act of breaking the sink. But pure numerical exaggeration rarely causes jokes. At 4.8, I offer N fish fingers "one or two" I say. N says: "one or ten". "Ten", I say. N: "Ten is a joke". "39 fish fingers would be a joke". (H.38 see also K.7)

There are also incongruities that depend on exaggeration in a subtle way - and change. At 5.0, I am walking N to a party and we look at our shadows.
Yesterday he said to me: "I look like a 7 year old and you look like an 11 year old". The shadows did make him look taller then. Today, I ask him if he still thinks his shadow looks like a 7 year old. "No an 8 year old". "Do I still look like an 11 year old?" "No", he says, "a 12 year old and a 13 year old - a 21 year old". He puts his hand to his mouth he is laughing so much. "You swopped from being a 13 year old to a 21 year old without being a 14 year old. (H.39)

INTERPRETATIVE:
If that is his explanation of why he is laughing so much it is odd. One can grasp why the sudden and swift progress from 13 year old to 21 year old should be funny. But why is the fact that one failed to be a 14 year old in there, too. Is it simply a mistake on N's part. He was aware that the transition from 13 to 21 was so exaggeratedly swift as to be funny. He began to try and account for it.

At 5.0, N mixes and elaborates the notion of man as machine - which Bergson said was the prime cause of laughter. We are driving with a neighbour, Hilda in her car. I will not let N put the half chewed apple on the dashboard because it might spoil the motor of the car. Hilda says it's odd that he should say motor car rather
than car. Her eleven year old daughter adds: "And you should say motor bus and motor lorry". (H.40)

And N adds: "Motor motor cycle". He laughs.
He then adds: "What if people had a motor?" Laugh.
"Or if you just had a person walking a steering wheel. Wouldn't it be funny if you had people driving upside down in a car or steering wheel on the roof of a car?" (H.41)

Conventional experiments cannot test if laugh at self comes before laugh at objects if the studies usually use, as they do, stimuli the psychologists select - and these tend to be objects.

At 5.3, N produces one of his first truly good repartees. He says he is going to say something funny. "What's the rain? The rain is God spitting". At 5.4 there are still odd remarks which an adult would find bizarre rather than funny. N says: "Isn't it funny if you had a whole lot of snakes and they were all sleeping in a tent?" And he laughs. (H.42)

When N is 5.5 R plays with a pepper pot and "peppers" his cake. N can hardly contain himself. (H.43)

Two days later, on the front door step, R calls N a buff. Buff was R's first word and seemed to apply to anything that moved. N laughs: "Do I go on wheels then?" (H.44)
At 5.6 too, N can mix different sorts of incongruity. He can make it into a ceremony that is ridiculous. He wants to have jelly for breakfast. In order to indulge him, Aileen agrees. N brings the jelly ceremonially out of the fridge and declaims: "This is ham - delicious ham". (H.45)

At 5.6 N walks to school. He sees a sign that says "Space to let". He laughs derisively. "Space can't be let". (H.46)

At 5.9 when N is well into producing jokes which, as we shall see, have a good deal of the formal structure necessary for adult jokes, he can still come out with - and find funny - very simple incongruities. We are in a train and N makes up the story of a man who walked on his head and walked everywhere upside down. It is a case of very simple inversion. (H.47)

At 5.10 we have already seen the dummy game in the bath between N, A and R makes N laugh. Incongruities of role remain important. (H.48)

When N is 5.10, I was making a series of films about mental health in which I talked to many people who had psychiatric histories. N knew something of what I was doing and asked me one evening about them. I tried to explain something about the problems there were in getting people to say yes to being filmed. N smiled: "Are they so mad they say yes when they mean no?" (H.49)
At 5.11, we have seen that when R first spoke of the Flying Cucumber, it was N who then developed it by saying that "tonight, instead of MASH and the Flying Dutchman, we present the Flying Cucumber. This woman is in love with the image of a cucumber". (H.50)

N can use the fact that he can produce incongruities and mistakes in R to show off. At 2.3 R says seriously he wants mustard with his cereal. Loftily, N replies: "I prefer my mustard with yoghurt" and laughs. (H.51)

By 6.3 N can produce quite sophisticated incongruities that reflect a knowledge both of the real world and of some very basic realities. Take this dialogue:—

N : Why don't we get a cab today?
Me : Because cabs cost money.
N : Why don't we buy money?
Me : You don't buy money, you earn it.
N : (Laughs) Why don't you use money to buy money?

I repeat you have to earn to live. N says, with a tight grin: "You could buy nothing without money". Nothing is available for no cash. He laughs at that and adds: "But nothing wouldn't be very useful". (H.52)

I have written something of the incongruity where a person takes a role that is wrong. We will see later
that N, at a certain point, enjoys the idea of swopping roles. By 6.0, he also has the germ of enough social awareness, to laugh at certain social things. For example at 5.10, Adele and Aileen are at dinner and put on very upper class English accents as they talk about their Martinis. N is completely hysterical over their voices. He tries to make R laugh by making funny noises at him like "Wagga wagga". At these, R laughs. But Aileen and Adele's snooty accents make no impression on R. (H.53)

Manners are also a source of amusement. One evening, I ask N to get a drink of water (N is 6.3). He brings it and sits down opposite me. I say: "Thank you". He says I should have said please as I forgot to say that when I asked. I should say "Please Thank you". I say: "Please". He says: "Thank you". I say: "You're welcome". N laughs and adds "I'm pleased you're pleased". (H.54)

THEORETICAL SUMMARY:

There appears to be a development in the kinds of incongruity that each child can laugh at and can create. The pattern suggests that the first kinds of incongruity are to do with the roles that the child and those about him play. Games that involve the
swopping of identities - in which N plays me or in which N imitates being a baby - are a constant source of amusement. The suggestion that the first incongruity a child reacts to should be an incongruity of role - Mummy with Dummy, Mummy crawling or brother at the typewriter - should, perhaps, not be that surprising. Certainly, my own children had more experience of proper social expectations - i.e. adults usually walk, babies have dummies - than of concepts that were more intellectual. McGhee (1975) tested young children with jokes which involved seeing cars upside down or dogs carrying cars, jokes which necessarily involve experience of dogs and cars. He assumed that 3 year olds would find such jokes incongruous. Observations of R, certainly, suggest that earlier perception of incongruities are more social and less abstract.

Having argued that the first incongruities a child reacts to are social ones - solely in R's case and in terms of the Sroufe and Wunsch (1972) - the data also suggests that the first incongruities R creates are conceptual ones. The flying cucumber (H.18) is the first example of that. It would be foolish to read too much into one observation but this does suggest a potentially interesting - and experimentally testable - distinction. Do infants first react to social impropriety, to knowing "something is odd"
without having sufficient social skills to initiate such games? Only when \( N \) is 3.6 does he have the skill or ability to demand to play games in which \( I \) act the baby and he acts the parents. Before that, adults have to start them off.

The pattern by which \( N \) and \( R \) develop their reactions to incongruities and the pattern by which they create their own incongruities may actually differ. Observing incongruities also makes it important too.

It is important to distinguish laughter when expectations are violated from laughter due to denial and contradiction which, we shall see, is an important form of laughter. It will be argued that when children come to make jokes these are the two basic patterns that they have isolated as being funny. This has happened by 2.6 in \( R \). And, from the cognitive point of view, these are two of the key elements to all adult jokes. What is still lacking is the cognitive sense and sometimes emotional pleasure in resolution as when you work a pun out. And, as will be seen, these cognitive patterns will also emerge in far more emotionally-laden jokes.

**RHYMES AND PUNs (I)**

**INTRODUCTION:**

There seems to be a connection between funny
rhymes and noises. The first seems to come with stringing two rhyming noises together as in "BooPoo". From this, there are roughly three stages. First, is the reaction to other people's funny rhyming noises. This precedes the age at which the child can put together his own noises that make him laugh. There is then a stage at which there are two kinds of funny rhymes. One is the substitution of a single word - for examples Bes for Kes. The other - often involves not just the substitution but also the alteration of the sense often by contradicting it.

As with the other things, it is worth starting with R. We have already seen R's reaction to noises and sounds. Some of these involved the elaboration of noises and noises set within the context of a game.

OBSERVATIONS:

At 1.10, I try the first pun on R. R has mastered the use of "buy" and "bye". But he doesn't seem at all amused by my attempts to muddle them or to say: "We're going byebye to buy something". It fails lamentably. Again at 1.11, I try to juxtapose very similar sounding words in this case, "feet fit ... your feet fit" ... But, again, he seems not to understand the procedure at all. (I.1)

R first begins to produce plays on sounds around
2.3 and the context is lavatorial. At 2.3 R is singing Happy Birthday one morning and changes it into Happy Aaah* - with a laugh. He does this two days running and, on both occasions, elicits both a look of shock and laughter from N who says: "He's yelling Aaah just like that". N laughs at this - but, it is, in fact, quite a while since he was obsessed by dirty jokes himself. (I.2)

At 2.3 R is deeply committed to Batman, Superman and other super-heroes who are the stuff of his daily games. The first time that he uses one of their holy names to laugh is at 2.3 when he laughs as he invents Aaah-man - a character not usually in the Batman family. (I.3)

Also at 2.3, R begins to elaborate. He is singing Batman Batman as we push him along in his push chair. He changes this to Hatman Hatman and then to Fatman Fatman. As he sings Fatman Fatman, he points a finger at me and laughs. (I.4)

By 2.5, R enjoys a mixture of rhymes in which real and nonsense words are mixed. R laughs hysterically as Aileen who is lying by him says: "Piggy Wiggy Siggy Ziggy". The next day, R is lying on the bed by

* His grunt noise on forcing a bowel movement.
me. He is trying to get my attention and says something I don't understand. He adds: "Gak". He smiles. Then, he says: "Gok". And laughs. To test Aileen's idea, I say "Cock Sock". R laughs hugely. Then I say "Sick Gick". R laughs enormously again. R then says: "Piggy" which I take to be a request to repeat the Piggy Wiggy sequence. I do so. R laughs a great deal. Then, abruptly, he says: "Go away". There is no obvious reason for this. (I.5)

Also at 2.5, R begins to enjoy these kinds of elaboration. One evening I say to him CATWOMAN and we go through a whole list of animals who have WOMAN added. He does not laugh till about the sixth "animal-Man-Woman", who is RABBITWOMAN. At this, he laughs. (I.6)

At 2.6, R repeats twice N's joke about "What did the rake say to the Hoe? Hi-hoe". N got the joke from a baby-sitter. R repeats it after N tells it twice. (I.7)

At the same age, R has been influenced by N to listen to the records. He has become especially fond of Abba's hit, "Money, Money, Money, It's a Rich Man's World". He gives a rendering of this and then changes it to, "Honey! Honey! Honey! It's a Rich Man's World". 186
He laughs at this - as does his friend John who is exactly the same age as him. R knows Winnie-the-Pooh well and is aware of the latter's craving for honey. (I.8)

There is then about a month in which R produces almost none of these linguistic manipulations. Then at 2.6, he bursts into three different rhymes in one day, apart from repetitions of the Batman/Fatman theme. First, he tells me with a laugh that I am an Inga-Onga. I am sure the words mean something quite definite to him. But when he laughs I tell him I don't understand. Later that day, he is hiding inside Aileen's anorak and, occasionally, his head peeps out. He does not laugh each time his head peeps out. Sometimes, he says "Boo". At one point, Aileen says it will be soon time to have a bath. R says he doesn't want a shampoo. A minute or so later, he says "Shampoo-Boo". (I.9 See Peek-abo)

"Buc Fuc" - he finds hilariously funny. He repeats it at least three times. (I.10)

At 2.5, R still elaborates on the Aaah-man theme. For he now sings Aaah-man Aaah-man, Dummy-man, Dummy-man and Hatman. He laughs continuously as he produces these variations on Batman. (I.11)

N did not, of course, have the advantage of playing
with an older brother. When I began to observe him, he was past the point of these first original "funny" rhymes.

At 3.10, I try to teach him about puns. We were reading a book about rivers and I made up "The ships go up to the "frocks" instead of "docks". N does not laugh at all though I was not sure he knew what frocks were. I then add that: "The brains unload the cargo". I get no response till I explain that it is cranes, not brains, that do the unloading. Then N does laugh. (I.12)

He has his revenge the next day when we read a book about RAIN. We are looking at a picture in which a hat keeps someone dry. N says: "The cat keeps me dry". I say: "No". N adds: "Do you laugh when I say that the cat keeps me dry. Is it funny?" (I.13)

INTERPRETATIVE:
He seems to have applied the principle he learnt yesterday - to my disadvantage.

But this is a rather isolated example at 3.10. It is just after 4.6 that, with N, there comes to my notes many rhymes and puns.

The first note I have of rhyming is at 3.6. N is drawing. I ask him if he likes scribbles and bibbles
which seem to be what he is drawing. He replies - but there is no note of a laugh - after a minute: "I don't like scribbles and bibbles and kibbles and timmels. Go to bed, timmels". (I.14)

It is around 4.7 that N begins to pour out a veritable stream of rhymes and would be puns.

At 4.8, N who has seen plenty of Egyptian mummies in the Richard Scarry books has the following dialogue with Aileen:

N : You're my favourite mummy.
A : Thanks but I'm your only mummy.
N : No, I meant you're my favourite mummies in a case.
A : What's that.
N : It's a joke. (I.15 see also K.8)

A few days later, N is singing London Bridge is Falling Down. But, after a few repetitions of this, he changes "bridge" so that the song becomes "London Ham" is Falling Down and then "London Pig" is Falling Down. (I.16)

At 4.9, N can produce reasonably incongruous plays on words. We see a bus. N has learned that L. T. is London Transport. N has a little laugh and says "London Transpit!" I tell him to eat up the last piece of meat. He says with a laugh: "Will you eat the glass piece of meat?" (I.17)
Often, this obsessive rhyming and substitution—which are two quite distinct phenomena—are part of being naughty. N seems to know that this will annoy me and his mother. A good example at 4.11, is when I tell N to do something "right now". "White now", he giggles—and, of course, annoys me even more. With it, there can come a mania for repetition. N at 4.8. I am lifting R out of his high chair. Me: "I'm getting you out of your chair". N sings and substitutes Bang for chair four times. A pause then N laughs. Often, there are pauses before the laugh. (I.18)

**INTERPRETATIVE:**

It seems to me that the pause is to check both that the joke is funny and that it will annoy you.

At 5.0 N is still very much into these rhyming and punning games. One weekend, he even calls Sunday Punday—and laughs, though of course, he doesn't realise that he has managed to make a pun on a pun. With punning goes tricking. He has one rhyme that he loves which goes: "I tricked you/I bricked you". (I.19)

He often also laughs as he repeats a rhyme that he has made up which goes: "A dog went for a jog in the fog". I ask N what he finds funny in that. He says it sounds funny and it's not what you expect it to be—i.e. dogs don't go for jogs in fogs. (I.20)
The collection of sounds that are meant to be funny doesn't always work. Dr. Seuss' Sleep Book aims at, at least, a laugh a page. Only two names get a laugh - The Hinkle Horn Honking Club and Hoop Soup Snoop Group. Shorter collections like the Herk Heimers don't elicit laughter though I try hard to make them sound funny.

In the next week, N continues to make up these rhymes. Walking down the street he laughs and he makes bus go with pus and letterbox go with betterbox. The rhymes do not always make him laugh. (1.21)

Two months later at 5.3, N is still very much into rhymes. In the kitchen, N says: "I just want a drink of bilk", which is milk. He then goes through every possible rhyme for milk like kilk, dilk or silk. When he hits a real word like silk - whose meaning he knows - it does not seem to lead to any greater laughter. (1.22)

At 5.3, we get London Bridge becoming London ham again. N begins to alter the lyrics of songs that he has heard. He now applies the simple principle of contradiction in order to make up something funny. So, he retains the rhyme of the original lyric - and the rhyme is part of the pleasure he gets out of this - but he butchers the sense. Snow White is the first victim. He tells me he made up two funny things.
One is a rhyme that aptly mocks; for the song "I'm wishing" he says "I'm washing". The second is to substitute for "Someday my Prince will come"...

"Some day my dinner will come". He does not laugh as he recalls these two bon mots. Sometimes, N can produce a pun he doesn't realise. N listens to Aileen and I talk of Pentecost and what it means. "Rent a Ghost", N says, but he is not sure whether to laugh. (I.23)

By 5.5 when N is still very much into these rhymes - producing Yes, Bes, Kes - he also begins to play a language game in which he has a language all of his own. When he speaks this language it sounds very much like nonsense with a French accent - and a few real words of French that N knows. But he resists any suggestion that it is French or anything like French. "It is my own language", he insists.

By 6.0, N often enjoys putting on a French accent. (I.24)

**INTERPRETATIVE:**

Perhaps the rhyming is a way of affirming mastery of the language by using distortion although R was producing distortions of the language long before he was a master of it.

By 5.5, too, N is capable of seizing on the oddest things as an opportunity for making puns. We are talking about returning from Turkey and N is explaining he didn't like Turkish milk. He wants a drink of
English milk and says: "Now I'm drinking Turkey" - he's aware of the play on words and laughs. (1.25)

We are at the railway station. N reads off Plumstead which becomes Pumstead. He reads off Preston Road which becomes Present Road. The puns are a little more accurate. We have Adele staying with us and she talks of her boyfriend. N says: "Boyfriend ... Toyfriend ..." and laughs. (1.25a)

By 5.7, N is still happily making puns. We watch MASH one evening. The next day he tells me "You like watching MASHED potatoes". (1.26)

At the same age, N begins to judge adult puns with a certain severity, or perhaps, to have an inkling of when adult jokes fail miserably. We are at lunch and N says I laid the table for 6. Why, when there are only five of us. I can't now remember the reason. I then say that it's because Mr. Winebottle is there and Aileen says it's because Mr. Candle may be coming. After a while, I say: "It was a joke". N, after a pause, responds: "I don't think it was very funny". I say: "You may have a point there". N excitedly makes a rocket shape in the air with his hands. He says: "You mean a very sharp point". And he laughs. (1.27)

N can bring these word plays into situations in which he has been hurt physically at least. At 5.8 he bangs his toe and wails. After a while he grins that it is not too bad. He adds, with a laugh, that it
was: "a banger sausage. That's something we say at school". (I.28 see also p.6)

At 5.9, N can also separate words into their abstract constituents. He looks at the written word "What" and says it looks like W and HAT and he laughs. (I.29)

N continues to use his language sense both to be naughty and also to express his superiority over R and the fact that he can understand R. We are at my mother's and N takes great delight in telling her what R's words are and mean. He smirks as he explains that Mik means Milk for example. With a low laugh, N tells his grandmother: "I know his language". (I.30)

Another pun:

N : "I'm not going to put on my news/shoes". (I.31)

At 5.9, too, N sees me reading the Sunday paper. We have a friend called Diana Page. He laughs: "You're reading the Diana Pages". (I.32)

Quite often, now, N hears jokes on television and repeats them.

N starts at 5.10 to make up lyrics to improve Cat Stevens' songs. Most of the lyric changes are simple opposition so: I have to go becomes I have to stay and
a song called *It's Saturday Night* becomes *It's Sunday Night*. (I.33)

For about five weeks, this becomes something of a mania. N also produces his own rhymes which make him laugh like:

*My name is Jack/I'm going to have a crack/
And am coming back/To give you a smack.* (I.34)

At 6.0, N is still very likely to come out with one of these. At breakfast one day he says: *"I don't want toast, I want boast".* (I.35)

N can make puns in order to express naughtiness or hostility. At 6.1, I tell R that he is a drag. N says: "Then why don't you drag him along" and laughs. N can also involve parents. At breakfast, N says:

"A mummy ache is much worse than a tummy ache". (I.36)

Again at 6.3, we compliment N on being mature and not whining. I add that whining is horrible. "But", laughs N, "not red whining". Because red w(h)ine is nice. (I.37)

**THEORETICAL SUMMARY:**

The emphasis children put on rhyming from 2.0 onwards in R's case seems to fulfil a number of functions. It offers R a way of testing out and mastering both his linguistic and phonetic skills. Secondly, the pleasure that adults continue to get in well-turned
rhymes in poetry and, even, musicals, suggests that there continues to be pleasure in both hearing and producing rhymes. Only two year olds don't have the discrimination of musical audiences or readers of heroic couplets. Freud would probably talk in terms of pleasure from linguistic economy. Since we know that adults have mastered the language, one cannot put down their pleasure in rhymes to pleasure in mastering something. But children obviously derive pleasure both from (i) the act of rhyming itself and (ii) the chance it gives them to expand their feel of the language.

But this analysis leaves out two other factors evident in both N and R. Rhymes often involve the simple cognitive trick of contradiction - I'm washing for I'm wishing - and they also come into the children's naughtiness. If the child in rhyming is testing out his mastery of the language, it sounds plausible at least to suggest that he is also using rhyming to test out his strength in the relationship with his parents. This does sound a little glib but the connexion between rhyming and naughtiness in N, certainly, seems very marked.

CONTRADICTIONS (J)

INTRODUCTION:

We have seen that much of what passed as incongruity
depends on denial, on the child contradicting a situation, an event or a person. These contradictions are not logical contradictions but personal ones. They seem to stem at first from just saying NO - usually when being asked to do something by a parent or when Aileen and I asked something which was just "No-ed". Again, the pattern seems to be that this first emerges in relation to a person rather than a thing.

OBSERVATIONS:

Often this contradiction is associated with being naughty. At 1.4 R is drinking water out of my bath in a yellow boat. I say "No". He laughs - and it seems a naughty laugh. R enjoys it. R bangs the coffee table up and down while I say "No". R enjoys each NO. He continues to bang the table and, also, he laughs. At 1.7, R takes a drink of someone's Tizer and I tell him: "It's not yours". That makes him laugh. (J.1 see also N.2)

At this stage R can react to a NO that comes from me. He is not capable, however, at originating his own contradictions. (J.2)

By 2.2, however, R can laugh as he contradicts. Aileen tells R not to be silly. He laughs and says "I'm not silly." His laugh conveys a certain defiance
and, in the next month, this kind of laughter is quite frequent. A week later, R stands up on the table and smiles as he says: "I'm not silly". (J.3)

By 2.3 R continues to assert himself. Aileen is telling him nicely he was wrong about something. R says: "I'm not wrong" and laughs. This contradiction seems not to involve any naughtiness. At 2.4, R again asserts himself by contradiction. R comes into our bed and, for some reason, Aileen tells him that he is something like a machine. R smiles: "I am not". (J.4)

Again by 2.5, R can incorporate this laugh at the saying of "No" into wider games. He and N are playing at being each other's mummies - a game of which more later. N refuses to say something R asks him to say. Each time that N says NO, they both laugh. (J.5)

There are between 2.5 and 2.6, many dialogues that centre on contradictions. We discuss something:

Me : Yes, it is.
R : No, it isn't. (He laughs)
Me : Yes, it is.
R : No, it isn't. (He laughs)

A week later an almost identical dialogue takes place. (J.6)
By the time I began to observe N, he was quite used to contradicting. At 3.7, we play with a ferry boat. It turns into a war game. N has a pencil which he tries to stick into the funnel. I act the voice of the boat and say "No" and try to wriggle the boat by turning it away. On each "No" - and these are straightforward No's - N laughs. (J.7)

At 4.8, N can use contradiction to get away with brattiness. I tell N to have some blackcurrant drink as it's full of Vitamin C. He wants freezing milk. N: "It's not full of Vitamin C but of Vitamin K (N laughs). It's not full of Vitamin C (N laughs). It's full of Vitamin G". Notice how phonetically closer to C -

Me : It's full of Vitamin P
N : Laughs (J.8)

THEORETICAL SUMMARY:

Observations outlined in this section suggest that contradicting - and especially contradicting a parent - is often an occasion for laughter. This involves both the child asserting himself and, arguably, a certain incongruity. Section N examines observations of laughter when the child is being naughty and, particularly, the social tactic by which the child seems to learn that he may well get away with naughtiness if he laughs or, better yet, produces a laugh. The observations in this section also suggest, perhaps, that it is not so easy to disentangle the cognitive and emotional aspects of laughing at contradictions.
INTRODUCTION:

In looking at incongruity and rhymes and puns, we see the beginnings of the sort of playing that is essential to the development of laughter. The child has to learn skills of these kinds of games before he can create his own jokes.

Most research has concentrated on giving jokes to children and seeing how they will respond. It has been argued that it is only after seven that the child can appreciate certain jokes. My own observations incline me to argue that, from a much earlier age, children can take in complex jokes and laugh and understand them. But, secondly, that there is an intriguing - and formal process - by which a child learns to make jokes. The foundations for this have been laid in (i) perceiving incongruities and (ii) creating his own incongruities and (iii) elaborating these and, also, the similar process with rhymes and puns. In looking at rhymes and puns, we saw that simple substitution of opposites - for "I'm leaving", N says "I'm staying". The earliest jokes seem to involve contradiction which begins usually in a personal context in which the child asserts himself well before 2 (in R). So the elements crucial for making a joke are already present.
It seems worthwhile to tease out the formal, cognitive structures that a child has to master to make a joke - and attempt to distinguish these from the content of jokes. Often the jokes that a child makes involve aggressive and obscene ideas. But round 4.6 these begin to be structured and the child is conscious of a joke as something he is trying to make or form he is trying to achieve and which he wants approved. It is a learning process in which the child tests what is a joke both by testing certain cognitive structures and by seeking adult approval. The child often pauses after having cracked a joke, waits to see if there is a laugh and asks: "Was that a good joke?" The repetition of punchlines I have pointed out could well be a part of this process. The child has to expect the punchline to get the structure of the sort of thing that makes up the punchline of a joke well into his head.

**Observations:**

At 2.5 R produces what appear to be his first deliberate jokes. He says: "I'm going to tell you a joke. CATMAN". He laughs and comes round the side of the bed. It's an interesting joke because CATWOMAN is a character in BATMAN - i.e. it is a joke based on opposition. CATMAN is an opposite of CATWOMAN. (K.1)
At 3.7, the idea of a joke in itself exists for N. He laughs as he tells me: "I'm a baby lion. I'm a lion making jokes." But it goes no further. (K.2)

N is perfectly capable of creating funny situations based on elaborate incongruities that involve both aggression and obscenity.

Here are two examples from N at 3.7.

N : We can put our feet in the potty. (Laughs). We can put mud on our feet. (Laughs). We can put lamps on our tummies (laughs) and have breakfast in the sink. (Laughs).

A : And have lunch in the bath tub.

N : And have lunch in the potty (laughs). And have our feet in the potty (laughs). And break down our home (laughs). And break down our sink (laughs). (K.3)

**INTERPRETATIVE:**

N can produce not just strings of incongruities that could have made a silent movie but also sequences of disgusting food and unlikely food. The notion of the joke, however, is still missing and N makes no attempt to create jokes as adults understand them.
At 4.4, N is capable of making a nasty crack using exaggeration. We are eating and R is eating a lot. N remarks: "R is eating so much he could eat a wall". And N laughs. (K.4)

At 4.7, N begins to memorise and repeat jokes that he has heard on T.V. These jokes now make up an important part of the learning process. N says he liked this joke on T.V. "Why do people wear glasses in their sleep? So that they can recognise people they see in their dreams". N declares this to be funny. (K.5)

At 4.7, the idea of telling a joke comes upon N. His first jokes depend on contradiction and exaggeration. The first one is as follows: N says: "Stephen went out for a walk - but he didn't. That's a joke". He is a little disappointed by the fact that I don't laugh very much. We shall see that these kinds of jokes proliferate. (K.6)

The next day, I offer N fish fingers for dinner and ask him if he wants one or two. N: "One, I think". Me: "O.K." N: "One or ten". Me: "Ten". N: "Ten is a joke. Thirty nine fish fingers would be a joke". He laughs, well aware of the exaggeration. (K.7 see also H.39)

Neither of these are, in any sense, acceptable "adult" jokes. At 4.8 - and when he is dealing with convoluting a relationship - N produces a better joke
which is really a pun. This is in which he tells Aileen she is his favourite mummies-in-a-case. (K.8 see also I.15)

N continues this month to experiment with denial as the basis of the joke. The following dialogue is also at 4.8.

N : Do you want to hear a joke? R had a banana to eat. (Pause) That's funny.

Me : Why?

N : Because he didn't. (K.9)

He is also beginning to toy with the idea that a confusion of identities is funny. The next day, he says: "BBC is a programme. Isn't that a joke?" (K.10)

Two weeks later, N experiments with a joke that is incongruous but, again, there is lack of the punchline, of any resolution acceptable in adult terms. At breakfast, N says he is going to tell a joke. "What would happen if R went to see a pop star naked?" He then waits for a laugh. I add that that isn't a joke and ask what would happen if R went to see a pop star naked. But instead of attempting a punchline (of any sort) N insists on the initial incongruity and perseveres. He asks: "No what would happen if R went to see a pop star and got on stage naked?" (K.11)
INTERPRETATIVE:

N repeats the initial incongruity but does not seem to have any other strategy for making the vision of the naked R into a joke. He does not seem to realise that merely repeating the image will not make a joke of it. Oddly, however, a cartoonist might be able to take the image of the baby and pop star and turn it into a good visual joke. Verbally, it doesn't work. But N cannot yet do anything but repeat that first incongruity he produced.

OBSERVATIONS:

Two weeks later, a similar unresolved joke that makes fun of R, too, appears. N says: "Listen to this joke ... R was sitting up on a motor cycle". This pattern of joke slightly predates N's mania for altering lyrics on records. (K.12)

INTERPRETATIVE:

With observation K.12, the motor cycle, there is not even an attempt of the resolution. Examining such early attempts to make jokes does suggest that the child has to learn the structure of a joke. But it is a diffuse learning. N does not seem to go through a clear-cut learning stage in which he grows out of one kind of joke and into another. His mania for altering lyrics on records co-exists with enjoying other forms of laughter.
OBSERVATIONS:

By 5.6, N can explain certain jokes though he does not find them funny. I repeat to N the joke which has been elevated to such a pride of place in humour research by McGhee. The joke is that a man orders a cake and the girl in the cake shop asks him whether he wants it cut into four or six pieces. The man replies that he wants the cake cut in four; he couldn't possibly consume six pieces. N is, at first, bemused by the joke. But when Aileen begins to explain it to him, he says before anyone tells him that four, or six pieces, would be the same. But he does not find this funny. (K.13)

Also at 5.6, I try the moron joke about the serial or cereal on N. He laughs but, contra Wolfenstein, I see no evidence of jokes about this moron appearing or that there is a sudden abundance of riddles. There are some but not a flood. (K.14)

At 5.8, N is confident enough to declare other people's jokes to be bad. We have already seen that he found little that was funny in the Mr. Winebottle or Mr. Candle episode. A friend of ours, Doug, tells N a joke riddle:

Doug : Is the half moon or the full moon lighter?
N    : The half moon.
Doug : No, the full moon is lighter.
N    : I know what you mean - you mean lighter
N then points to a light and adds that it is not a very good joke. (K.15)

By 5.9 N can make appropriate "cracks" based on social observation. We are trapped in the rain close to Buckingham Palace and try desperately to hail a cab. N says: "Why don't we get a horse from Buckingham Palace?" No one laughs at this and, after a longish pause, N complains: "You hurt my feelings. You didn't laugh at my joke". Round 5.9, he begins again to be interested in jokes. This time, his interest consists a lot of repeating jokes that he has heard on television or found inscribed on ice lolly sticks. (K.16)

At 5.9, N has also been learning jokes from Helen next door. N laughs at the following:

N: "What time is it when you go to the dentist?"
Aileen shrugs. N: "Two thirty. Tooth hurt". He repeats this and clearly thinks us stupid for not getting it. He now repeats the joke so that we can make out more clearly "tooth hurt" - and N laughs. Two months later, N asks me the joke again. (K.17)

At 5.10, N can make nice physical jokes. As Aileen and I lie in bed, N says: "I've come to give you a hand." And he sticks his hand out for the taking. N laughs and says: "It's my kind of joke."
By 6.0 N is both capable of producing jokes as simple as he was at 4.6, and also, of expanding them. One day at 5.11, I recorded the following dialogues. The first was in the afternoon after N had been to see a Donald Duck film.

Me : Did you enjoy that film?
N : What film? (He laughs)

There is a pause after which he laughs again and says:

"They threw Goofy out of the window". (K.19)

These are jokes that are, still, perfectly simple and young. N is also still into his most basic changes of lyric.

That same day, N and I are passing a shop that is called Portwin's Last Stand. N laughs and says that the shop is really called Portwin's First Stand. He adds that this is a "double joke" as Portwin's Last Stand was itself meant as a joke. (K.20)

INTERPRETATIVE:

It seems to me that that exchange has in it the seeds of much intellectual humour including the ability to be detached. It is this ability to mix such a level of jokes that is intriguing for we do not see a shedding of earlier kinds of humour as N is able to grasp more sophisticated ones. He can laugh both at the trendy
The performance of jokes also matters to N. And he seems to perform these jokes in order to get them right. At 6.2, one morning and evening, N insists on going through a number of jokes. These include:


N: What did the high chair say to the low chair? Hi-chair.

N: What kind of a tree is like a hand?

The first two jokes fox me. But I know the third one and am about to reply. N gets in quickly before I can with the answer "A palm tree". He laughs even more as he explains that he got in so quickly because he was afraid that I might get it. It matters that he should deliver the punchline. (K.21)

THEORETICAL SUMMARY:

Over the next weeks, we have a number of other very artificial jokes and joke riddles that N repeats. They come from school or from T.V. He is very obsessed with them at times. Wolfenstein speaks of the obsession with such riddles - and much in the literature stresses it too. But with N, it seems to be something that he passes through quickly though he does repeat again the High Chair joke. At 6.4, riddles are quite rare.
The evidence from the children's early attempts to make jokes seems to be tending in a number of directions. First, it is clear that children like to make jokes and begin to produce a lot of "joke" material from the age of 4.6 in N's case. R has produced so far two jokes - both recorded. Both are imitations. The CATMAN jokes must come from my telling him about all the Animal-Woman hybrids like RABBIT-WOMAN: the Rake/Hoe joke is a direct repetition of N's joke. The joke material that N produces appears to suggest that by 4.6, the main cognitive form of jokes has already been established. In order to have a joke, you need either to produce something incongruous or something that is a denial or contradiction. Many adult jokes are based on contradictions but, usually, they are more subtle. N has mastered the concept but is far from mastering the execution of it in jokes like what if R drove a motor cycle. Also missing at this stage is any ability on N's part to produce resolutions to jokes. At 4.8 in the Dr. Krunchew joke, there is good evidence that he fails to get resolutions; by 5.5 with the W. C. Fields pineapple juice joke, he certainly can grasp a resolution but he is still unable to produce one.

The evidence also suggests that even tendentious jokes are set early with distortions not unlike incongruity. Singing Happy Aaah is, after all, incongruous in two ways - both in terms of the happiness of excrement and as a distortion of Happy Birthday. Finally, the
evidence here suggests that children do learn to make jokes, do play around with the basic structures jokes require by playing around with contradictions such as K.20, the Portwin's First Stand joke. N and R also appear to seek approval for their jokes and largely, for the reason of checking whether what has been produced fits the category of a good joke. N asks if it is a good joke (K.18), complains at getting a poor response (K.16) and actually queries whether that really is a joke (K.10). These are only some examples.

Telling a joke well is recognised by N as a performance it is worth succeeding at (K.21). He absorbs new jokes from television and re-tells them and wants, it seems, to get his performance right. By 5.0, he seems to realise that there are advantages to being able to tell a joke. People laugh; people give attention and there is that problematic product, fun.

OBSCENE JOKES

INTRODUCTION:

The classical Freudian view is that children begin to develop obscene jokes at the time when there is something naughty in the idea of peeing and shit. As the child begins to be toilet trained, he realises that it is forbidden to indulge in excrement. It causes
tension. So the child finds that the very saying of the forbidden words makes him laugh because they allow repressed energy to escape. Such is the force of the repression and such is the lack of cognitive complexity in the child that he needs to do no more than yell "Poo poo" or "Wee wee" to fall about laughing. A less Freudian view would be that, as the child is mastering these toilet skills, he laughs more at them.

The evidence from R is more complex. He was very easily toilet trained and produced few of his own dirty jokes until he was 2 by which time he was very rarely wet even at night. The dirty jokes that he produced, however, already had a certain veneer of distortion. While R was being trained, however, N did produce a certain amount of toilet jokes but N was by then extremely well trained himself.

**OBSERVATIONS:**

At 13 months, we are at Vincent Court. R is naked and giggling. In the next six months, R is exposed to a good deal of obscene jokes as N is profoundly into lavatorial humour. This does not have any effect on R even though we begin to toilet train him. (L.1)

At 19 months, R says he needs to pee. I get his potty. R has boots on and, because of the boots, I don't get his trousers down far enough so he pees
out of the potty. N laughs and begins to abandon his dinner because he is so amused. R picks up the potty. N laughs again. R so far is not laughing though nor is he upset. R begins to put his feet in the puddle of pee and N encourages him by saying "Draw in it". R does so which, again, makes N laugh. (L.2 see also M.7)

Also at 1.11, R laughs at himself being messy. He is not usually messy. A number of times he dipped his hands in the yoghurt and yelled "Uggie" - his word for nasty. He did this six or seven times. But he took very little time to climb down from this excitement and complain that his hands were Uggie. (L.3)

The first instance of R making a dirty joke is at 2.0 when he lies on the living room floor and pees upwards and laughs. By this time, it is very rare for R to wet himself. (L.4)

**INTERPRETATIVE:**

During this period of being toilet-trained, R does not produce much obscene laughter. From 18 months to 24 months, R often joins in N's "obscene" laughter but he does not either initiate it or laugh at obscenities without N. He follows N's laughter. Moreover, it is far from clear that when R laughs with N on these occasions that he does so because he finds the lavatory humour funny. It may be much more that he does not want to be left out.
By 2.3, however, R is beginning to produce his own "dirty" jokes. Interestingly, these are structured on cognitive jokes. Contrary to the Freudian idea that the child is content to simply say the forbidden words, R already incorporates them into something absurd. It is not an adult dirty joke but, still, he distorts it into something that is recognisably more than simply uttering the forbidden words.

At 2.3, R is singing "Happy Birthday" for no particular reason except perhaps that it was his mother's birthday a few days back. He suddenly changes the lyric from "Happy Birthday" to "Happy Aaah". He laughs as he does it. He repeats the same exercise on the next day. N who has by now finished this phase laughs and says, his face a study in hypocrical shock: "He's yelling it like that!" Then N also laughs. (L.5)

A month later, at 2.4, as R is deeply into BATMAN, he creates a new character who is called "Aaah-Man". Aaah-Man makes him laugh. In the next months, Aaah-Man often reappears. At 2.6 R is still quite often singing Aaah-Man. His singing of it sometimes comes out of the games in which he acts the part of BATMAN or SUPERMAN. (L.6)

Also at 2.6, R begins to initiate games that are based on obscenity humour and to involve N in them.
One evening, R plays a game in which he drops Aaahs all over the living room floor. It lasts a long time and N follows him, laughing as well each time that he drops his own Aaah. (L.7)

At 2.6, R can also incorporate a dirty element into a game without becoming so taken by it that it dominates the game. It is bath time. R is outside the bath and he pretends that he can see a man in the bath. "Him a Dada", R laughs. "I see a man ... a Nanny Man". R laughs. (Nanny is his name for N). R goes on "I see a man" (he laughs). "I saw a man in the potty". R peers into the potty which is at the side of the bath. He laughs. (L.8)

I say : You saw a man in the potty?
R says : I did.

He waves at the imagined creature in the potty and laughs. But then R goes on to hit the water in the bath and laugh at the splashing. (L.9)

INTERPRETATIVE:
We thus see with R that his own creation of "dirty" jokes is later than the actual toilet training and that, already, there is a mixture of cognitive and emotional elements. Just saying "Aaah" does not make him laugh though he does sometimes say that he needs his potty and then laughs saying that he doesn't. But, in itself, the word is usually functional and serious. To make it funny, some distortion or elaboration is needed usually.
By the time I began to observe N, dirty jokes were already well fixed in his repertoire of jokes.

We have already seen that at 3.6 N could begin with a dirty idea like "We can put our feet in the potty" and elaborate it both in unobscene ways "We can put lamps on our tummies" and also towards aggression for, in the end, N laughs as he says: "We can break down our home". (See K.3)

Disgusting meals at this time particularly amuse N - in Greece he has a lot of sand to play with which he makes into repulsive foods.

One evening at 3.6, N says: "I have a mosquito bite on my bottom" and laughed. (L.10)

At 3.7, N finds nakedness funny. N laughs hilariously. I ask: "What's so funny?" N: "You've got no trousers on". He is right. (L.11)

From 3.7 to 4.8, N produces rather few dirty jokes. But R seems to provoke new experiments in obscenity humour. R's nakedness amuses N. We have already discussed N's "joke": If R went to see a pop star naked". (See K.11) The next "dirty" joke recorded, is also at 4.8 as N laughs when R loses his pyjama pants and his nappy.

N also finds my anatomy funny. N and I are in the bath together (N is 4.11) having a bubble bath. He turns round and tells me that he doesn't want to
sit touching my penis and balls. Then he grins and says: "Why don't you put your penis and balls round your neck?" He laughs. (L.12)

At 4.11, bottoms are still very funny. It is cold and N sits on the opened out oven door. I say to him "Aren't you toasting your bottom?" N stands up and laughs: "Yum yum toasted bottom". He picks at his bottom and offers us, with a laugh, "a slice of bottom". Earlier this week Aileen said that the very mention of the word "bottom" made N laugh wildly. (L.13)

At 4.11, R's antics continue to amuse N. It also offers a chance for N to "regress". We are at my mother's, Doug is there also. N has decided to "fight" Doug. Each time N makes a pretend hit, he laughs. He also laughs when Doug "hits" him. R is naked and giggling. N asks if he can take his trousers off. He strips naked and giggles as he does so. But he does not want to stay naked too long for he put on a jacket which turns him into, he says, Batman. (L.14)

At roughly 5.0, we go to visit a friend of ours whose boy N is very close to. Michael is nearly 4½ and he wears diapers when he goes to bed. N is convulsed with laughter and says that Michael wearing a nappy must be a joke. This incident had an immediate effect on Michael. According to his parents, Michael
never needed to wear a nappy again. Being mocked by his peer succeeded where all parental blandishments had failed. (L.15)

At 5.2, N and I are reading an ABC book. We reach the entry for P. The book says the following words that start with P - policeman; painting; pink; pyjamas. N laughs and says he is doing pee pee on himself. A long burst of laughter. (L.16)

I also make N laugh when I do my exercises. N watches me do my leg ups and laughs: "Your penis is doing the exercise too". (L.17)

R continues to provide N (5.4) with occasions for laughing. R is sitting on his potty, saying "Buff" and flying a little piece of silver paper around. N laughs and goes on about how funny it is that R is "doing pooh pooh and flying around in his buff". (L.18)

N continues at 5.4 to be into this sort of humour. I ring him from the office and he can hardly contain his laughter as he says that he is watching cricket and "pooh pooh is bowling to wee wee". That evening when I have a bath, N comes in and laughs as he says: "You're in the pooh pooh". (L.19)

INTERPRETATIVE:

N can encourage R to be a mess by telling him to draw in the pee pee. But this stage seems to lessen between 5.6 and 6.0 perhaps because R is by now much more toilet
trained. N is still quite capable of creating dirty jokes but they become rarer. He finds them, it would seem, less necessary to his well-being.

At 6.0, however, N sees a spot of wet on my filthy blue jeans and laughs: "I peed on you". "No", I say. N insists he did. "I peed on you mistakenly". He adds a sly laugh. He then picks up a piece of blue paper and puts that on R's head. "That blue spot is where I peed on R", N says and laughs - again slyly. (L.20)

N can respond also to dirty jokes on television. He watches the repeats of Monty Python quite avidly. In one sketch, there is a man who is being interviewed because he has three buttocks. He is being invited to take his trousers off. This convulsed N with laughter. (L.21)

THEORETICAL SUMMARY:

By 6.4, N rarely produces dirty jokes although R can now lead him as he did, we have seen, into obscenity games.

It is tempting to ask if there is a connection between obscene jokes and laughter brought on by being disgusting. Both N and R create really disgusting situations - R by his antics with the yoghurt: N by his fantastic and revolting meals of vinegar, onionpoop...
and yuck. In R, obscene jokes are much more frequent - and are found at the same time - as the disgust jokes. What is clear is that very early on children do begin to structure these forbidden thoughts. With R, toilet-training was nearly complete, i.e. he needed no nappies at night - by the time he started to make obscene jokes and to find obscenity funny. The stages at which N produces a burst seems to have coincided with the period when R was being trained to use the potty. By now, there is hardly any anxiety for N in toilet affairs yet he still can get much occasional pleasure out of such obscenity.

AGGRESSION (M)

INTRODUCTION:

It has often been suggested that we laugh in triumph, a fairly aggressive act. The observations made so far of N and R laughing when they contradict and observations to come on naughtiness suggest there can be an aggressive element in laughter and, perhaps, especially as Valentine (1942) saw an attempt to use laughter to get away with bad behaviour. This section examines laughing in simple aggressive situations.
OBSERVATIONS:

At 7 months, N can laugh when R attacks him. While they were at my mother's and lying on her rug, N laughs when R tries to pull his hair. But, at that point, R does not seem to laugh. (M.1)

At 9 months, R can get involved in games that are a little like chasing games. N and R come into our bed early in the morning and, after R's dummy had landed in N's ear, Aileen and N play a game in which R is a terrible monster who descends on them. R advances upon them. N laughs, shouts "R is coming" and hides. (M.2)

At 9 months, for example, N comes four times at him with a hippo soft toy. He pushes the hippo against R's nose. Each time that N does so, R laughs. It seems to be the actual push that provokes the laughter. Also at 9 months, R tries to pull N's nose and to poke his cheek with his fingers. This makes both of them laugh. (M.3)

INTERPRETATIVE:

Both these examples are not pure glee. They involve a mixture of aggression and affection — and, it could be argued, they are one of the ways in which the two brothers learn to live together.
Also from 9 months, R laughs when N gets hold of his feet and bangs them together. N gets the same effect by getting hold of R's arms and waving them straight up and down. (M.4 see also C.4)

By 11 months, R can begin chasing or attacking games. N is under the table as R comes at him.

N: Here's R storming the castle.

(N laughs) (M.5)

The descriptions of games, will show that R can at this age, just before a year, join in and laugh at these sorts of chasing games with N. By 1.3 or 1.4, he is able to play these games in an off and on way with a "baby friend" of his, John, who is exactly the same age. By the time R is 12 months, he and N play these chasing games quite often. They make both of them laugh. (See C.10)

At 1.4, R can laugh as he aggressively starts a game of Peek-a-boo by snatching the New Yorker out of my hand and covering (or smothering) my face with it. (M.6)

By 1.7, these chasing games can be extremely long. N begins one evening by laughing when R pees outside his potty. N, then encourages R (as we have seen) to draw in the pee. At this point - and for no clear reason - the reason for laughing stops being
excremental. It turns into a chase. N starts to hide from R and to call Buff. R rises from his potty and half gives chase. They don't go far as Aileen drags them back saying they must eat. R is not interested in food. After a pause, N says: "Do you want your food cooked in your bath?" N laughs. So do Aileen and I. Then R laughing - joining in. At once, N and R begin to chase each other again. The chase becomes so hysterical with laughter that I get them to stop and be silent for a moment. N keeps on teasing R during the chases. There are spaces of, perhaps, 30 to 45 seconds in between outbursts of laughter. As far as N goes, he is clearly becoming more aroused but there is no sign that he finds this unpleasant. (M.7 see also L.2)

As this game continues N teases R about eating "only sweets" and about his "not having Cola". The chasing resumes - with both children laughing. After a while, Aileen (feeling perhaps that the children are getting over excited) decrees that we shall have a moment's silence. The two are still at it. Aileen takes R on her lap. N stands between my legs swaying, using my thighs as pillars. He chants and laughs intermittently as he sways. Shush, says Aileen. (M.8)

R can contain himself. N is given the job of timing the minute of silence and that makes him calm down though, twice during that minute, a little laughter breaks through. There is no great outburst
of laughter at the end of the minute. N hides behind my chair and begins to play peek-abo with R. R laughs. N says: "I feel so much noisy and I feel so much like laughing". (M.9)

This whole game has lasted for about 18 minutes. Laughter does not exhaust itself, it seems.

Also at 1.7, R has a clear idea of mock fighting. At this age, I saw whether me crawling made R laugh. It did not. Being on the floor I said: "I'm a dog" - and barked. N joins in and barks too. Then R laughs. N says to me, as I growl at my dog-fiercest: "You really scare me". There is a pause and I slowly rise up and say: "I am Tyrannosaurus Rex" - N is interested in dinosaurs and knows the fearsome characteristics of Tyrannosaurus that he is big and brutal. N laughs. He chases after me and says: "Lower your head so we can have a Tyrannosaurus Rex fight". I do. We tangle. R laughs throughout this. N says: "I won". R comes up to me, and laughing, gives me a smack on the bottom. (M.10)

By 1.11, R is quite happy to take the initiative in chasing games with N. R pinions N down on the floor and holds his hand close to N's mouth. N takes it and makes an open mouth shape so that it looks as if he might eat R's hand. R laughs a long, hysterical laugh. Then R sticks his tongue out at N - again both laugh. (M.11)
In the chasing games between N and R, serious victory is not claimed often. But at 1.7, R and his friend John are contesting who should have the ball. John wins the tussle and utters a highish laugh as he does so. (M.12)

By 1.9, also, guns and shooting often play a role in the chasing games. N points a gun, in the middle of a chase, at R. N says: "Gaga", as he points. They both laugh wildly. N then strokes R with the gun and, suddenly, points it again at R. As he points, they both laugh. By 2.0 R has begun to be fascinated by BATMAN and, soon, the characters of that holy American fantasy get worked into R's chasing games. By 2.2, R can imagine himself playing a part as he chases. He smiles widely as he says "Superman ... I fly", and runs around the living room. (M.13 see also G.6)

Both attacking and being attacked make R laugh by 2.5. Aileen is wearing a blanket which, she says, turns her into BATMAN. She makes lunges both at N and at R. As she swoops, R laughs. (M.14 see also M.35)

At 2.5, R can very clearly laugh at being threatened. The day after Aileen played BATMAN, I sit down and make threatening lunges at R. I try not to make them too physical. I say: "I'm going to get you". R laughs. It is not rough like the horseplay with N at 3.6. Later R shoots me with a LEGO GUN. I shoot back in silence. R laughs - a little strangledly. (M.15)
There are some expansions of this chasing game. R can laugh when N crawls up on him and surprises him. They come, chasing, into my study. R yells: "You can't get me" and laughs. N crawls up to him. R makes no great effort to really evade N. R says, instead: "You can't get me" - and laughs. N crawls up to R's legs and catches hold of them. They both laugh enormously. But then R says, seriously: "Go away". They both tumble on to the carpet and it is at this point that R assumes a serious look. But, after a moment, R wants to re-start the game. R says to N: "You get up and I'll look for you". The chase starts up again. (M.16)

R is also now able to add variations that make him laugh in the middle of chases. At 2.5, R is running round the garden, laughing and being chased by N. He goes up to Adele, grabs hold of her leg and laughing says: "I eat it up". (M.17)

**INTERPRETATIVE:**

By 2.5, then violence is already a source of amusement to R. He seems to be able to distinguish quite easily between occasions for being afraid and mock laughter. So far, however, the games with him have not been very rough. These aggressive games come after pure chasing - but not that much later. It does not seem to take that long for R to begin to evolve them.
By the time that I began to observe N at 3.6 our mock fights could be much rougher.

At 3.7 I pretend that I am going to jump on N. He laughs. He knows that I am not going to jump on him really but, at the moment that I stand over him, poised to jump, he laughs. (M.18)

INTERPRETATIVE:
It seems as if the fear triggers the laughter though, of course, N knows that I am not going to attack him.

Real things that frighten him also make N laugh. There is a jelly-fish on the beach, N is scared of them and laughs as he sees them. (M.19)

Fantasies of aggression can also make N laugh at 3.6. We are reading a Dr. Doolittle book in which there is a picture of a little girl. N says: "I am going to smash the girl to little bits". And he laughs. (M.20)

At 3.6 N likes to demonstrate his power over me. I let N tickle me. I stop laughing and wriggle to try and give him the feeling of power over me. He laughs. A few days later, N rubs my back, then he pats it. I burp loudly. N laughs: "I made you burp like that". We repeat the performance. He laughs again and emphasises "I made you burp". One more time. I burp less loudly and he laughs less but his emphasis is still on made. (M.21)
At 3.11 we can play quite rough games in which there is actual physical contact and "fighting" as opposed to the mere threat of it as at 3.6. On the carpet, I say to N: "Oh, we'll play horse". I stretch out - flat. He sits facing me. Then he turns around. I put up my knees and he laughs. He says I should put my knees up. N tugs at my flies and laughs. I put up my knees again, a little aggressively. N has an excited laugh. I tumble round so that N falls off me. He is pushed towards the end of the rug and laughs. He goes about 6 feet away and, as he moves away, the excited laughter dies away. (M.22)

Even when R is only 7 months, N incorporates him into rough games. I say to N one day that R is like the bison in the book about America. N "attacks" R and laughs. I say to N: "You don't have to charge like a bison on the rampage". N laughs at that. (M.23)

At 4.4, N can unleash surprise attacks on me which make him laugh hugely. Aileen is sitting on the top of the stairs. She asks me where N is. I am at the bottom of the steps and I delay a second. I climb up to the top of the stairs, thinking this may be a tease. As I get there, N gets up from being crouched behind Aileen. He laughs hugely. (M.24)

The battle between parent and child does often provoke laughter. At 4.7, Aileen and N are fighting at dinner.
Aileen is sitting down. N hovers around and darts a finger towards her neck. Every time he does this, he laughs. He also laughs when he finds Aileen punching back at him. (M.25)

INTERPRETATIVE:

On a number of occasions when N is between 4.6 and 4.9, he fights with R and, so makes R laugh. When N makes these evidently "mock" attacks, he laughs. N also laughs when R attacks him. These attacks seem to be an important, even perhaps formative, part of the relationship between the two boys. They often like to resume chasing games. The chases with their moments of close physical contact and apparent hostility may well allow the boys to cement their relationship — and, also, to express hostility. When R is 21 months and N is 4.9, N often holds R by the neck — which makes R laugh. When I tell N not to do that, R often screams or yells.

At 4.9, N is quite capable of laughing as he teases R who is still less than a year old. R, sitting in his high chair, drops his bottle. N picks it up. N: "I'm making him go mad with this bottle". This produces a very nasty hissy laugh from N. The next day, N laughs as he prods R with his finger. (M.26)
Tormenting R does often amuse N, as in the following dialogue at 4.9:

Me : N, don't torment him by putting your LEGO on his head.
N laughs and laughs.
Me : Come on enough (N laughs). Take it away (N laughs) Play with your LEGO on the table.
N : (Loudly) Bababababa (He laughs)
N then turns towards R and says "Bububububu ... Is that funny, Dubie?"

R does not laugh. I try to tickle R but there is no laughter. N then begins to chase me. I tell him not to chase me. N laughs and becomes quite hysterical with laughter as he insists on chasing me. (M.27)

Later that day, Aileen and N fight over a hat and a balloon - which makes them both laugh. (M.28)

**INTERPRETATIVE:**

Aggressiveness does often form a part of games that appear far more based on fantasy. This switching between seemingly different causes of laughter is fascinating.

By 4.11, N is able to engage in quite serious mock fighting with strangers. At my mother's, N decides to
fight Doug and attacks him. Again, it is on the making of a hit that N laughs. He also laughs each time Doug makes a hit on him. It is that moment of contact that provokes laughter. (M.29)

Also at 4.11, there is another instance of N enjoying power - in this case - the power of surprise over me. I am washing up, N hides. I look round for him. Silence. Then a guffaw of triumph and N bounds out, laughing. "I was spying on you", he says. Thus, the laugh does not come at the moment of eye contact. It comes when N "surprises" me behind my back. (M.30)

There are times when absurd aggression makes N laugh less than one might expect. N and his friend Judith are playing. N has a biscuit in his mouth. "This is a sword", he says.

N and Judith advance on me. N: "I am going to cut you up". He saws through my thigh with the biscuit and then, he saws through my beard. N laughs very little but Judith (5.2) titters throughout. (M.31)

Much older children can also enjoy these chasing games. Helen who is 11 enjoys chasing both N and R. As she chases them, Helen laughs but it is a slightly self-conscious laugh. She knows she is being childish. But both R and N laugh as she chases them. Because there are three of them and N is very keen to be chased
by Helen, R often finds that he is in the wrong place to be chased. But he flaps his arms and giggles. Though he is a little left out geographically, he laughs. (M.32)

To some extent, N acts as teacher to R even in the chasing games. In one chase (N 5.11, # 2.2) N chases R up the corridor and then is chased back. They both laugh. N then turns the aggression on to himself. He announces that "I am going to beat a drum, beat a drum". He begins to thump his own head and laughs. (M.33)

Attacks on odd parts of the body also amuse N. At 5.11, N is pulling at Aileen's toe and he can hardly restrain himself he laughs so much. Aileen grimaces. N tries to pull off her toe again. N is giggling so much that when she tells him to stop, he has to run down the corridor. (M.34)

At 6.4, N is still amused as much as he used to be by pretend fighting. Aileen comes in wearing a blanket and pretending to be BATMAN. N stops pretending to be a baby (which he has just enjoyed doing) and laughs at every lunge Aileen makes towards him. At this age, chasing games with children of his own age still make N laugh. I pick N up from school. J, a friend of his, and N chase each other to around five yards from the bus stop. As they run, they laugh. N
also continues to enjoy such chases with R and laughs during them. N even enjoys being attacked by R. R laughs as he clambers over N and N titters at that. (M.35 see also M.14)

THEORETICAL SUMMARY:

One intriguing hypothesis about aggressive laughter is connected with the theory that children laugh when a situation that might have been threatening turns out to be safe. They discharge the tension built up when they are threatened by laughing once they know it is safe. Rothbart (1973) has proposed this. There is much evidence from observations both on N and R that children laugh during mock fights, that looming threateningly over both N and R makes them laugh. It is far from clear, however, that there ever was any real fear in either of them. Moreover, a detailed look at children play fighting will reveal that often the stimulus that appears to trigger the laughter is the actual movement of aggression. For instance, if I dart my hand out to "punch" N, it is on the darting he will laugh. If he is battling with me, it is when he strikes, at that precise instant, the laugh comes. The physical act that is aggressive sets the laughter off, rather than the realisation that what is going on is safe and a game. That comment begs the question of how one times the instant at which the child realises there is no threat. In many cases here there never was
a suggestion of real threat. Also, there are some instances — examples of which have been given — when actual aggression makes R and N laugh (M.12)

Equally, real fear of jellyfish did make N laugh (M.19)

The idea that fear flows out of the child and that the only way to discharge the tension or energy is to laugh assumes that laughter is a way of reducing physiological arousal. Godkewitsch, however, (1976) has shown that people become more aroused after they have had the punchline of jokes rather than less aroused. This is especially true of sexual jokes but Godkewitsch did not have a category of specifically aggressive jokes. Rothbart (1973) and Rothbart and Pien (1977) have suggested that it is arousal jags — sudden changes in the level of arousal rather than decreases per se — that cause laughter. Since one could interpret N darting his hand out as a symptom of a sudden change in the level of arousal, such a theory could be modified to fit observations of play fighting. The important modification would have to be that arousal jags are synchronous with laughter; they don't cause it. But even thus modified, the arousal jag hypothesis does not seem to me to fit the many situations recorded of laughter over a long period during which the child seems to be fairly highly aroused anyway. There is no change, no jag. The
trouble is that these are, of course, subjective judgments of arousal based on the child's noisiness, physical state and odd introspections like N saying "I'm so ... so noisy". However, Godkewitsch and Chapman both suggest that subjective judgements of arousal correlate well with physiological measures.

The theory that it is the fear which turns out to be unnecessary "causes" laughter seems, therefore, to be useful but somehow not yet right. Tickling, as we saw, does not seem to require that the child sees the smiling face while being "attacked" as tickles when I'm yawning or when I get N or R from behind their backs without making a sound also make them laugh. The smiling face which in tickling has long been seen as the signal of safety does not have to be seen for the child to laugh.

There are three aspects of aggressive laughter that require comment. First, there is the purely physical question of running, chasing which by themselves are enough usually to make a child laugh at 1.3. But by 2.6, such chases tend to be worked into games rather than being pure chases. By 4.0, such elaborations are more frequent. Sroufe and Wunsch (1972) found that chasing was the best elicitor of laughter at 12 months. It seems to consistently continue to maintain an ability to make children laugh well until 6.4 at any rate. There is no sign of N chasing less at 7.0.
There is also an element in aggressive laughter which helps children to cope with fearful situations. There are, however, many reservations about the neat and tempting equation that says a child laughs when he realises that a threatening situation is not threatening. First, children do laugh when really afraid - the jellyfish example. Second, the laughter does not seem to occur at the physically right moment if it is the realisation that "It's safe" that triggers it. Third, the child often knows it's a game from the start so there is no genuine realisation that it is no threat. That is given right from the start.

There is a further element which research has not considered and, in fairness, few of my observations bear out. Still, the idea is worth venting. Children laugh during play fighting but they also sometimes laugh when they really fight - especially if they are winning or triumphant. Young children do often slip from one sort of fighting into another real fighting but the transition is usually clear. In real fighting, or real equal aggression, in play groups I have seen laughing. The best example is with a group of 4.6 year olds who crash into each other on tricycles usually laughing as the crash looms. They crash; they laugh. The laugh does not always happen. We have seen that John laughs when he wins a real tussle with R at 1.7 (M.12) so this kind of non-play aggressive laughter exists. It is, of course, discouraged.
Finally, aggression does involve aggressing against someone. There would intuitively seem to be a connexion between the laughter when I chase you and laughter when I defy you or tease you. Both are expressions of laughter. Valentine (1942) found laughter while teasing at 1.4 which he thought early. My impression of R is that it occurred earlier. By 3.6, N was already very good at what one might call naughty laughter which is caused or produced not just by teasing but by refusing to do things, being irritating and, often, asserting oneself. It is my suggestion that naughty laughter is often used by the child as a way of developing his sense of himself and of his own strength - in this case at the expense of others.

NAUGHTY LAUGHTER (N)

INTRODUCTION:

Valentine (1942) noted a number of instances in which his children tried to appease their parents by laughing. In an earlier section, J, contradictions were discussed. It was suggested there that the child begins round 1.2 to sometimes say "No", asserting himself against the parent and then laughing. This section examines "naughty" laughter which appears to start with such contradictions but then widens its scope. "Naughty" laughter fits uneasily into the cause
and effect model of laughter since it is hard to argue that the child laughs because he is being naughty since one is often left with the impression that the child laughs knowing that this may make it easier to get away with bratty behaviour. Freud (1905) claimed, of course, that laughter allowed forbidden thoughts to surface—and to be expressed.

**OBSERVATIONS:**

With R, one of his early characteristics was that he did not like doing things that Aileen and I tried to make him do. One of the first occasions when he laughed at this was at 12 months. Aileen is trying to teach R to spot where his mouth is. Aileen keeps on saying: "Where's your mouth?" "Where's your mouth?" R makes no response. After a pause, he laughs. (N.1)

At 1.1, I note that R does not seem to have a defiant laugh yet. By 1.4, R is drinking water out of my bath in a yellow boat. I say "No" once—he laughs. He knows he is being naughty. I make a face saying that he shouldn't. R laughs again. (N.2 see also J.1)

By 2.0, R can laugh very brattily. He comes up to Adele, laughs and says: "I bit you". It seems as if the fact that he is laughing might make him think that this is an acceptable form of behaviour. (N.3)

At 2.2, R also begins to enjoy being rude. He goes into the supermarket a number of times and says:
"I don't like that lady". The lady in question is often some poor old age pensioner who looks shattered by this judgment. Aileen says: "That's rude". R realising perfectly well that it's naughty, laughs and repeats: "That's rude". In the evening, he once says with a grin: "I'm very rude". (N.4)

Also, at 2.2, R can physically do naughty things. He steps on my toothbrush. I tell him not to - he laughs. (N.5)

By 2.5, R creates opportunities to be rude to me. He asks me to say "Fooey on you-ey" (which he knows to be rude). When I say it, R laughs. R still laughs hard but insists I say it again. (N.6)

By 2.6, R can use humour to get away with naughtiness. In the morning, R clambers into bed with Aileen and me. Ribena from his bottle is dripping on to me. I tell him to stop it. It's not funny. R laughs. He says with a grin that it "is a bit funny". (N.7)

INTERPRETATIVE:

By the time I began to observe N at 3.6, he was well versed in all the kinds of behaviours described in R. But N is much more complicated in how he does it.

At 3.9, N knows that it is time for him to go to bed. "I won't", he says and laughs at me. He feels he is the boss. We go into his room and he deliberately
puts on his pyjama top the wrong way round, back to front. He laughs a very flat laugh. He puts his trousers on and cannot do up the top trouser button. He turns round and round like a top. He laughs again this flat mean laugh. "Stop it", I say. N: "It's funny". Me: "It's not funny". It is hard to deal with this kind of self-assertive laughter. (N.8)

Also, at 3.9, there is a long running battle to prevent N licking coins or putting them in his mouth. I say: "You mustn't lick". About 5 seconds pass then N puts a coin in his mouth. As he does so, he gives a very long Hahahaha laugh - R has not yet produced at 2.6 this Hahahaha laugh. It is a snide laugh, almost a celebration of how bad he is being. I stare at N and don't rebuke him. "What are you doing?" he says, disconcerted. The Hahahaha laughter dies abruptly as if N knew there was nothing really funny in what he was doing which is why there is no gradual falling off of the laugh. (N.9)

At 4.5, N starts to drum with his finger on a nappy pack. He laughs. He knows he is being irritating. He then goes on drumming with a fork. At bedtime, N does his Action Show and bounces and laughs. Whenever it is time to wrap the Action Show up, N begins to laugh obstreperously. (N.10)

When R is 8 months, N begins to involve him in defiant action. I am bathing N and R. N is being
obnoxious and I threaten to smack him unless he brushes his teeth. I hold R. N picks up the toothbrush and "brushes" his teeth but maintains the toothbrush an inch away from his mouth. Then, he puts the brush near R's toes. "I'm going to brush his toes", N laughs. I laugh too. "No, I'm going to brush his feet". (N.11 see also H.4)

INTERPRETATIVE:

It is hard to escape the intuitive conclusion that N has learned that if he can make a situation funny, he has a better chance of getting away with bratty behaviour.

N also likes to do evil things sometimes. Later this morning, N takes out two milk bottles to the doorstep. There are also seven bottles there. N lines them all up in a line in front of the door so that anyone coming out will trip over them. N finds me and says: "I've done something very funny". I ask him why they are funny. N: "Because someone will fall over them". (N.12)

Between 4.9, and 5.0, N produces a lot of bratty laughter. N is making loud noises. I tell him not to do it. Me: "That's not clever". N: "It is". N laughs. N laughs more and more as I tell him off again and then when Aileen tells him "You're cruising for a bruising", 241
N laughs again, and says: "That's funny". N becomes so annoying that he gets a smack. His laughter stops promptly but only for about two minutes. I then complain of "Rude little boys". N laughs. (N.13)

N often produces reasons for not doing as he is told. The justifications come with the laughter. I tell him to sit down and finish his food. N laughs and says: "You can't eat raw bacon". (N.14)

A few seconds later, N gets hold of R's bottle and begins to tease him by not giving it back to him. I tell him to stop. He makes funny-sounding noises at me and laughs. (N.15)

There is also a running battle to persuade N not to eat by using his fingers. Aileen tells him: "Not your fingers. Don't eat with your fingers". N laughs. (N.16)

At 5.0, N is also very concerned with "tricking". Being tricked or teased is, however, something that worries him considerably, as we shall see. This love of tricking is still present at 5.2. One weekend, N announces five times that he has tricked me. Each time he says it, he laughs. (N.17)

At 5.4, N is also very often rasping in his laughter. I keep on asking him not to laugh so much one evening. This only makes him laugh more. I tell him that "It's very irritating. Stop laughing like a hyena". But
this comparison sends N into a high pitched rasp of laughter that goes on and on. (N,18)

N can also laugh when R does something naughty. At 9 months, R spills coffee into my bath. I tell R off. N laughs unpleasantly. (N19)

This sort of naughty laughter is also injected into situations with other adults. At 5.11, N and the rest of us are with our neighbours, the Weirs. N makes a bad pun. When it is time to leave, he doesn't want to go back home. Aileen and I insist. N begins to whimper. Jimmy says to him: "If you don't go, I shall kick you out". N laughs at Jimmy and begins a mock fight. Giggling, N is led to the door where he collects himself and says a relatively calm and polite goodbye. (N,20)

We have seen earlier how wielding friendly power over me - like believing he has made me burp (M,21) - makes N laugh. At 5.9, N can laugh at much less pleasant uses of power. Aileen wants N to give her a cuddle. N gives his Batman doll a cuddle and then begins to tease Aileen saying "This is a cuddle" when all he is doing is waving his arms. N laughs. Finally, he does - after a minute or so - give Aileen a cuddle. (N,21)

At 6.1, N is also well aware of certain social niceties that make him laugh when they are broken. R
has taken to having a taste for vermouth and sometimes
is given a small sip of it. N gives a very knowing
smile that nearly breaks into a laugh. "Wine", he
says, "isn't for babies". (N.22)

N can also laugh when he seems to be getting away
with something. Round 6.1, I catch N doing something
wrong in the corridor. I tell him off. R hears and
thinks that I am telling him off. N realises exactly
the mistake R is making and when R says "Sorry", N
laughs. (N.23)

The naughtiness of other children also makes N
laugh. We get to school and three girls come to tell
me that another girl has taken a picture of the Queen.
In the cloakroom, N tells Allah that three girls came
and told me another girl was naughty. N laughs at
this. (N.24)

Being amused by R's naughtiness and rudeness
continues to happen often. At 6.3, Aileen tells N
of how she had taken R to see N's headmistress, Mrs.
Lewis, after an assembly at school. The headmistress
cooed at R: "Isn't he darling?" To which R replied:
"Shut up". N laughs. Aileen added that Mrs. Lewis
did not understand R. Then R said: "I don't like that
lady". Again, N laughs. (N.25)
INTERPRETATIVE:

It does not seem that he is expressing fears about Mrs. Lewis that he cannot himself express for N goes on to say quite seriously that he is a little scared of Mrs. Lewis.

N can also laugh quite nastily. At 6.3, we pass a one-legged man in the street. N waits till we are a little beyond him and says: "That's what I call having your leg chopped off". He laughs. I say that it's horrible. He laughs less but is still tittering as he says that he knows it's nasty. But he finds it funny and he repeats "That's what I call having your leg chopped off". And laughs again. (N.26)

THEORETICAL SUMMARY:

The fact that children laugh when they tease has been observed in children long ago. Watson (1931) reported observations of that: Valentine (1942) said that he first noticed this at 1 - 2½. Valentine adds that he thinks teasing laughter is due to the perception of the incongruity of the superior parent being overcome and partly to delight at the power over another. It seems to me that Valentine's first reason may well be correct in some situations. But it hardly explains why N should get so much amusement both out of R's naughtiness and also out of teasing R who is, after all, inferior. Much of the data presented suggests
that puns and rhymes are often used in the service of naughtiness. Often a pun or rhyme has a hostile edge which raises questions about whether N and R intend to use humour hostiley. This is intriguing. N can say "I tricked you" and laugh or "I tricked you/I bricked you" and laugh. He does not find the second any funnier since both make him laugh a good deal. There does seem to be a link between playing around physically (and annoying parents especially) and playing around linguistically. The instances occur too often to be dismissed as mere chance.

Valentine's second hypothesis is also, essentially, supported by the data. Being naughty does express power over another. From observing R, however, it could be argued that this appears well before 1 - 2½. At 9 months, R was laughing as he refused to make any attempts to utter the sounds his mother so clearly wanted him to utter (₃). That sort of refusing is the essence of teasing. It was a pattern of behaviour often present between 9 and 12 months.

There are interesting differences in the ways that aggressive laughter and naughty laughter evolve. Physical aggression is discouraged by society; for example, laughing as you hit
someone comes to be seen as a sign of disturbance, of being evil. Only the baddie in the movies has that evil snarling laugh. When the Son of Frankenstein meets the Daughter of Dracula we can expect a galaxy of such evil laughs as they kill their victims.

But the way that we deal with naughty laughter and teasing laughter differs. On the one hand, we are taught not to laugh when we discomfit someone even though we don't attack them physically. It is rude to laugh when you sack an employee; it is nasty to laugh when you refuse to cuddle your wife as N refused to cuddle Aileen. But teasing laughter in the context of a playful situation remains acceptable. West End comedies could not exist if couples who loved each other could not tease each other - and laugh, a device often used by Shakespeare in comedies like "Much Ado". At what point children become aware of this nice, playful teasing as opposed to "power" teasing in which they wield power over each other, it is not possible to determine from this data. But it is an important transition as is the point at which children lose the freedom or the ability to laugh when they try to bash each other up.

PRETENDING AND GAMES (O)

INTRODUCTION:

Pretending is an ability which makes psychologists rather uncomfortable. On the one hand, it is clearly a crucial part of development. Much of children's play consists of pretending. On the other hand, it is notoriously difficult
to study pretending. Moreover, philosophers like Ryle (1949) arguing for a behaviouristic and mechanistic psychology have tended to downgrade the importance of pretending. I can only know that this is a pretend duck after I know what is a real duck, Ryle argues, and the concept of pretending is dependant on and a parasite of reality. Till I know what a real duck is, pretending has no meaning. And, once I know what a real duck is, I won't pay too much attention to toy or pretend ducks.

My observations in no way permit me to offer any sort of global theory of pretending. But they will make clear that by 2.6, R has a fairly wide repertoire of pretences which often do make him laugh. There are very obvious influences of what his fantasies are. He can imitate and he can be aware of when he is being imitated. Both these situations can make him laugh. From 3.6, N often was involved in games in which we pretended not to be elephants or toy ducks were real ducks, but where we took on one another's roles. I acted the child: N acted the parent. Though we have already considered the game in which R placed the dummy in mother's mouth and laughed, we have with N far more complex and structured elaborations in that game. And N is able to understand and even analyse them.

Again, the drift of my observations is that pretending occurs with people and in social situations long before it occurs with things. R pretends that Aileen is a baby by giving her a dummy long before he pretends that a block is a building. There is also a certain self awareness that seems important.
This kind of awareness of himself is present on two of the first occasions when R does something that makes himself laugh, when he is being the creator of his own laughter rather than a responder.

OBSERVATIONS:

At 7 months, R looks in the mirror with Aileen. Aileen is clapping her hands in an attempt to interest R. Clumsily, R begins to try and clap his own two hands. He often misses though, from time to time, he succeeds. But he graces each attempt with a laugh. (O.1)

At 11 months, there is another game R plays which seems to involve a kind of self-awareness. Again, it is visual. R sees N use a piece of cardboard round which foil used to be wrapped. N uses this as a telescope. R wants to do the same. If one then looks at R through the other end of the telescope, it makes him laugh. (O.2)

INTERPRETATIVE:
It could be argued that seeing me or Aileen with this huge bit of cardboard in front of our eyes was merely yet another incongruity. But R usually then proceeds to put one eye to the other end of the telescope. It seems he knows it is a game that involves seeing him in a strange way and that part of the game is for him to be seen in this odd way at the end of the tube. The interesting difference in laughter is between when he just looks down the telescope and when he looks - and is looked at.
R often repeats this game - and the pattern is much the same. R laughs when you look at him through the telescope; he laughs when he puts his eye to the other end and looks at you. He laughs sometimes but rather less when he just looks through the telescope.

R can also appreciate other parts of games - even if he is only on the fringes of them. At 10 months, R laughs as he sees Aileen and N play ball by rolling it to each other quite gently. There is no sudden change or alteration of arousal here. Also by 1.3, R clearly appreciates complicated imitations. N and R watch Laurel and Hardy on T.V. N often imitates Hardy by puffing himself out and saying, sternly "A fine mess you've got me into". N then nods as Hardy does. The whole routine makes R laugh. (0.4)

INTERPRETATIVE:
The literature on imitation is currently controversial and complex with some believing that infants of a few weeks can imitate actions such as poking out the tongue. This is hardly the place to evaluate the controversy. But, in the light of such claims, it may be regarded as not too controversial to suggest that R at 1.10 can imitate gestures - and know he is doing so. Arm gestures such as waving are most easily imitated. At 1.10 R can perceive this and finds it funny.

I take R shopping. He is complaining and waving his arms in the process - a sort of agitated flapping. I
face him and begin to imitate the way that he is flapping. R laughs. He realises I am imitating him. (0.5)

At 1.10 and 1.11, R is obsessed by BATMAN. He often laughs when he just yells BATMAN and it is one of the few laughs that seem to be one of pure excitement or glee. (0.5a)

**INTERPRETATIVE:**

But, it is not pure glee that Spencer (1960) discussed for R is, in some way, acting out BATMAN. The fantasy fuels his laughter. At 1.10, R says BATMAN or SUPERMAN but he does not seem aware of the fact that he is acting, pretending to be, BATMAN (if indeed that is what he is doing).

By 2.0, however, R has learned to act out the characters in the BATMAN myth. He laughs as he says: "I fly". He claims that he is Superman or Aquaman or other heroes. He often rushes around the room which is his form of flying. Over the next 6 months, this is a very frequent form of play. This basic sequence of flying and pretending to be Superman, say, is often woven into games of greater complexity and, at times, violence. (0.6)

The swopping of identity which is evident in the Dummy Game occurs in a game that R at 2.5 plays with N. They are playing at being each other's mummies. It amuses them both very much. N smiles. R says: "I give you a kiss" - a properly maternal act. But
R's maternal kiss turns out to be rather fierce. He grips N round the neck. N says and laughs: "Strangling and kissing are a very different matter". But they continue the game. (0.7)

At 2.6, R has also begun to play games in which his gender identity is brought into question. From 2.0, R has been very fond of Snow White and the Seven Dwarfs. At 2.5, we have just been listening to the record. R looks happy. I ask him if he is cheerful (one of the dwarfs). "No", says R with a smile. Is he Dopey? "No" smiles R. Is he Sneezy? "No" smiles R. Is he Snow White? "No", R now bursts out laughing. He goes on laughing as he says that Mummy - Aileen is, indeed, dressed in a white dress - is Snow White. (0.8)

At 2.6 N and R also play a game in which each of them is supposed to have a vagina. They cross their legs - N especially - and, from time to time, laugh a little. (0.9)

This is another instance of creating jokes that bring sexual identity into question.

By the time I started to observe N, he was already 3.6 and well versed in pretending. At 3.7 in Greece, we had an elderly Greek who came to do the garden. He tweaks N's nose and calls him Nikolaski. N says one evening: "Pretend I'm the gardener and (to Aileen) that you're Nicky and (to me) that you're N's mummy".

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Aileen giggles in the embarrassed way that N giggles when the old gardener pulls his nose. N laughs to see it.

N then tells me to pretend that I am the gardener now. I put on a heavy accent imitating the old man. I grunt, I make faces in the way that he does in order to try and make his Greek understood. I say "Nikolaski". Each of these actions produce bellows of laughter from N. (0.10)

At 3.7 N can use games in which he pretends in order to express what he is interested in. We play at dinner. I say: "Pretend you're a puppy". N: "Ruff Ruff" and he puts on a very shaggy look. I say: "Now get a bone". N rushes to a cushion. He brings it over, laughing at his cushion-bone. N then says: "It isn't a bone, it's a dinosaur". Dinosaurs fascinate him. (0.11)

By 4.7 N can analyse the logic of some of these games that depend on a reversal of identities. At breakfast, Aileen asks what he wants to drink. N says: "Coffee". He doesn't mean it, for whenever he has sipped coffee he really dislikes it. Aileen says: "Yes, we're going to give N coffee, David's coffee. In fact, N can be David. David can go to the nursery school and N can have coffee and go to work. David
can have blackcurrant and nursery school. David can sleep in N's bed and N in David's bed."

N laughs on nearly all of the specifics of the reversals. But he does not laugh wildly. After a few instances, N declares: "In this joke, we are pretending that David does everything that I do and we are pretending that I do everything that David does". (0.12)

As well as pretending to be an adult, N can pretend to be a baby. The curious thing is that his imitation of a baby is much less convincing than his adult impersonations. But from when R is about 6 months, N often does imitate him. Round the period that R is 11 months and N is 4.8, there is a host of these imitations. N often pretends to be R and "to cry" and laughs through this baby crying routine of his. The key feature of N's imitation is the voice. N makes his voice baby-like. He believes he can do this by slurring the sounds so that they become less distinct, by slowing his speech and by giving his voice a certain rhythmic lilt as if babies spoke in sing song. N also fixes on certain phrases as being the epitomy of babyhood. One such phrase is "Gaga". N's "performances" as a baby are unconvincing. If N really wanted to regress and be a baby, one would imagine he would do it far more thoroughly. It clearly is play and it makes N laugh often while he pretends to "cry" - though not until R 2.0 is there any indication that he realises N is imitating him. (0.13)
At 4.10, N also appreciates imitation of him imitating. He is very much into war-like and aggressive games bred from his fantasy. He plays in the garden at being a knight. He lunges with a twig which is his sword and makes ferocious faces. I imitate these faces by grunting and pulling even more ludicrous ones.

N laughs. (0.14)

The imitating of R goes on. At 6.0, N is still very keen to pretend to be a baby at times. At 6.3, he plays again at being the baby. N is sitting in Adele's lap and giggles at the flow of baby talk he produces - a flow no real baby would ever produce. N puts his thumb in his mouth and makes noises which include his old stand-by "Gaga". At a certain point, N gets up from the rug and jumps jerkily up and down, up and down, laughing as he does so. (0.15)

**INTERPRETATIVE:**

He appears to be imitating the unsure movements of a baby.

N's "performance" is interrupted for a while by Aileen who wears a cape and says that she is BATMAN. After a few aggressive swoops, arms outstretched, at both N and R - swoops which produce laughter - N resumes playing the baby. Finally, Aileen gets impatient and says: "I can only stand so much of you're being two".
N laughs at that. It's interesting that she's taken it to be a performing of a two year old! (0.15a)

N stops being the baby then. But between 6.0 and 6.3, there are often evenings at bathtimes when, for two or three minutes, he adopts this babyish game, laughing as he does it. He says he doesn't "wanna" brush teeth. He grabs his pyjamas out of my hand, twirls them and adds: "I don't wanna 'jammies". And laughs. (0.16)

By the time N is 4.8 it is interesting to see how there are quite long sequences of laughter in some games. One sequence I timed lasted 18 minutes. In such sequences, all the kinds of laughter I have pointed out occur and, sometimes, there are very rapid shifts and combinations of different instances of laughter. In the two sequences I now intend to detail N was 4.8 and R 11 months. Both sequences are recorded on audi-tape.

The first of these sequences began as Aileen was trying to cheer R up. R was very tired.

Aileen (to R) : Look at N's hat.
N : I'm a cowboy.
A (to R) : Hat, hat, hat, hat.
N bursts into laughter at her teaching of R.
A : Don't frighten him.
I then get the hat off N. N stamps and laughs.
N (to me) : You look funny.

Me : Why does the hat make me look funny?

N bursts again into laughter. I cover my face with the hat.

Me : The hat is now my head.

Aileen takes the hat.

N : I want it to be a cowboy hat.

N and Aileen fight over who is to have the hat and, also, a balloon that is floating around the kitchen as it is Christmas time. Aileen and N laugh as they tussle for the hat. N gets the hat and hides it. Aileen suggests that the hat might be hidden by N in the freezer. I say: "Frozen hat". N laughs hysterically at that.

Aileen develops this idea by suggesting that the hat is in the mustard jar. N laughs. Or cooking in the oven. N laughs. Or that there will be hat for dinner. N laughs. But for all these guesses, we still don't know where the hat is for N is still hiding it.

Aileen now threatens N to "cut out the crap where's the hat?" R joins in with a high pitched laugh. Aileen "finds" the balloon and tries to run away with it. N shoots her - making shooting noises as he does so - and laughs.

Aileen (under the table) : I'm in my hide out.

N : Sit down. (He laughs).

Who gets it?
Aileen now lets go the balloon. Something happens and she warns N to be careful. He calms down at once, coming out of the game.

Me : Nicky just caught it.

As N catches the balloon, he laughs. But then, we get bored with the game. N collects both hat and balloon. He swaggers like a cowboy, says "O.k. man" and laughs. Then, N begins to dance round R and to chase him which makes him laugh. (O.17 see also H.36)

INTERPRETATIVE:

This sequence of a game has lasted roughly 5 minutes. We have seen during it, in succession, laughter that seems to be brought on by the following "causes". There is incongruity as in the idea of "frozen hat" which is elaborated into the hat being in the oven and in the mustard. There is laughter at something both incongruous and a bit disgusting, the idea that there should be hat for dinner. There is a sort of peek-abo as N laughs when I cover my face with the hat. There is aggressive laughter as Aileen and N tussle over the hat. This highly aroused aggressive laughter does not stem from but leads into the incongruous jokes about the frozen hat. There is no simple progress - or regress - from conceptual jokes to more excited laughter. After the jokes about the hat, there is a small chase as N shoots for Aileen who hides under the table. Then,
The hat ceases to be the origin of the laughter. The balloon becomes that and N laughs both as it is released, as he tries to catch it and when he does catch it. Then, though Aileen and I get bored with the game and declare the hat game to be over, N still wants to laugh. A slightly similar event occurs in another game (0.18) where, as the game seems to be at an end, N manifestly wants laughter to continue. An attempt to interpret such a turn or 'node' of events in terms of Harre's and Von Cranach's (1982) analyses of intentions and actions is offered later. So first swaggering, imitating a cowboy which was one of the starting points of the whole game and then he chases R. Often the tape of the whole sequence reveals the laughter as high pitched and excited but it is far from consistently so.

A longer game took place some days later. It started with our having two balloons left over from a Christmas party. The game began with pretending to pop the balloons. Both N and R (11 months) laughed at the sound of the "pop". Aileen repeated the popping and N said: "It scares me". Having pretended to pop the balloon, Aileen now pretends it has really disappeared. N laughs. He knows quite well the balloon is still around. There is then a pause in the development of the game. We talk about what happened at Christmas. Then N
asks Aileen if she will use the balloon. Aileen uses the balloon to make herself look pregnant. She sprouts a giant belly. Aileen asks N what it looks like. Through asking Aileen to use the balloon, clearly a request for playing, N has started a whole scenario.

Aileen's looks like?

N: Big.

A: It's a baby, a very little baby.

N: I want to see what baby looks like.

A: My baby's coming out.

N: Hughs as the balloon appears from under Aileen's sweater. When she sees her baby is a balloon, Aileen recoils in mock horror. N laughs.

A: A green baby. Oh dear.

Hysterical laughter from N at this.

A: It's a blue baby... a flying baby. (The balloon flies.) A flying green baby.

Again, N laughs hysterically and R joins in the laughter.

A: Don't operate on my baby. (N laughs). You can't operate on a balloon (N laughs).

There is then a short pause followed by N laughing again. Aileen then pushes the balloon. On each push, she utters "oah", another push, another "oah".

Me: It might help if you didn't beat the baby up into the air.

N laughs twice.

A: This baby has to be very specially handled. Hey, don't knock him down. Aileen says this to R and her stricture makes N laugh again. Aileen comforts...

N : Baby (N laughs) Baby.

A : Oah (N laughs) Oah (N laughs)

Again each Oah comes on a push of the balloon.

N : Baby, baby, baby, baby, he's a balloon baby.

(N laughs)

There is then an interlude, as it were, in which we talk of hot water.

A : Kiss him.

N : He says he wants to have a little rest. (N laughs). My baby. My baby. He started to scream.

(N laughs). Didn't he, my baby? (N laughs).

This time, N's laugh is very like a scream he is so excited. The balloon is now flying around. N tries to catch it. R waves his arms at it. There is a pitch of excitement.

A : I think he's a flying green hedgehog.

N repeats this assertion. Aileen then repeats it. N laughs.

N : No, nice baby ........ I caught it.

A : Oah ... 

N : Let's do the beginning again.

Now that the balloon is caught, it is time to have a replay. Interestingly, R's laughter now becomes more marked and more individual. Up to here, he has very much laughed in the footsteps of N or, simply, as the balloon was being chased. Now, R laughs as N says let's do it again.

N : (to Aileen) Can I see what your baby looks like?
On the birth of the balloon, R laughs hugely.
A : It's about to come out. N laughs.
Me : It's dropped on the floor.
N laughs four times in a very excited burst.
N : It's a balloon baby.
Me : Maybe it's name is Jupiter.

At this point, Aileen appears to have a second balloon concealed as a baby in her sweater. It appears.

A : Twins!
N laughs.
N : Can I see your twins?
Both N and R laugh as the second of the balloons appears.
N : Let's call them Saturn and Jupiter ... oohoh ..
Saturn bursts.
Me : Someone sat on Saturn.
N : (repeating) Sat on Saturn.
A : Saturn burst. (chasing) Mars. Mars ..
N : I hope Mars doesn't die for a long time.
A : Easy come, easy go with these balloons.
N : Mars doesn't scream and he wants to have a sleep.
A : Which planet do you come from?
N : Saturn.
A : Oh you have a blue nose.
N : No. (N laughs) They have red necks.
A : No, that's from Saturn.

Aileen attributes to the Saturn-dwellers green belly buttons and purple teeth. This gets no laughter. N adds
that they have silver chins. Aileen gives gold ears. None of these evoke a laugh.

N : Yes and Dubi fare booms (which is incomprehensible but seems to be a dig at R). All we do in Saturn is walk around in our Saturn trains.

There is now some talk of trains, sleeping in trains, not having houses, living in trains and staying on the same strains. None of this yields any laughs.

N : I'm in my Saturn train, sleeping. I can see things the wrong way round. (To Aileen) Come on my train. You can go into space.

Aileen is now pretending to be on Saturn. She says: "Look at all these trains ... how very peculiar".

Aileen now shows a number of implements from the kitchen to N. Each implement is given a wrong use.

A : That's to make soup with. (N laughs)
N : He sits in a toy train. (?)
A : Why is Saturn so full of trains? (N laughs)
N explains that the houses were too big so they took trains.
N : Let's go back shall we?
A : Can I sit on the cactus? (N laughs) Funny cactus, it's attacking me ... (N laughs)
N : It's a stroking cactus. (0.18)

At this point, the tape ran out and, also, the game wound down.
Again, in this long sequence, one sees a veritable jumble of reasons for laughter. On three occasions, it is N who starts the game off. He asks Aileen to "use" the balloon. He asks for the replay of the birth of the balloon. He says he wants to leave Saturn. If N had not asked Aileen to repeat the birth, the game would have petered out then as she was quite bored with it really.

The most frequent sort of laughter in this sequence is laughter at chasing the flying balloon. This is made funnier by the incongruity that the balloon is meant to be a baby. A baby as a balloon is incongruous and so is a flying baby who, to cap it all, is green. Here, surely is a multitude of incongruities. Again, there is some elaboration for, at one point, the flying baby becomes a flying hedgehog. The incongruousness of the balloon as baby is exploited by N who says it needs a rest, by Aileen who says it needs special handling - a double joke as it were - and by N who kisses it.

The actual birth of the baby is also very funny. But this particular highlight is crowned when, on the second birth, the balloon drops to the floor. This is both incongruous and nasty. One should not drop babies on the floor, let alone bounce them. The second balloon, the second twin, is also very funny.

What happens after the bursting of Saturn is, also,
interesting. Though the children are now very aroused, N reacts to the pun that I make by repeating it. "Sat on Saturn", he echoes. Then, the nature of the game changes very quickly from one that depends on physical activity to a very odd fantasy about life on Saturn, planet of the trains. All the initial incongruities thrown up by Aileen get little laughter. And, though N produces many incongruities about life in the trains, again, he does not laugh much at them though he is motivated as he goes on producing more and more oddities.

The return to laughter is marked by something very simple - Aileen using the "wrong" implement for soup. Then, there are renewed laughs as Aileen asks N why Saturn is so full of trains. Now, he laughs at this question. Then, N laughs as Aileen sits on an aggressive cactus. Many of the events on Saturn are fantastic, incongruous and - even - have a resolution of sorts since N explains why they live on trains and the consequences. But little of this, though enjoyed by N, evokes his laughter.

At the time when the observations were made, I was not familiar with the arguments concerning goal-directed action (Harre and Von Cranach 1982). It seems possible to interpret Nicholas' restarting of the game as expressing an intention to get more laughter. He achieves his end after he has called for
the re-birth of the balloon-baby. But then the intention does not seem to peter out - Nicholas keeps throwing up more incongruities about Saturn - yet laughter dies away. Nicholas only laughs again at an unexpected action of Aileen's, using the wrong implement for soup. Aileen intended this to provoke laughter but N's reaction is not one over which he has control. He "can't help laughing". The more traditional view sees all laughter as responsive. This switch in N may be at a critical point between the two kinds of laughter.

The other thing to note is that R does laugh often initially with N, and, on the birth of the balloon the second time round, his own laughing is more confident. He doesn't wait for N's laughter. But the tape reveals little of what he did throughout the Saturn episode.

It is this moving through different kinds of laughter in one burst which makes it very elusive.

At 2.2 R, and 6.0 N, they play games together which last a long time. The year before, such games seem to have needed either me or Aileen to be there.

These observations suggest that the technically most rigorous observations on laughter may well miss an important kind of laughter - that which comes and goes during the course of long games frequently pun-
ctuated by laughs. The transcripted account of these games shows also how intermingled laughter can become with intellectual incongruity, fantasy, emotional laughter, with laughing at loud noises and balloons playing peek-a-boo all emerging. The capacity to play such games seems to be built up as the child develops a number of "laughter skills", some comic, some imaginative. Certainly, the evidence presented here suggests that by the age of 2.6, at the latest, R is quite able to "act" out being other people and to make himself laugh hugely in the process. If laughter is involved, as I have suggested, in playing with roles and the sense of one's own identity, the early development of these skills is worth noting.
JOKES AGAINST ONESELF (P)

INTRODUCTION:

In adult humour, mistakes often make us laugh. Freud devoted much of his Psychopathology of Everyday Life to mistakes people make by accident. Such errors are often funny. Also, when people deliberately set out to make a mistake by way of parody or just for a laugh, it is often highly effective. In the sections both on puns and on incongruities, we saw a few instances when N laughed at mistakes but these were very rare.

In this section, I have recorded observations of a slightly different sort. They tend to be instances when N and, lately, R have either laughed at a mistake they made or exaggerated it to the point that it is a parody. I shall also show instances of when laughter is not at all pleasant for N because he thinks it is being used against him, to highlight his own mistakes. There are not that many examples of such humour but it seems to me an important form of humour because the ability to laugh at one's mistakes, to see through oneself may be an important and specifically human characteristic. Some higher apes may also laugh, especially when they play. But not even the most advanced ape has yet (to my knowledge) laughed at himself or produced a joke in which he makes fun of himself.

OBSERVATIONS:

At 2.5, R sees N go up the stairs and slip down a stair once. R follows N up the stairs and pretends to slip on each stair. He really does make himself slip down a stair but he is well in control of himself. He laughs as he slips down
each stair. He does this about eight times, laughing at each slip. N encourages from the top of the stairs. (P.1)

In playgroups and nursery schools I have often observed children at around 4 begin to laugh at physically clumsy moves they have made. In one group I observed, there was a girl who was especially liable to say "Whoops, I made fell over". Upon which, she laughed. With N, I record few instances of this in the home but some do occur when we are playing football. At 5.0, N tries to kick a ball and falls over. He laughs at himself for falling over. (P.2)

More typical around 5.0 is N's nervousness of other children laughing at him. I have already recorded the force of N's own sarcasm with his friend who at nearly 5 still wore nappies at night. (L.15) He trained the child overnight where his parents were trying everything from bribes to threats. But at 5.3, N is nervous of other children laughing at him. He is bothered by this if he does not have his school cap or the right socks. Once, he does not want me to take in a hand towel to school as this will make the other children laugh at him. (P.3)

Actual sarcasm also upsets N at 5.3 though he is beginning to be able to wield it himself quite sharply. At 5.3, we tell him not to stand on the Hoover as he ought to know better than stand on such a delicate piece of equipment. N: "I wish there wasn't such a word as sarcastic because then you couldn't be sarcastic about the Hoover and I thought it was true". N's use of sarcastic is not quite correct since it was he who was the butt of sarcasm, not the Hoover but he feels it right. A week later, I tell him not to eat his
breakfast like a pig. N: "I wish you'd stop being sarcastic". A little while later N tells me to stop doing something quite ordinary that I was doing. I complain about this. "I was only being sarcastic", he says. I say: "Touché". It was nearly appropriate. (p.4)

At 5.5, N is quite able to recognise jokes made against him by me or Aileen as being jokes but he does not enjoy them. Upset, Aileen is lying in bed. She has promised to go and look at a picture N has drawn on his wall. She does not want to budge from bed. I tell N that, instead of forcing A to go to his room, "You should bring the wall in here".

N: (stern) That's not funny, David.
A: Yes it is.

But N will not concede the point. He very much wants A to see his picture. (p.5)

By 5.9, N is beginning to be less defensive and he can also, from time to time, use humour in order to cope with some of the more minor disasters of his life. He wails, a little melodramatically, that he has banged his toe. I say: "I'm sorry". N grins: "It's not too bad". He adds: "It was a banger, a sausage, that's something we say at school". He laughs on banger. (p.6 see also 1.28)

Also N can laugh at rude remarks about himself. We are travelling through France and N makes a stupid remark. A says, none too nicely: "You left your brain behind in Toulouse". N laughs at that. (p.7)
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At 6.0 N can get close to a more serious joke against himself. Aileen tells me, one evening: "You're always complaining". N comments: "Who is always complaining?" He laughs. He means Aileen. The next day in the bath I tell him not to complain so much. N grins and says: "You should tell a certain R who complains even more than I do". At least, there is an acknowledgement here by N that he does complain a lot. (P.8)

**INTERPRETATIVE:**

Again, N uses a swap of identities to produce humour. In saying: "Who is complaining so much?" N is turning Aileen's remark about my complaining into a complaint by her: she is complaining that I complain too much. N's laugh is not one at his own expense but at her. The next day, however, he can at least partially laugh at his own complaining.

N still laughs at his own physical mistakes. At 6.2, we are playing football again. N runs up for a long complicated kick, ends up sliding over the ball and getting all tangled up. He laughs at his mistake. At 6.3, the same thing occurs. Only this time, N deliberately sets up a kick to fail at. He skips over the ball when he does finally run to it. He laughs. Then he does it all over again and falls over the ball - and laughs. All quite deliberate. (P.9)
From 5.5, N also makes some jokes that seem to reflect a little anxiety about school. On returning for one term he says wouldn't it be funny if all the top boys were in Mrs. Hare's class, the kindergarten. He laughs. (P.10)

At 5.11, N makes a number of jokes about going to school. He grins as he tells me that if he forgets to bring his cap, his teacher, Mrs. Lewis, says she is going to shoot him. But she is only teasing. (P.11)

In the next chapter, on laughter in a playgroup, more instances will be offered of such self-critical laughter. It may well be that it is more frequent in groups where the child is under some pressure, if not to conform, at least to seem in control of himself, his body and his destiny.

Early on, Frankl (1971) was quoted to suggest that the human ability to laugh at ourselves is a supreme human achievement. These few observations suggest that it is something to which children can come very young.

CONCLUSIONS:

What emerges from these observations points towards complexities rather than towards elegant solutions that will enable us to say that there are two, three or seven basic causes of laughter. Why children laugh is a
question to which there is no simple, and may never be any exhaustive, answer. There is also the perplexing fact that sometimes children fail to laugh at precisely the same stimuli that a day or a week before have made them laugh. My observations on N and R show this can be a product of mood, of who they are with or of how they appear to perceive a situation. A variety of factors, other than the sacred stimuli, matter.

It seems plausible to argue that there are a number of different stages that the evolution of laughter goes through in the child. This evolution is, moreover, a bizarre form of evolution. The 16 year old who has evolved from the 3 year old no longer thinks like the three year old. Unless something is wrong with him, that way of thinking is no longer accessible to him. But, it will be argued, laughing is different. At 6.4 N can and, sometimes, does laugh at many of the things that amused R at 11 months. Moreover, an analysis of adult laughter will show that very often they laugh at exactly the same sort of stimuli that children will laugh at. Often, in plays and films there is
a scene in which the hero and heroine run after each other laughing. They are chasing and laughing just as R and John at 1.3. In other words, we can still quite easily have access to the process that enables us to find things funny we found funny as children. In our development of laughter we gain the ability to laugh at new things and to understand new angles on old jokes but, as we gain these new capacities, we seem not to lose the ability to laugh at many of the things that made us laugh as young children. There are exceptions to this. The main exception seems to be aggressive laughter. We are taught not to fight and that it is even more wrong to laugh at little Joe after we have hit him. But there are still, of course, those anti-social desperadoes who guffaw as they do their worst.

But it should be noted that in the many observations of children and adults laughing while they fought, the adults laughed too. In the special context of laughing when pretending to fight with a small child, I, Aileen, her sister Adele and Doug have all retained the ability to laugh. It amuses us to play fight, too. Here, surely, there is more trouble for the simple equation that claims we laugh when we realise that the thing we feared is really safe. N might just be frightened I could really turn on him and harm him but how could I fear that he (let alone R) might turn on me. At the most paranoid, it can produce no fear.

We do, however, develop our ability to laugh and to create laughter. At 6.0, N has a good mastery of many ways of making people laugh, of making himself laugh and, also,
a good understanding of what he finds funny and what he doesn't. By what stages has he had to pass to get here?

At the very outset there is some disagreement between the reasons for the first laugh. Valentine claims that it was a sensation of being well fed that led to the first laugh. Sroufe and Wunsch (1972) claim that it is tactile stimulation by the mother - from tickling or bouncing the child up and down or making loud noises - which leads to the first laugh. There is no clear resolution that can be offered here. R laughed when well fed and happy and also in response to being bounced and tickled. What is clear, however, between both the proponents of the well fed laugh and the stimulated laugh is the first laughter is to do with a physical stimulus to which the child responds. Some of the physical stimuli that produce laughter under 6 months go on in adult life to produce different though usually strong responses. Kissing the toes and kissing behind the ears, for example, become frankly erotic rather than risible. Bouncing energetically up and down on people's knees disappears from most of our behavioral repertoires. But tickling remains tickling. Many adults laugh helplessly when tickled. And since I have suggested that successful tickling does not depend on the child seeing a smiling face, we have here a direct physical stimulus which produces laughter very early and goes on to produce it through life. (Some gerontologist will, I hope, now publish a study on how close to death people laugh when tickled).

From this stage of laughter due to high stimulation given by an adult
there next seems to come a stage when the child laughs because an adult laughs at him. It will be remembered that Valentine first noted this at 10 weeks in one child and 11 weeks in another. Observers who are not parents tend to miss this since they cannot tease the laugh out of the child. In R, such laughter often occurred from 14 and 15 weeks on. This is purely responsive laughter. While writing this, I went into the kitchen and laughed at N for no reason. He gave me a little laugh back. But, of course, this is unusual. Such pure "responsive" laughter is still capable of eliciting a laugh at 6.4. Also, many adults know perfectly well that they will laugh much more if others are laughing. Canned laughter exists to con us into laughing simply because others are laughing.

An interesting feature of responsive laughter, laughter that is "caused" in the child, is the way that it is woven in with other kinds of laughter. From 7 months on, R laughs in situations where he sees himself—like trying to clap hands in front of the mirror (0.1) or where he is aware of being seen as in the telescope game (0.2). My interpretation is speculative, of course. But as R begins to get a sense of his own stable identity, he can tease himself and a familiar audience by making his head, or other parts of his body, appear and disappear. So popping in and out of a blanket or popping on or off a screen are ways in which the child may be playing not just a joke but a game involving his own identity. The power of the laughs suggests more than a joke is occurring.
Certainly, R and N both laughed when making themselves appear and disappear on the monitor at home. A comparable process may occur when R at 2.6, begins to laugh at jokes that involve his own sexual identity.

There is no neat label to pin to such occasions of laughter. Self-aware laughter is, perhaps, the best available. Before it seems that these claims made here and earlier in section (6) seem far-fetched, it is worth recalling perhaps that work on linguistic development of the child by Wells (1981) and others also suggests a high degree of self-awareness. Wells discusses the language learning of children aged from 10 months upwards and, on the basis of lengthy analyses of conversations between child and parent, he argued: "A decade ago the idea that a child so young could be capable of successfully participating in social interaction would have seemed highly implausible. According to the Piagetian account of development, the child at this age is still almost entirely egocentric in perspective, and his cognitive schemas are restricted to those arising from his sensori-motor interaction with the physical world. To take part in, and learn from, social interaction, on the other hand, requires the child to have developed quite sophisticated communication skills and this, in turn, implies the development of cognitive schemas about himself and others and about the ways in which people and objects can be related in an intersubjective field of attention. (Sheilds 1978)."
He must, for example, have some understanding that the world he experiences is similarly experienced by other people, and that his communications, like theirs, will be interpreted as expressing intentions with regard to this shared world. Sophisticated though such skills may appear to be for the child just beginning to use single "words" that this is indeed the case is suggested by a number of lines of research which have focused on the infant's earliest learning and the context in which it takes place.

Wells' analyses lead him to the conclusion that the one year old child has sufficient sense of his own identity to engage in such conversations. The very tentative analyses I have offered of some games like peek-a-boo and of variations on it involving tapes and videos, suggest that the child may well be playing with his own identity when he appears and disappears. He learns not only that his mother can come and go but that he can come and go - for her. By watching himself on a monitor coming and going, the child can control the appearance and disappearance of his body. The incidents at the Institute of Education, when the children became literally helpless with laughter when they saw themselves flash on screen, again suggest that something oddly powerful is occurring - related either to the child's sense of his own identity or less grandly, to his sense of his role. It is hard to be that clear about what is a murky, metaphysical area but the power of the laughter in such situations was very striking - and merits further exploration, at least.
Together with this first self-awareness, R seems to laugh at incongruities of role. If his mother takes on the role of the baby by having a dummy in her mouth, he laughs. At first, R needs Aileen to also make a noise though he smiles at the sight of the dummy in her mouth. Later, no noise is necessary. These observations on the dummy game fit in well with Sroufe and Waters' observation that the children from 10 months on laughed when their mothers crawled in the month when they had first learned to crawl themselves.

This evidence suggests that incongruity is not built up out of the child's experience of things so much as out of his experience with persons and their roles. Moreover, the games in which children play at being adults, 6 year olds play at being babies which all seem elaborations or variations on the basic theme of role-swopping continue to make N laugh. They continue to make adults laugh in certain situations. These are all ways in which we can play around with our roles as, possibly, ways of testing our identity. In the child, such games seem to be used principally to confirm who he is; in the adult, such imaginative larking can be used to break down who he is, to offer him or her the possibility of new selves or roles, to use a less metaphysical term. If we are social beings, then it should not be surprising that trying out different roles should be part of growing up. Laughter seems much involved here.
The observations offered here would suggest that by 1.3 the child can have a perfectly good concept of what incongruity is when applied to people in his environment. This is later transferred to things. Sometimes things can make people appear very incongruous. For example, children always laugh when they hear themselves on a tape recorder and always want to hear themselves again. Bergson might have argued, had there been tape recorders in his day, that this surely proved that when man is reduced to the mechanical he becomes comic. There is another example argument. The children are playing here with the appearance and disappearance of themselves and enjoying being in two places at once—in themselves and on tape.

This argument against Bergson is not to say that children never find it funny to be like machines. Playing robots often causes laughter in playgroups. N once laughed at the idea that he went on wheels. But this is far from being the or a primary form of laughter.

There is one other difficult form of early laughter to encapsulate. This is laughter at peek-abo which occurs from 6 months on certainly. We have seen that R not only played peek-abo with people but with objects and that N, at 6.4, can still enjoy playing peek-abo. Peek-abo has some of the characteristics of both "self aware" laughter in that the child is playing with appearance and disappearance of his mother, his father, himself and,
in some games with objects. Peek-abo usually leads to the sort of laughter that sounds very like laughter due to tickling or high stimulation laughter. There is also always a defined point when the child laughs, the moment when the mother’s face appears.

At 1.3, it is clear that the child ceases just to respond to laughing in situations that others have set up. He sets out to create his own reasons for laughing. He sets out also to make others laugh. This implies that even so young the child is capable of intending to laugh and, perhaps, to make others laugh. Also from 1.3, the child seems able to interact, at least for short spells, with other children round that age who also want to laugh. The child acts as a creator as well as a reactor — a very young agent.

An awareness that the incongruity of things may be funny appeared later than 1.3 in R. The next stage seems to be the development of the idea that saying "No", that denial and contradiction, are funny. It is not clear why this should be funny but it is worth noting that the first formal jokes that N made are based on proposing that both A and not-A are the case, to put it formally. This is not incongruous; it is impossible. At 2.0 to 2.5, R shows the first glimmerings of finding such nay-saying funny, such contradictions tending, again, to occur in the context of the child’s relationship to parents. He refuses to say "Hat" when Aileen keeps saying "Hat" to him, and he laughs. He then laughs when he says "No" or "No" is said to him.

Together with this grasp of both incongruity and denial there comes round 2.0, the beginnings of really playing around both with sounds and with ideas. R’s Flying Cucumber must be one of the longest running vegetable gags ever. R begins to create and to ask for new rhymes. By 3.6, N is doing both
of these things very extensively and they seem to precede, particularly, his first attempts to make jokes.

In trying to tease out the origins of the cognitive distortions the child makes and responds to before beginning to try and make a joke: it is also intriguing to see in R that his first dirty jokes already incorporate some distortions - it is Happy Birthday that becomes Happy Aaah or Batman who becomes Aaah-Man. It is not enough just to trot out the forbidden obscenities in order to laugh. There has to be more.

It could be argued - and my evidence here is very much R supported in places by Valentine and Sroufe and Waters - that between 2 months and 6 months, the prime reason for laughing is either purely physical or purely responsive. Between 6 months and 1.3, the child begins to grasp some sufficient notion of himself that toying with the role he has can be funny. If that is controversial, surely the observations on crawling and the dummy games make it plain that the first incongruities the child perceives and laughs at are incongruities in which someone else is playing him. Equally at this age, there is a fascination with games that involve appearance and disappearance like peek-abo. It is arguable that such games appeal to the child precisely because they permit him to toy with himself, his own stability as well as the stable existence of his parents, brothers (R plays peek-abo with N) and of objects.

From 1.3 to 2.6, there is a shift in which the emphasis
is on developing the idea of incongruity so that it applies to things and of grasping the concept of denial and contradiction. These are the logical forms that underlie almost all adult jokes. And while the child is mastering this sort of very minimal logic (and, odder, that it is funny) he also seems to be coming to grips with the idea of pretending. By 2.6, R completely pretends to be BATMAN, SUPERMAN, MARINE BOY, THE PINK PANTHER and plenty of other characters. His characterisations are a trifle similar but they convince him and they convince most of the children he plays with.

Many of the games that R plays from 2.0 to 2.6 are ways of mastering these skills. From 3.6 to 6.4, N displays a concern for games that are not too dissimilar but they are more precise. N tries, as we have seen, to make jokes. His jokes are primitive and lack resolutions though by 4.6, he is capable of grasping some resolutions as in his perception of the fact that the joke about W. C. Fields' pineapple juice that was really gin is that W. C. Fields, disguising his booze as fruit juice, has no right to moan when he finds real pineapple juice in his pineapple juice. By 6.0 N is capable of resolutions on a verbal level as in his comment on Aileen complaining I was complaining and of seeing a double joke as in his remark on Fortwin's First Stand.

This ability to see resolutions is no way present round 2.6. But, otherwise, R shows in a very embryonic form most
of the skills N used in his humour round 4.6. What is clear is that between 2.6 and 4.6 there is a period in which there is an enormous amount of learning of humour. R is already elaborating concepts like his flying cucumber, playing about with rhymes which he insists we develop for him. He is beginning to grasp the idea of pretending not to just be Batman but of being N's mummy.

It has often been noticed that children love repetition. N often asked for and still asks for punch-lines to be repeated. He repeats them himself. N often looks for and waits for adult approval of a joke. He is recorded as asking is that funny? It seems he is testing out what is a joke. His actions are not unlike those of a person who is learning a skill. The skill has some set rules (like the cognitive ones I've tried to sketch) but much of it depends on practising the imagination.

The curious thing is that while such sophisticated intellectual happenings are happening, N at 3.6, still laughs if I loom over him and play-fight with him. So does R, in a less aggressive way, at 2.6. I have hinted at some connexion between aggressive laughter and naughty or teasing laughter which first appears in R at 1.2 and of which N is a past master at 3.6. Certainly, this form of laughter seems to be only a little connected with all the other kinds.

It has been argued that we laugh when we aggress because it is a way of expressing our mastery over people. An attempt has
been made to link this with laughing at incongruities because by laughing we thus express our mastery over things. It seems to me much more plausible to link both aggression and "dirty" laughter as instances in which we use laughter both in order to come to grips with certain vetoes and, also, as a way of commenting upon them. R and N parody fighting; R sometimes parodies toileting. In the case of "dirty" jokes, from the start, he seems to require them to have a conceptual embroidering. He trots out Happy Aaah to the tune of Happy Birthday. Aggression in its raw form, as long as he is winning, however, can make R laugh. And winning a verbal tussle by having the last insulting word by which we stun our rival into silence often provokes laughter in the adult. It does so in N at 6.4 when he has had that experience.

In other words, one has to set aside aggression and dirty laughing as being different from other kinds of laughing, even though jokes may involve features common to other laughs. And, indeed, aggressive games may involve the kind of highly aroused physical stimulation that is successful in getting babies to laugh.

The other distinct form of laughter that begins to evolve round 6.0 is the ability to laugh at his own mistakes. Laughing at one's own physical mistakes is something that children often do from - certainly - 4.0 onwards. Usually, this is a very self-conscious form of laughter. With N, he does not find it difficult to laugh at his own physical mistakes and we have seen that at 2.5 R produces his first deliberate
mistake in order to laugh. But it is learning to laugh at more important errors than falling over a football which N finds difficult and is struggling towards.

There are too few instances here recorded to do more than speculate on how this kind of laughter originates. It seems likely that the first mistakes of his own a child will laugh at are instances of physical clumsiness. The child may then deliberately produce mistakes, parodying the correct way of doing it as R did with climbing stairs. In playgroups, round 4.0, many children seem to be verbally self-conscious and say "Oops" and then point out that they've made a mistake which is something they laugh at. The intriguing transition is from this ability to laugh at physical errors to the ability to laugh at different sorts of mistakes, to laugh when one sees oneself in a detached way as, if you like, others see us. In saying something like "Oops, watch me, I made a mistake", the child is able to compare his performance of kicking a football against a good performance of that act. But there is in N at 6.0, the start of an ability to laugh at himself on slightly more serious matters though it is slight. It seems probable that school where N is nervous that others will laugh at him also teaches him the kinds of situations in which others will see him as ridiculous. He does not laugh at himself when he makes mistakes others would laugh at him for. Rather, it seems to be a process that might have helped make N aware of his limitations.

This is an important and useful form of humour as the ability to laugh at oneself can help one cope, often enough,
with problems. At N's stage, such self-critical laughter is slight and would not be present in any major crisis, I predict. But one can see some signs of it.

Finally, these two case histories will, it is hoped, have done something to show how laughter occurs and is used in the family. In the making and moulding of relationships between me and N, me and R, Aileen and the children and between the children themselves, laughter plays an important part. One is tempted to say that the family that laughs together lasts together. At least, it has fun. And the observations will have made clear the importance of relationships to people in the development of laughter.

Watson (1931), the supposedly grim father of behaviourism, recommended ways of training parents so that their children laughed more and cried less. Watson believed that you might be able to find an optimum level of so many laughs a day which indicated good adjustment. Without taking matters to such infinite precision, many of the observations recorded here did, among other things, allow those involved to enjoy being together. That was both a motive in some cases for people doing what they did and also an effect of the mutual laughter. Laughter helps to form bonds. But it would be wrong to go on to argue that this is the only purpose of laughter. We have already seen that N laughs alone when watching T.V. or reading a book.

From all this the essential complexity of laughter
emerges. I have tried to analyse roughly certain stages in the way that it develops. Beyond 6.4, there are, no doubt, further interesting developments to look at. I have tried to suggest that detailed observations of the kind I have done make some hypotheses about laughter seem a little too simple. Laughter comes from many reasons and achieves a number of ends. The most interesting aspect of the data is perhaps the intermingling of the cognitive and emotional uses of laughter. I have tried to sketch out a number of instances where laughing together is an important aspect of the growing bond between N and R. It also seems plain that, in the case of these two children and these two parents, laughing at each other and with each other was emotionally important, very much part of family life. Incongruity that led to laughter would not only be a "cognitive" event but also an affective one. The literature on children's laughter and humour hardly seems to mention this point. There, we hardly ever laugh for fun or pleasure, a triumph of scientism. And yet the emotional bonds and pleasure the child gets out of laughter seem plain. This pleasure may also explain an oddity. The data suggest that children's ability to laugh develops in ways that parallels their cognitive process but, despite that, children do not lose access to younger ways of laughing. Why should they hang on to them? Why should adults bother with such childish games if it weren't that laughing with others reminds us of one of our nicest early experiences?
LAUGHTER IN PLAYGROUPS

...
Laughter is not easy to evoke in the laboratory and this, it has been argued, pushed research into the realms of humour which is more accessible to experimental manipulation. Having observed the laughter of my own children, it seemed important to extend observations to other children too. Between 1977 and 1980, I observed a series of playgroups in the course of their normal activities. Some of these observations were solo; others were with another observer. The methods attempted in these observations will be detailed later. I also analysed the occasions of laughter on a long videotape of classroom life made for the ILEA Television Service. Finally, I brought the children from one playgroup into a studio and filmed them. Sadly, the tapes of these three sessions were accidentally lost. Notes on the tapes do, however, remain.

The majority of the observations were made on the children of one playgroup in Greenwich. The children who attended were from very middle class families. By 1980, fees were £75 a term. The playgroup is run on Montessori lines. It only functions in the mornings. Children come between 9.00 a.m. and 9.15 a.m. and stay until 12.30. The group takes children from just before the age of three till they reach school age. The oldest child was 4.11. In addition to the "real" members of the group, there was also a baby there since his mother, Julie, helped run the group.

The playgroup was created by an ex-headmistress,
Miss Sayer, who divides the three hours into time for playing, time for working and two periods when the children are read stories. Unless the weather is bad, play times are outside in a small courtyard.

The space which the class has available indoors is one very large room in which there are tables at which the children sit. The tables are arranged in fours. There is also a toy corner, a library corner and a Wendy House. From 9.30 to about 10.30, the children sit at tables and "work" on various puzzles, jigsaws, drawings and other games. The older children are encouraged to trace letters and numbers and to learn how to write their names. Miss Sayer and her two assistants circulate and spend time with each group of children. The children have the freedom to decide what they work on but they must work on something. The "work" periods are distinct from the "play" periods. For example, the Wendy House is a "play" space and does not get used until towards the end of work time. During the story period, formality rules. The children sit in a ring, have milk and biscuits and listen to a story. Sometimes, a child tells a story and sometimes the children sing. There is also a prayer said usually. The children are expected to participate - they hand the milk and biscuits round and count the group - and to concentrate on the business in hand.

Outdoors, there is a small courtyard which is full of equipment. There is a climbing frame in the middle, a number of old prams, a small slide, a see-saw, a trampoline, many tricycles. It will be argued that the confined nature of this space affects the laughter that the children produce.
During the course of these observations, the size of the group varied. The smallest size of group was 14 - 7 boys, 7 girls and the largest was 21 - 11 boys and 10 girls. The average across all observations was 17.4.

The method of observing was basic. With a notebook and a biro, I sat on the fringe of the group and recorded every instance of laughter I saw and heard. Before beginning formal observations, I had done a dry run to let the children get used to me. It is likely that some occasions of laughter were missed, and in some cases, I heard laughter but by the time I turned to observe it, it was impossible to see what the situation which provoked the laughter might be. These instances are recorded as queries.

Any attempt to observe groups in such a way must lay the observer open to criticism on the grounds that his attention must be selective. He will see what he wants to see, miss what he wants to miss and attribute the causes that will fit his ideas. There is no way of rebutting these possibilities other than to point to the great variety of laughter which was recorded. Secondly, after the first five of these observations, a second observer was brought in. The temptation was, of course, to create a check list of laughs as Groch (1974) had done and match our two checklists. Instead of doing this which actually robs the observations of much of their detail and richness, it was decided to get both observers to record what they saw. Normal measures of inter-rater reliability are not very helpful here because, in effect, the "raw" observations were of relatively detailed behaviour which was being logged as it happened. The way in
which the observations are recorded also reflects the observers. On the next pages are two detailed examples of the different observations of the same events. I want to argue that it is plausible to accept that both observers witnessed the same events.
DAY: December 4, 1978
TIME: 9:47

Observer One

Fifi holds a small elephant wooden block on top of a pencil. Concentration. It drops off. She laughs. She repeats the process. The elephant is flung behind her. Much laughter as she turns to pick it up. She puts the elephant block on a pencil a third time. It drops off again. This time, there is no laughter.

Jannine swings a thread of beads. She concentrates. Hugo is standing on a chair and has built a pagoda of animal blocks. He topples two off. Jannine is distracted from the beads and laughs. A moment of tension—it seems—round the pagoda. Then, they both shake the table, building up suspense. They both laugh. Jannine returns to swinging her beads. Hugo rearranges the blocks. Jannine hits them down and they both laugh. Then, Hugo builds the block up again and he hits them down. Jannine laughs.

Charlotte waves a Panda Bear at Giles who hits it. They both laugh.

Observer Two

Fifi tries to balance a wooden block on a stick and laughs as it falls off to the floor. She spins it round as the block balances on the stick by rotating the stick and laughs as the block flies off. After she's picked it up, she drops it again and laughs.
Hugo laughs, piles up a tower of bricks and laughs when the top two fall off.

Hugo balances plastic shapes on top of one another, humming a tune. He then laughs, looks up and Giles laughs.

Hugo picks up bricks which Jannine knocks down by swinging her hand and they both laugh.

Charlotte shows her teddy/panda to Giles who bangs it on the head. They both laugh.

There are here clear contradictions between the observers. One sees a stick, the other a pencil. One sees a complicated interplay between Hugo and Jannine where the other just records that both Hugo and Jannine laugh after Jannine knocks the blocks off. But it should also be clear that, for all these differences, the observers both record laughter occurring after Fifi drops the wooden block/elephant and both record laughter when Hugo's bricks topple and both record laughter when Charlotte's panda is banged by Giles. In other words, there is much similarity between the two observations - enough to indicate that at particular slices of time, both observers were seeing laughter in response to the same stimuli.

A second set of observations is now offered for comparison. It is now near the end of the first session of work time - around 10.15. A group of children have been allowed into the Wendy House.

Observer One

Ben and Matthew laugh noisily as they climb in the
corner of the house on the furniture. They giggle together as they squeeze into the corner. There were squeals of delight and laughter as they climbed towards the radiator and pipe in the corner. They began to call it a boat.

Ben laughed repeatedly clinging to Matthew. The latter fell over in the corner and laughed loudly. He then said: "Shall I show you what I did?" He went back to the corner, each time he stumbled or lost his balance, there were squeals of laughter. He repeatedly climbed in the corner. He was now calling it a house and the corner was his playground.

"We've got a playground in our house, you know", said Matthew. They play and scramble in the corner. "You have to tumble and now I tumble", said Ben. Each one tries to climb and falls. Shrieks are heard as they tumble noisily.

Observer Two

Ben: "I'm on a climbing frame". He says this as he scrambles on to the bench and holds on to the wooden clothes pegs. Big laugh.

"You get on where I got on. You can get two people there", Ben laughs and Matthew laughs. They go on and Ben grabs the pipe. Both fall, a little giggly. Ben stays on the bench by the pegs and says: "Matthew, quick, get on our own boat, boat, quick get on our boat". There is much laughter.

Matthew clambers up. Ben grabs Matthew and laughs. "Quick, quick, stay in our car", he laughs and falls off and giggles. Matthew: "Shall I show you what I did?" He says that twice, laughs. "Stand up in our car".
Ben swings on the pegs, laughs, wild giggles.

Matthew: "Shall we go and live in our new home". Louisa and Camilla lose interest. Matthew climbs down from pegs: "This could be our house". Ben: "This is our new house and here's the playground". Ben falls off and laughs. "This is the trickiest bit", he clambers back on the bench. They lean against .... Ben: "Now you have to tumble". Wild laughter as they try to fall and, then, climb up. "Now you get on". Ben laughs before he falls off the bench and after. Matthew: "I can do that". Ben: "It's better when two people are up". Matthew puts his legs up on the pegs. Wild laughter. Louisa leaves. "Ben be careful". Ben: "I'm falling". He laughs as he does so.

Again, though there are contradictions between the two accounts and though the second account is more detailed, it seems clear that both these observations record a long game in which the children scrambled off and on the bench, laughing as they tumbled. The game had a nice elaboration so that the bench they fell off was in turn, a boat, a car, a house, a playground. Matthew and Ben were quite deliberate in making themselves laugh as when one of them offered to show the other what he had done which was so funny - a clear invitation to the laugh.

The value of the joint naturalistic observation technique is that, while preserving the data in its detail and richness, it provided some check on my own rampant prejudices. There is no satisfactory way of making any detailed statistical account of inter-observer reliability in such a situation
really. First, there were a number of times during joint observations when one observer was looking one way and the other looking in a different direction in the room. Both observers were gambling on what situation was likely to provoke laughter. The rewards of gambling right were rich because one could trace in some detail the evolution of a situation which had led to laughter. But the risk was that what one observer might see, the other might miss. Second, when it seems clear that the same situation was being witnessed by both observers, there were contradictions between the accounts. Laughter is often the product of complex situations so that any check of inter-observer reliability has to be very rough.

On the following page, I offer the following figures which seem to me to have a salient value.

First, the total number of laughs per session (i) when observing solo, (ii) when observing with another person and (iii) the other observer's count of laughs. It will be seen that there is not that much difference. No magic should attach to these figures. I have counted up incidents of laughter rather than each laugh. That means that if one child laughs twice when dropping a block and then dropping it again, that makes for two incidents. If on the other hand, three children laugh when one and the same block is dropped that is still just one incident of laughter. The reason for that was that, often, there were children on the outside of a game who chuckled or laughed a little at what they saw. Given our resources—and aims—it seemed better to try and unravel the situations which provoked
laughter. It should also be noted that Session 3 of my solo observations produced far more laughter. This session lasted 20 minutes longer than others because parents were late turning up. During the 20 minutes, one very laughter-provoking game was played by the slide and there were a number of see-saw laughs too.

INCIDENTS OF LAUGHTER

SOLO OBSERVATIONS

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JOINT OBSERVATIONS

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Finally, it should be noted that none of the observers claimed to see a radically different kind of laughter or failed to spot some instance of the other kinds of laughter seen by other observers. Purely intuitively, it was not usually very difficult to guess what had led to a particular burst of laughter. Given the figures for occasions of
laughter seen by both observers, given the fact that this investigation is trying to describe various forms of laughter and given the plausibility of the accounts offered, it seems reasonable to pool the observations of laughter in the playgroup in an attempt to analyse them properly.

As in the sections on my own children, the following pages distinguish between observations and interpretations — with interpretations being set in italics. Each section on a particular kind of laughter has an introduction, observations laced with interpretative statements and a theoretical summary. The observations have been divided — again — with letters to denote each particular kind of laughter. Nevertheless, there are instances of laughter here not found in the home and instances found in the home not found in the playground. The letters for a particular kind of laughter are the same as in the observations of my own children.

These sections are:

1. Noises and Recognition (B)
2. Affectionate Laughter (G)
3. Falling (AA)
4. Mistakes (Z)
5. Baby (BB)
6. Incongruities (H)
7. Outside Equipment which is itself divided into:
   See-saw (S)
   Tricycle and Chases (T)
   Climbing Frame (U)
   Slide (V)
Other Outdoor Activities (W)

8. On the Borders (X)
9. Book Corner (Y)
10. Naughty Laughter (N)
11. Aggressive Laughter (M)
12. Pretending and Games including Spaces to Imagine (O)

In his own early account of laughter, Spencer (1860) argued that laughter was the result of a bubbling over of energy, giggling glee. This allowed the motor system to discharge excess energy. For him, there seemed to be no particular cause for much of the laughter of children. There were a number of instances recorded of children skipping or hopping or running with glee. Groch (1974) argued that 7% of laughter was due to this.

Outside, James jumped up and down and laughed but then decided to pick up a broom and sweep the courtyard. Inside, Caroline skips and laughs a little as she does so. Karen follows her but does not laugh. Another day, Karen jumps up and down and laughs for no apparent reason. There certainly are occasions when there is a lot of physical action involved in the activity which provokes laughter such as when the children jump off the bench or when they wave a shampoo hose at each other but, in such cases, it has taken more than the pure energy of movement to produce laughter. The instances in which there seemed to be laughter as a result of only energetic movement, bouncing
up and down seemed no more than 29 out of 990 — a very small number. It might be argued that one reason why Groch (1974) found more of this glee-type of laughter was precisely a result of her checklist methodology. That offered no other possible classification for some outbursts which in a naturalistic description could be accounted for more precisely.

An interesting variation of glee laughter often accompanied jumping up and down on the small trampoline outside. The trampoline tended to be used by the girls or the younger children. Usually, laughter occurred not when one child in isolation jumped up and down on the trampoline but when two children did so. James once clapped as Karen jumped up and down on the trampoline. Emma laughed. Later in that same day, Emma was again bouncing on the trampoline, making a noise and laughing. Emma seems very fond of the trampoline; her solitary laughter as she bounces is one of the few instances of that on the trampoline. It is curious that, children will laugh alone when they jump up and down on their feet but, on the trampoline, specially designed for jumping up and down, they tend only to laugh when another child is watching.

Though the kind of glee laughter Spencer described was rare without some trigger or apparent cause, there were some "inexplicable" outbursts.

Intuitively, the laughter that seems closest to this unprovoked glee is laughter that is triggered by noise. In
my observations of my own children, I argued there were many cases when N and R made a noise deliberately and then laughed. The same pattern could be found in the playgroup.

Jamie bangs the diamond shapes on the table and laugh (B.14). Gabriel drops two metal shapes on the table which clang loudly; he laughs. (B.15). Other times, the noise can be less rough. Nathan jiggles a large coloured shape and sings a tune as he does so, laughing. (B.16). Gabriel bangs the wall hard with his hand, makes an exaggerated sound and laughs. (B.17). A few moments later, he runs into the Wendy House and bangs the walls and tables with his hand, laughing as he does so. (B.18). Jamie sits at a table making whiny noises to himself and chuckling. (B.19) Outside, Angus makes whirring noises like a robot and grins as he does so. (B.20)

Often, in the book corner, the children imitate animal noises and laugh riotously as they do so - an area which I will examine further under the heading of fantasies. Miss Sayer and her assistants do their best to keep the class playgroup moderately quiet while they are inside. Outside, the children scream as they run around and crash.

**INTERPRETATIVE:**

*It is noticeable that many of the actions which go with laughter outside - like crashing the tricycles or going on the see-saw - are accompanied by ecstatic squeals.*
Assuming that one of the functions of laughter may include both creating and discharging arousal - a hypothesis that seems plausible - it is interesting that the level of noise produced in conjunction with laughter is high.

AFFECTIONATE LAUGHTER (G)

Instances of affectionate laughter were rare though there were instances when the children cuddled each other and laughed as Daniel and Jamie did in the book corner. Fifi kissed Karen and both girls laughed. (G.8) Another time, Rupert says: "We love you" to Fifi who laughs. (G.9) Physical contact that was affectionate but not cuddly made the children laugh a few times. Karen chuckles and Charlotte when they lift up their elbows and touch them against each other. Karen chuckles and Charlotte grins. (G.10) Another instance: Daniel and Reuben are looking at a picture of a cowboy. Daniel says the cowboy in the picture is going "to shoot away" and he tickles Reuben's cheek. Reuben laughs. (G.11) Reuben and Daniel then touch each other's noses. Reuben laughs and Daniel chuckles. (G.12) In the Wendy House, at a different time, Jamie and Daniel find that Hugo is tickling their faces by waving a feather duster. All three laugh. They then proceed to wave the duster out of the Wendy House. (G.13) Finally, two girls - Charlotte and Henrietta - wave their fingers menacingly in front of each other's faces and make clawing noises. They laugh as they do so. It is very intimate aggression between them. (G.14)
In the playgroup, there were also many instances of recognition laughter. For example, a child would peep round the door of the Wendy House, be seen and both laugh himself and get a laugh. (G.15)

Emma laughs when she sees Oliver through the gap in the Book Corner "wall" from across the room. They stick out their tongues to each other and both laugh. (G.11). Sometimes, the teachers deliberately pretend not to recognise something as a tease. Toby sticks a magnet under a piece of metal, showing Julie the top only. Then, he inverts it to show the magnet. Julie exclaims: "Oh" and Toby laughs. (G.16)

Sometimes, objects can provoke the same reaction. When it is close to Christmas, the children are clearly excited by the Christmas decorations hanging all over the room. On a number of occasions, they point at them, add licking noises like "Ooaah" and laugh. (G.17.). Magazines occasionally gave the children a laugh. Once, Emma points out to Fifi and Karen a picture in the magazine and laughs. Fifi: "We've got one of those" and she laughs. (G.18).

THEORETICAL SUMMARY:

The playgroup throws up both noisy laughter and recognition laughter very much in the manner of the home observations. What is perhaps most interesting about this laughter is that it is usually mild and isolated.
Few noises make the children go wild with laughter. The change in stimulation which has been proposed as the cause of laughter does not seem, by itself, to make for very powerful laughter. It is there and can often happen but it has none of the driving power of other forms of laughter.

**FALLING (AA)**

**INTRODUCTION:**

Those with the stamina to remember some of the jokes in the introduction may recall Wolfenstein's complex interpretation of the joke drawing of the big hat. The big hat was the penis rendered symbolically impotent due especially to the drawing of big ears. In the playgroup, phallic symbols were less far-fetched. In fact, it could be argued that much of the equipment the children used was a Freudian's dream. There were plastic snakes that could be extended and, sometimes, the little boys waved them at each other. There were all the blocks the children used to build towers, towers of such toppling size. The example used earlier of Hugo building a pagoda which he and Jannine then knocked down to huge laughter was often repeated.

**OBSERVATIONS:**

Another observation records Karen telling Fifi to make a taller building, "a taller one - out of the Lego
blocks". Daniel says to Fifi: "It's going to be a big building and he laughs. Fifi laughs excitedly as it grows bigger and she comments on its size. It falls as she tries to place another brick on and the bricks clatter to the floor. She laughs and bends to pick them up. After that, Fifi starts to rebuild the tower. She announces that the tower will reach the ceiling. She climbs on to a chair to be better able to build it higher. On the chair she laughs and she laughs slightly more quietly when the tower falls over. But she still builds it up again, clambering from her chair to pick up the pieces and then getting back on to the chair, to fix them up again. (AA.1)

A few minutes later, Fifi: "It won't stand up. You have to hold it up". She laughs, then it falls, she laughs. A few minutes later Henrietta and Charlotte are building a tower with lego pieces. They concentrate very hard and count the blocks aloud. "One, two, three," - both observers noticed Henrietta and Charlotte at the same game. To indicate the reliability of these joint observations here are separate versions of the game:

Observer One

Henrietta and Charlotte are building a tower with lego pieces. They concentrate very hard and count the blocks aloud. "One, two, three, four, five ... " They get to number 18, they scream and smile and laugh. Then the tower collapses. Henrietta holds one brick up. Charlotte laughs. Charlotte holds one brick up. Henrietta laughs. They begin to rebuild it. And laugh again. (AA.2)
Henrietta and Charlotte play with the small plastic bricks. Henrietta laughs. They count together the number of bricks in the tower and when the last one has been counted, they smile broadly. Henrietta holds the tower in her hands and says: "Look how big it is". It collapses and both laugh loudly. Henrietta laughs again as the length of bricks she is holding breaks up. They build up a tower again but it collapses once more and both laugh as it falls to the floor.

Juliethe (the assistant) says they've got one piece of tower upside down. They look at the tower, realise it and laugh. (AA.2A)

It is worth noting that the pattern here continues. A few minutes later the same game is being played by Henrietta and Charlotte. Henrietta says: "Let's build a super rocket". Charlotte says: "Let's build one for me and one for you". They set to building up again. (AA.3)

INTERPRETATIVE:

It seems to me that there is a relatively simple way to account for the persistence of laughter in this situation. In building up the tower, the children exhibit skill and mastery. They also know - or at least have had experience - of the building up being followed by the bricks either falling down of their own accord or being knocked by them. There is destructiveness in the
situation but it is not unexpected. There are also similar situations in which the children laugh, both when they make, and when they break, structures.

There is a long snake which can be made using different coloured blocks. Jamie interferes with the snake, says: "All different colours" and laughs. A few minutes later, Matthew breaks up the snake blocks and laughs. Amy then breaks up the second half of the snake and laughs. Matthew grabs back some of these blocks for his end of the snake and laughs. Matthew now comes close to me as he finishes that end of the snake. I touch the end of the snake with my toe. Both Matthew and Amy laugh. Then, Miss Sayer arrives and breaks up the snake to move it to another part of the room. When she breaks up the snake, there is no laughter. (AA.4)

It is interesting to compare the reaction of the children when things fall to when they fall themselves. Usually, when the children fall in the playgroup, they are falling deliberately in the way that Ben and Matthew did when scrambling over their bench-boat-car-house. (AA.5)

Caroline on the trampoline falls on to her bottom a bit roughly and says: "Hahaha. I laughed 'cos I did something funny. Amy watch". And, for the benefit of Amy, she acts out again what she did. (AA.6)
On the bench, Matthew does the same thing when, having fallen off, he tells Ben that he will show him what he just did that was funny - fall off. (AA.7)

Jamie laughs once when he falls off the chair and, again, when Nathan falls off the chair. (AA.8)

There are also instances when the children deliberately set out to make mistakes and then laugh at the mistakes they have made. Henrietta and Charlotte laugh as they put the piece of a jigsaw in the wrong place. Sam and Jamie are playing with an elastic bracelet when Sam says: "Sometimes you can do it the wrong way up". He demonstrates the mistake to Jamie and they laugh. (AA.9)

THEORETICAL SUMMARY:

The frequency of laughter at objects falling is such that it needs some explanation. Bergson (1911) in *Le Rire* said that the reason we laughed at a man falling on a banana peel was the contrast between the dignity of the man - let him wear a bowler and a pin-striped suit - and the humiliation of falling down - preferably on an ample behind. But while Bergson may explain the situation in which the bowler-hatted bourgeois is banana-skinned and betrayed, his version does not cope too well with the playgroup where it is almost a ritual. (At home, such laughter at falling objects is rare, and not part of a ritual). Control rather than contrast may be the clue.
It is paradoxically, easier to get to grips with why children may laugh when they fall than when objects fall. Falling can be dangerous. When Ben and Matthew clamber up and down the bench by the clothes pegs, they are mimicking situations in which there could be real danger. They fantasise that the bench is a boat and a car which they fall off - both
possibly lethal. In the courtyard outside, the children often also squeal with laughter on the see-saw and, occasionally, on the trampoline. Both these pieces involve sensations of falling. When Caroline falls on the trampoline, she also laughs at her own mistake in falling and yells "Amy watch" while she replays - this time under her full control - the business of falling. Matthew offers also to replay his fall off the bench for Ben. In these situations, the children seem to be acting out in a controlled or safe way something which could be genuinely frightening. Often, young as they are, the children seem to be quite conscious of doing so. It seems clear that laughter is involved in these performances of actions of "controlled terror". To say that, however, is not to specify either what causes the laughter, or what its function is. It seems plausible to argue that one of its functions is to act as a signal both to the laughier and to any audience he might have that what is happening is actually under control. In offering to replay something which was risky and funny and laughing during it, Matthew seems clearly to be offering up the laughter as a signal of safety. Given that, it is surely worth pointing two parallels. First, our use of language tells us that we both shriek and scream with fear as well as with laughter. In a bad horror film, it’s sometimes not possible to disentangle the two. Secondly, these falling games the children play bear a canny resemblance to the games adults played with them when they were younger. In my observations of N and R, I often describe how they laughed when being thrown up and down and caught. Now older, these
children can contrive their own safe falls.

As for the extent that laughter is a signal, that can only be part of the explanation. In many of these outbursts of laughter, the laughter is extended only to be a signal that this is not a real performance, only to denote the fact that the performance we are seeing is not truly death-defying. Yet observations both in this group and with N and R suggest that often, during such outbursts of laughter close to, or involving fear, the laughs are long, giggly and very extended. There is too much of them for them to be only signals. That leaves the tricky problem of deciding what else the cause and function of the laughter in such situations is.

Paradoxically, it is easier to account for laughter when one falls than when one sees objects fall. It is clear from the frequent repetition of the game when towers are built and bashed down that this game is liked by the children. They could build different structures with the bricks; they do not have to knock them down. Freudians would probably point to fear of the phallus in these destructive performances. When the tower falls, it is yet again the mighty or the bourgeois or the phallus falling on the banana skin. Power is being mocked; laughter is subversive; to destroy is freeing. But the children are building and destroying. The entire action can be seen as proof - to the child by the child - that he can take control of, and mould, his environment. In some of the descriptions given, two children built the tower and it
might be said that the laughter was also a signal between them. But Jamie, for instance, laughed alone while toppling the tower and, before Hugo played with Jannine, Hugo laughed alone. What seems to be essential to the situation is that the events are predictable. From the time the child begins to build up the tower, he or she knows what will happen in the end. I never saw a session at which a tower had been left untopped even though Fifi once was so bored that she did not laugh when she bashed her tower down for the fourth time that day. But the predictability is paramount. The child piles block on top of block. Often there is some feeling of when the tower is getting so tall as to become unstable. In other cases, of course, the child decides it is time to knock it down. Some analyses of laughter argue that surprise is a key cause. Here, there is no surprise. And there is often anticipatory giggling before the final movement to bring the tower down comes. Hugo and Jannine rocked the tower.

But to suggest that control is involved does not actually clarify either the cause or the function of the laughter. Does the child laugh because it is exercising control over the situation? In the context of falling oneself, it is easier to see that the laughter might be a borderline behaviour between fear and mastery over the fear? But unless one accepts deep symbolism and makes the towers stand for phalluses or high-rise blocks (or why not both?) it seems far-fetched to claim that in watching these bits of Lego fall the child is enjoying some more profound triumph. Moreover,
as we shall see in dealing with fantasy games, the children can invest toys and masks with all kinds of evident fantasy meanings. So why should they not be literal about the Lego bricks? Charlotte and Henrietta once referred to them as "super rockets" but otherwise, the children call them towers or bricks or buildings and invest them - in words at least - with no vaster significance.

In other words, it is not easy to argue that the reasons that make children laugh when they fall, or pretend to fall, are the same as make the children laugh when they make toys fall over. Yet this last kind of laughter is frequent. The children often set up situations in which it is guaranteed. It is also the kind of ritual performance - the children do each day - that observations of N and R in the house found few of. Part of the reason lies, of course, in the very structure of the group. Given the same sort of toys to play with each day and given that the children had to do something with the blocks, why not this? It could be argued that such observations, as well as many others in this chapter, hint at the fact that much laughter in the classroom may be stereotyped. The children can do wilier things but do not usually do so.
In the group, mistakes provoked two kinds of laughter. There were straightforward cases when children laughed because another one of them had made a mistake. Daniel, for instance, points to Jamie that Jamie is wearing a tabard the wrong way round. (Z.1 see also M.48)

Daniel laughs: Jamie initially does not. Oliver comes into the room wearing a hat. Angus sees Oliver with a hat on and says: "It's not outside so he shouldn't be wearing a hat". (Z.2)

Outside, Jojo falls over a tricycle; Tom laughs. (Z.3).

Jamie laughs as Nathan fits together the jigsaw puzzle of a person wrongly. (Z.4).

Angus laughs at Giles because Giles keeps on making mistakes as he tries to recite Humpty Dumpty. (Z.5)

There are occasions when the children bump into each other by mistake and both of them laugh. Oliver and Emma bump into each other in the centre of the room and both laugh. (Z.6)

Another time, outside, Matthew crashes into Oliver. Even though Oliver is the victim, he laughs. (Z.7)

INTERPRETATIVE:
As we shall see in looking at some of the patterns of play outside, one of the best devices for provoking laughter are the chases and crashes on tricycles which
the children engineer. But when the children bump into each other by accident, the laughter seems to help defuse the situation.

The children can also sometimes laugh when they are stumped. Gabriel, for example, finds it impossible to unstick a number of magnets and, even when he shakes them, they won't come apart. As this happens, as he shakes them, he laughs. (2.8)

He also laughs as he tells Oliver that something will not slide under the magnets. (2.9)

A few minutes later, still coping with the un-sticking magnets, Gabriel waves them and asks Julie: "Do you think this is a man?" Julie says it has no head. Gabriel laughs as he holds the toy up. (2.10)

Another time, Gabriel makes a mistake fitting a puzzle together, says to Toby: "That's not right". Toby says: "No". They both laugh. (2.11)

Fifi laughs when a falling tower hits her. (2.12)

BABY (BB)

The role of the baby in the room is interesting. Sometimes, he laughs as when one of the assistants towers over him but, usually, he watches in his harness or playpen. Some of the children occasionally wander over towards him and use the moment to imitate the baby. Daniel
imitates the baby's cry and makes a funny face as he does so. (BB.1)

When Julie comes to cuddle the crying baby, Daniel wanders back to the garage. Another time, Oliver smiles at the baby who is dropping bricks on the floor. Oliver walks over to the baby, picks up his blocks, says: "What are you doing with that?" looking closely into the baby's face and, then, laughing. (BB.2)

One of the funny points about that is that Oliver sounds just like the teachers usually do. Karen laughs as she watches Julie tell off the baby for having reached out and taken some of the paper that Karen had cut. (BB.3)

Another time, Julie is holding the baby as she helps Reuben with the stick counting toy. The baby takes out a stick that Reuben has just put in and counted. Reuben laughs. Julie tells the baby off and Reuben laughs again. (BB.4)

After a few minutes the baby grabs Reuben's finger, waggles it and then puts it in the space in the toy marked no.5. Reuben laughs: "He did this", he says. (BB.5)

The baby can be naughty and the children see his naughtiness as funny. His smallness gives them, of course, the chance to act big. Karen once wanders over
to the baby and smiles: "I really mean it, baby". Her tone, so like Oliver’s, has just that adult stridency. (BB.6)

Not all interactions with the baby have this pattern. Once, Daniel just plays with him and laughs when Jannine comes over to watch. Rebecca and Emma bring toys over to the baby and smile as they do so. They approach with heavy, exaggerated steps. Karen approaches also and laughs as she gets close to the baby. (BB.7)

THEORETICAL SUMMARY:

In the main, when the children bring the baby into their games it is to mock his babyhood and glory in their relative maturity. Pointing to the baby’s mistakes is a source of laughter. Once, outside, Sam and Caroline have the following exchange:

Caroline: "My baby said Tickle. Tickle". She laughs. Sam laughs and replies: "My mother said to baby 'Where's your poo'?"

These examples of how mistakes provoke the children to laugh suggest again the power of laughter. It seems to punctuate behaviour whose function is to prove that the child is not out of control of the situation.

INCONGRUITIES (H)

INTRODUCTION:

Many texts on laughter point to incongruity as a
fundamental cause of laughter without explaining why it should be. Bergson's analysis of the contrast between the pompous bourgeois and his condition after slipping on the banana skin describes an occasion of laughter but without explaining why the response to such contrast should be laughter.

In the observations of my own children, I pointed out many instances of incongruities and attempted to map the development of ever more complex incongruities. One of the points to emerge was the way in which incongruities were threaded into various fantasy games that the children played. Similar instances occurred in the playground and, as with my own children, it was interesting to see how often the children themselves created their own incongruities and elaborated them in their fantasies. In this section, I outline a series of fairly simple incongruities since I feel it is important to try and give a flavour of the more complicated games the children played both outside and in the Wendy House.

**Observations:**

In the playground, Damian sits in an upturned car and drives it by pushing the rods that hold the wheels. He makes odd noises but he does not actually laugh. Caroline notices Damian and comments: "He's sitting odd". But she, too, does not laugh. Laughter only arrives when Sam turns up having finished playing a game in which he swopped hats and begins to fight Damian. Sam pulls
at the wheels and laughs. Damian does not laugh.
Certainly, not every incongruity produces laughter.
(H.55)

One interesting toy in the group is an inflated plastic skeleton. This does produce considerable laughter. Jojo drops it into the cart and laughs. Later, inside, Angus puts the skeleton on top of a soft toy, a donkey. Carol and Fifi laugh at that sight and laugh again when the skeleton falls off the donkey. They know what the skeleton doll represents but what meaning it has for them is impossible to say. (H.56 see also W.1)

There are a number of occasions when the children turn objects into something unexpected and incongruous and this makes them laugh. Jojo uses little plastic squares to make himself sunglasses, wears them and laughs. (H.57)

In the games that are played in the Wendy House incongruities often surface. The children, for instance, alternate between using a stethoscope like a doctor would. They use it on the body seriously and alternate with blowing down the stethoscope. The latter often makes them laugh quite irrespective of what point in a game it occurs. Hats, too, are excellent starting points for incongruities. Reuben, in the middle of playing Batman in the Wendy House, puts a vegetable basket on his head and says: "Hello" several times and laughs. He then doffs a pot and says: "There's my hat" and laughs. He
then takes off the pot and puts yet another basket on his head and says: "Here's my hat" and laughs again.

It is not clear what Batman has been up to during this display of unlikely millinery. There can be an aggressive element to this hatting game. Hugo puts a box on Giles' head. Such incongruities are weaved into long games in which many different kinds of things make the children laugh. (H.58)

One of the best examples of the children being inventively incongruous comes from Toby. One morning Toby has been playing a long time with magnets and describing their sticking together as magic. He then makes a puppet out of the magnets. He is proud of his creation because he walks around the room showing children and teachers his magnet-puppet. He laughs as he displays it and laughs when he sits back down at the table. He then traipses off to the book corner but returns after two or three minutes to his table and magnets. He now makes a clown out of the magnets, shows it to Julie and explains which bit of the body each magnet is. He smiles broadly as he does this and continues chuckling as he goes on fiddling with the magnets. Toby then admires Nathan's picture man who is made up out of three cards and laughs. He then shows Julie his own magnet-clown and says: "He only has one leg because someone chopped the other off". He laughs. (H.59 see also 0.47)
Verbal incongruities are rarer. I looked in the Noise section at simple punning and words that were deliberately jumbled. But the playgroup also produced the odd infantile bon mot. (And, usually, the children knew when they had said something witty). Caroline notices that her cake is squashed at break time and says: "Father Christmas sat on my cake". She laughs. (H.60)

Drinking his very ordinary milk, Angus declares: "I thought that this was a milkshake", and laughs. (H.61)

Daniel describes a picture in a book as "a fish in the air" and laughs, an idea that he seems to find very funny. (H.62)

Matthew points out to Miss Sayer that, in the book she is reading, "the fish is in a push chair" and he laughs. (H.63)

When they are reading the Night Kitchen by Maurice Sendak - a book which manages to produce much naughty laughter - Tom laughs at the idea that roof tops should be kitchen implements. (H.64) (In the story, there are lots of kitchen implements on the roof tops and Nickie travels across a skyline of colanders, frying pans, saucepans and kettles). This incongruity, however, produces less laughter than the statement that Nickie "is a poo".
A final interesting game that the children play which includes incongruity is that of running cars up and down each other. I look at this game in detail under the heading of aggression because it seems to me that it is, essentially, an aggressive game made more permissible under this funny guise. Very early on, then, certainly by 3.6 children in this playgroup can use incongruity as a means of being acceptably hostile. When they run cars over each other, they are usually very rude as well as noisy to each other.

There is another whole class of laughter which is incongruous but also comes in most in long games. When the children mime and pretend to be doing things - like pouring tea out of a teapot but no tea comes, of course, since there is none and they know there is none - part of the laughter must be linked with incongruity. After all, pretending any action involves a split between what you are actually doing and what those actions are standing for and pretending to be. But it seems more interesting to analyse these pretences in the context of long games.

Isolated incongruities, therefore, make the children laugh and they often go out of their way to make them. The most interesting feature of these incongruities was that they often were part of games in which there were many different kinds of laughter. In other words, once the children were laughing, they often found many different kinds of situations funny.
Before school proper - between 9.00 and 9.20 - the children play outside in a small courtyard. They return there around 11 o'clock and, then again, after 12.15 if their parents are late to pick them up. The courtyard is small and crammed with equipment. I have described the laughter observed close to particular pieces of equipment since some of the equipment was quite distinctive in what games it provoked and inspired.

The see-saw was very effective in making the children laugh. At the start of the day, the children are in the courtyard. Two boys, Angus and Robert, see-saw and laugh. (S.1) A few minutes later, Angus has a different partner on the see-saw, Jojo. Jojo laughs only slowly and makes a sound rather like "ugh ugh". Soon, Angus gets off the see-saw. (S.2) A child does not have to have either a partner or swift movements up and down the see-saw in order to laugh, though laughter is more frequent given either of these two. Jojo stays on the see-saw by himself rocking himself gently. He laughs at Robert and says: "It's good isn't it?" Robert fails to pay him any attention at first. (S.3)

The first time Angus leaves the see-saw, he swings under the bar of the see-saw and laughs as he does so. (S.4)
Robert now is on the see-saw and stays on it. He see-saws and joggles his body but he does not laugh at his movement. (S.5)

After one story period, Miss Sayer sends out the girls to play alone. Charlotte makes for the see-saw. She laughs. (S.6) She is joined by Amy and, as they swing up and down, they laugh a great deal. (S.7)

In the final outdoor session, there is once a refinement to see-sawing. It is the girls again. Caroline II and Sophie start out just by see-sawing and laughing as they do so. Then Sophie puts her arms out each time she is down. She laughs. Caroline II puts her arms out—stretched horizontally—each time she reaches the top. Each of the girls laughs as she carries out this movement which is, of course, a little risky as they're not holding on. It's boisterous. They carry on with this pattern for about ten see-saws. Caroline II adds "Aaah" and laughs. Suddenly there are four see-saws without any laughter. (S.8) Then, for no clear reason, the two girls start to laugh again. Within thirty seconds, however, Caroline II gets off the see-saw. Sophie stays on the see-saw and is joined by another girl, Karen. This time, as they see-saw the build up to laughter is slow. Sophie does not at once continue the pattern of putting her arms out. But soon Sophie says: "Look I'm swinging like a little bird". She puts her arms out again letting go. It is not as risky as with Caroline II. There is intermittent laughter. Sophie calls to Caroline II "Look ..." (S.9)
There is no clear response from Caroline II. Things on the see-saw calm down. Sophie and Karen see-saw on. Soon, however, Karen is distracted by playing in the barrel. That ends their episode on the see-saw. Later, Sophie goes back to the see-saw and yells "Umpty-Dumpty-Thumpty" as she moves and laughs. (S.10)

It is also clear that there is no necessity to laugh just because she is on the see-saw. The last couple to be on the see-saw are Caroline and Amy who sing "See Saw Marjorie Daw" as they go up and down. They do not laugh. They stop suddenly. (S.11)

THEORETICAL SUMMARY:

The kind of laughter on the see-saw ranges from quite gentle laughter to very high pitched excited laughter. This does tend to accompany the more forceful risky manoeuvres. But it seems clear that children can experience the same kind of physical stimulus without laughing or that it may just make them laugh gently. The see-saw is a good test, perhaps, of arousal. It might be interesting to compare the personalities of children who choose to use the see-saw often as against those who prefer apparently quieter activities like the sandbox.
The main activity in the outdoor space was riding on tricycles. This was something that the boys did far more often than the girls. I only noted one time when a girl was on a tricycle and in the period when the girls played alone outdoors, only one girl made for the tricycles.

In the confined space there were three ways to ride - people could ride in a corner or they could chase after one another or they could manoeuvre the tricycles so that they crashed into each other head on. The latter nearly always caused loud laughter and, judging purely by my ear, laughter that was louder than when they crashed from behind. This is a somewhat limited hypothesis that could, of course, be experimentally tested.

The second period of outdoor play with the tricycles is less boisterous. Charlotte gets hold of one of the pedal cars and puts Angus and Robert on the back. They laugh as she pedals carrying this load. She twists the steering wheel round and round and laughs as she does so. A few moments pass and then the car is reversed into Giles who is by the dustbins. As dustbins and car meet, Robert and Angus laugh. Charlotte now gets out of the car. Two minutes or so pass and then Robert is driving the car with Angus on the bonnet. Slowly, Robert pedals the car so that it will crash into the wall. On the quite slow deliberate crash, both boys laugh. They repeat the principle of the thing by then aiming, again, slowly, to crash into the horse. Again both laugh. (T.1)
Sam on the tricycle crashes head on into Duncan. Both boys laugh. Sean then repeats it with Jojo. Sam laughs on the crash. There is no such reaction from Jojo who rides away and crashes into Angus and Robert - the slow car crashers of a minute ago. Robert is not amused by the crash, however, and smacks Jojo. (T.2)

Sam meanwhile continues crashing round the play space on his tricycle. He crashes his tricycle into a barrel and laughs. He then finds Jojo again and crashes head on to him. Sam laughs on the crash. But Jojo doesn't laugh. Instead he tries to crash into the bench on which Caroline is sitting. Jojo laughs as he starts to hit her. Caroline says: "No". Jojo stops quickly. Sam adds his contribution by saying: "Jojo is a witch". Caroline at once laughs and screams: "Oooh a witch". But it does not develop into a game. (T.3)

Oliver laughs as he is being chased. Clearly, victims of crashes can also laugh. Jojo falls over his tricycle. Tom laughs. Jojo does not. (T.4)

THEORETICAL SUMMARY:

Nothing very creative happens out of the tricycle chases. They seem a way of getting rid of pent-up energy from "working" indoors. Some children - especially the younger ones - do cycle without much of the action, melodramas or laughter of the others. There is very
little actual fighting in the play space and the boys who tend to monopolise the tricycles are usually the bigger, and it seems, more aggressive ones. Such aggressive crashes are the ones which appear to fluctuate most - sometimes causing laughter, sometimes not, sometimes leading to anger. They differ from the kind of joint decision to achieve a crash which seems nearly always to lead to laughter as in the slow crash of Robert and Angus into the horse.

The one situation which seems always to provoke laughter is a slow and deliberate crash from head on - a kind of pas de deux - that the children engage in. There is an appropriate building up of suspense and it would seem quite clear that the children know what they are doing and know that there will be laughter in the end. To deduce intentions to laugh is not hard. In similar situations indoors, the children sometimes said that they would do that again because it was funny. Deliberately hitting something slowly led to laughter more predictably than crashing hard and accidentally into something, or someone. It could be argued that such observations tally, at least, with the argument that laughter is part of a situation in which something that could be risky is performed under some sort of control.

THE CLIMBING FRAME (U)

Generally, the climbing frame produces much less
laughter than the other pieces of equipment even though the children use it a great deal.

After his first play on the see-saw, Angus climbs to the top of the frame and sings "I'm in the King of the Castle". The accent is triumphant but there is no laughter. (U.1)

In the period when the girls go out alone, all the girls make for the climbing frame. One has to hitch up her skirt to manage to get on it. The girls climb high and fast. (U.2) But even being very high does not seem to produce much laughter. When the boys come out, Sam climbs to the top of the frame and laughs aggressively at Damian down below. Sam is King of the Castle. Damian laughs back - not at all aggressively. (U.3)

As far as laughter goes, the best part of the frame is the swing on which they can swing. In the next period of play, Sam shakes himself on this swing. Caroline laughs. (U.4) Caroline now gets on the frame herself and Sam, still on the swinging part, makes horrible sounding noises. Caroline laughs at the noises and adds in her matronly way: "I'll smack your bottom". They both laugh at this idea. But nothing develops out of it. (U.5)

Tom at the top of the frame fiddles with the swinging part and Jojo who is on the swinging part laughs. (U.6)
The swing in the frame can produce its own crashes. Amy on the swing in the frame bangs into Caroline. She laughs. (U.7)

THEORETICAL SUMMARY:

Apart from the swinging part, the climbing frame seems - in general - to lead to displays of triumph when the children reach the top rather than to displays of laughter. There is very little competition, however, for getting to the top - no battling for space. Also, no humorous games seem to develop on the frame.

THE SLIDE (V)

INTRODUCTION:

In this session, the most interesting kinds of laughter seemed to centre around games that centred around the slide.

In the first session of play round 9.15 no one used the slide. The girls did not use it when they went into the play-space alone.

OBSERVATIONS:

In the second play period, Sam began to use the slide after some time chasing on the tricycles. Sam and Jeff are going up the slide in different ways. Jeff is doing it the proper way; Sam is climbing up by walking up the actual slide. When they see each other,
San laughs. Sam slides down backwards. Jeff slides down the slide and then runs at it from the front and laughs as he starts to climb it. This develops so that both boys take turns at running at the slide, getting to the top and sliding down. What makes them laugh is running at and running up the slide - in other words not using the slide as it is supposed to be used. (V.1)

They do not have the time to go back up the slide as this game took place near the end of the play time. Miss Sayer defuses Sam's excitement by getting him to be the driver of a train, in which the other boys make up the carriage and Sam's hands become the lever of the engine. Sam laughs at being a lever. (V.2)

In the final period of play, Sam goes back on to the slide after Caroline has threatened to smack his bottom on the climbing frame. (U.5) Sam again goes up the wrong way - running up the sliding down part - to see Alice. As they see each other they both laugh. Then they both slide down by both of them walking backwards down the slide. Alice runs round the back of the slide and climbs up conventionally so that she
and Sam will, again, meet. As they meet on the slide both laugh. Alice now runs straight at the slide running up. So does Sam. The game of running up it amuses them very much. (V.3)

Some 30 seconds later Sam and Alice are still playing on the slide. Sam runs up the slide again to meet Alice who, this time, has climbed up. Sam pulls Alice down the slide. They both laugh. They then go through the same routine again so that Alice is pulled again. Again, this makes them laugh. Then, more quietly, Alice climbs up the ladder and slides down in the ordinary way. 30 seconds later, Alice and Sam are still sliding down the slide. Caroline II joins Alice but, then, Alice wanders off towards the climbing frame. 10 seconds pass and Caroline goes back to a tricycle. Sam runs at the slide by himself but does not laugh. Then, Sam goes off in pursuit of Alice so they can resume their game. Alice runs to the top of the slide and Sam pulls her down the slide. Alice goes off again. Sam is at the top of the slide. Matthew comes to the bottom of the slide in his tricycle. Sam takes no notice of Matthew till Matthew puts an arm out across the slide. Sam laughs and tries to manoeuvre his way over the arm. Sam gets off the slide now though Alice hovers. The game is now elaborated. Sam finds a funny hat. Amy laughs at him. Sam begins to climb up the slide in it. Alice also finds a hat - which is too big - puts it on and laughs. Sam laughs too. Alice now blinds herself by pulling the hat down over her eyes. She follows Sam with her arms stretched out - and laughs. Aggressively,
Sam comes at her. They laugh as they pursue each other. Alice now drops out of the game. Sam returns to the slide and climbs up it making robot like noises. Caroline laughs at him. (V.4)

**INTERPRETATIVE:**

*It is interesting that, at a certain point, Sam was unsatisfied with the game as it was and felt he had to elaborate it by using hats, as if he needed to create an extra stimulus to go on laughing.*

Sam returns to the slide some minutes later. Sam slides down and laughs. He runs over to the see-saw and puts his hat on Caroline. He laughs. (V.5)

Two minutes later, Sophie slides down in between Tom's legs. Sophie laughs. Jojo tries to kick as he slides down. No laughter. (V.6) Then Tom slides down backwards - laughing as he does so. (V.7) Again, not using the slide really as it should be used seems to provoke laughter. Sam wanders off and is soon crashing on a tricycle.

**THEORETICAL SUMMARY:**

*The children here evolved a particular game for abusing the rules of the slide and laughed as they did it. Conventional sliding never provokes much laughter and never the kind of laughter that this game provoked.*
There were, of course, other instances of laughter outside in the playspace.

At the first playtime, Jojo has a plastic skeleton and drops it on to one of the carts and laughs. Inside, the skeleton is often a figure of fun. (W.1 see also H.56)

James jumps on his own feet up and down in a quirky way. He laughs as he jumps. A few moments pass and then he picks up a broom and starts sweeping. He does not laugh now. (W.2) Karen laughs as she jumps off the climbing frame. (W.3)

When the boys play outside all by themselves, Miss Sayer makes them line up as a train. Sam and Oliver laugh at this; the other boys do not. (W.4)

The children hide inside the barrel. Angus laughs as he pushes Robert who is inside the barrel. Robert and Giles push the barrel and laugh. (W.5)

When looking at the games inside, we shall see that small spaces often seem good at evoking laughter.

ON THE BORDERS (X)

INTRODUCTION:

The section on Peek-abo (E) partly examined the idea that children laugh as they see themselves - and others - appear and disappear. It has also been often said that we laugh nervously when entering a room as a sign of appeasement. Lastly, it has been suggested
laughter is a borderline behaviour. It happens when a person could erupt into one of two different states. If we teeter between fear and fright, we can laugh. This links laughter to approach/avoidance situations. Without accepting either of these ideas totally, it did seem interesting to chart examples of what happened when children were at the borders of a physical space.

The room gave two obvious physical spaces - the Book Corner and the Wendy House - that children could hover about, dart in and dart out of. Often, there was much laughter when a child entered or left.

**Observations:**

Angus spent a good three minutes appearing, and disappearing, round the book corner to much laughter from himself and from those inside. (X.1) Hugo leaps round the corner of the book corner and barks. He laughs. Fifi and Emma, his audience, also laugh. (X.2) Hugh and Nathan stick dusters out of the gap between slats of the Wendy House - and laugh. It is a game they go on playing for some minutes and carry on laughing. (X.3) Gabriel and Reuben enter the Wendy House by the door and say: "Hello", upon which all the children inside start laughing. (X.4) Nathan leaves the Wendy House, turns round, looks through the door and chuckles. (X.5) Emma laughs when she sees Oliver through the gap in the book corner "wall" from across the room. They stick their tongues out at each other and laugh. (X.6)
Objects appearing through gaps can also cause laughter. Hugo stands near the door of the Wendy House and laughs as an object — part of the hose — comes through the letterbox. The hose pokes his leg; Hugo laughs more as he backs away. (X.7) Charlotte and Henrietta run round the Wendy House, open the door and Charlotte says: "Oooh a monster". And laughs. (X.8) Henrietta says: "I shut the door". And laughs. (X.9) Sometimes, however, for no clear reason, there is no laughter. Damian and Sam, for example, open and close the Wendy House a number of times without laughing. (X.10)

**INTERPRETATIVE:**

Nevertheless, it was noticeable that the children laughed more often on the borders of these artificial spaces — especially the Wendy House and the Book Corner — than they did when they entered or left the room for real. Observers of the situation were careful to pay attention to the moments when children entered and, especially, when they returned from the courtyard and from the toilets across the courtyard.

One child, Jamie, often laughs when he returns but he is the only one. On a number of occasions, Jamie comes in from the yard, peeps round the door and laughs, before stepping across the room to rejoin the group. By the entrance to the schoolroom proper, there was also much less laughter. (X.11)
The Wendy House and the Book Corner, were of course, spaces placed in the room by the adults and well-defined physically. The children sometimes made their own private spaces and violation of these did lead to laughter. A few times, children dived under tables. Once, Hugo drops his beads. Charlotte laughs; Hugo picks up his beads. (X.12) Charlotte actually gets down on the floor underneath the table. Henrietta joins her and starts to stamp her feet underneath the table. Charlotte stamps too. Both girls tell Hugo to watch them and they laugh. (X.13) Another time, Gabriel dives under the table in the Book Corner and Toby laughs at that. (X.14)

**INTERPRETATIVE:**

In the observations of my own children, I gave a number of examples of quite intimate laughter which had to do with playing variations on peek-abo. It seems likely that the games with appearing round the Wendy House and Book Corner walls are similar but they have a much less intense and private quality. In the section on surprises, I noted two instances of fairly close surprise games between Jannine and Henrietta and Reuben and Jamie but there was only one long game of peek-abo observed comparable to the ones described in the observations of my own children.

Dominic has a plate and he puts it in front of his face. He slowly uncovers his face and says, to
Ben: "I'll get you". Dominic laughs but not Ben. Dominic then asks Ben: "Were you scared?" Ben doesn't answer. Ben is working at a puzzle with numbers and wants the plate which Dominic has.

Dominic : "Close your eyes, Ben"
Ben does so. Dominic now arranges the numbers on the puzzle so as to be in an unlinear order.

Dominic : "What comes before 2?"
Ben : "Three"
Dominic : "No"
Ben : "Is it one?"
Dominic : "What goes after 2?"
Ben : "Six"
Dominic : "No, four"

He yells the word "four". The yell is a signal for Ben to open his eyes. Dominic waves his arms up and down, says: "I thought I was dancing". And laughs. Ben does not reply. They play with the numbers some more. Then, Ben tells Dominic to close his eyes. Dominic (peering through eyes closed) says: "I can see the numbers. I saw them". And he utters a triumphant laugh. (X.15)

About fifteen minutes later, Julie (the teacher) shows Dominic how to make a cut out of a mask. Dominic at once is seized by the idea and cuts out a mask for himself. He masks himself, sings, takes off the mask.
and laughs. Ben, sitting opposite and the audience for this performance, fails to laugh. Dominic then turns the mask into a slit of paper a little like a very narrow paper aeroplane. He laughs at this but Ben does not and says: "Stop it". Dominic then nicks a pencil from Ben. Ben: "Bring it back". But Dominic laughs, leaves the table and puts on an act of taking long and odd steps. Dominic now leaves Ben alone for a few minutes. (X.16)

After a few minutes, Dominic is back at the table sitting opposite Ben. Dominic leans over, opens his mouth to a laughing position and says: "I want to crunch my teeth at you". (X.17 see also N.40)

Ben replies: "Out out out". And laughs.

Dominic : "This is an aeroplane". The paper is another cut out mask.

Ben : "Throw it to me".

Dominic throws the mask across. "Whee", he says.

The flying mask hits Ben. Neither boy laughs.

Ben says: "Dominic, Dominic". Dominic says: "Sorry Ben". Then Ben picks up the mask-aeroplane: "I can lift it up, fly". Dominic stops paying attention to Ben at this moment and thumps Thea. Thea laughs: "Dominic kissed me and I kissed him". She purses up her lips and laughs again. The action makes Ben stand up, go over to Dominic and dance round him. Ben looks at
Dominic's picture and inquires: "Did you paint a burglar?" Ben and Dominic laugh, then the two of them laugh and kiss each other. Then, Dominic wanders off. It is the end of a very long and intimate series of games for that day. Some minutes later, Ben is involved in the game with Matthew which takes place round the bench they fall off. Dominic does not take part in that game. (X.18)

THEORETICAL SUMMARY:

There are, then, many instances of the children laughing as they enter (and more rarely as they leave) particular spaces. The games they play in the group seem, actually, very simple versions of peek-abo compared to the games I observed my own children playing at home. Partly that was because in the group, the children were usually playing with each other and did not have a meddlesome "creative" adult to add refinements. The game between Ben and Dominic with its patterns of aggression, sneakiness, triumph and affection was rare because all that showed through. I am not claiming that the children in the playgroup did not have complex relationships with each other but, rather, that the laughter in their games did not usually play a major part in exploring these relationships.
THE BOOK CORNER (Y)

INTRODUCTION:

Like the Wendy House, the Book Corner is a separate space set apart from the rest of the room. The children are not usually allowed to go there at the very start of the day. Only after about an hour do they wander into it. Often, they are not supervised and are left free to go through any book they want. The Book Corner has a number of screens around it so that, as well as reading, it encourages games in which the children peep round the screen, get themselves noticed and then disappear behind the screen again. During the observations, there were a number of instances when the children developed long strands of laughter while in the book corner. I try now to describe in some detail two of them.

OBSERVATIONS:

Caroline and Sophie are reading the Night Kitchen by Maurice Sendak in which a boy flies over the rooftops of London which are full of kitchen implements and tumbles into a kitchen. The book is fantastic. When the boy lands in the kitchen, the children react by laughing.

Angus adds: "And we could taste his arms (laugh) and taste his bottom" (laugh). Caroline adds: "And taste his willy (laugh). Fifi adds: "And taste his legs" (laugh). (Y.1)

They then pretend to mix all the characters in the Night Kitchen in a big pot themselves and they laugh. The book has the phrase, "Nickie in the Night Kitchen", in it and the children repeat this phrase four or five times.
Caroline, Fifi and Angus laugh. They turn to the last page. Caroline then says: "I want to go to the end and back". She laughs and repeats her wish. Fifi turns back to the beginning and starts to go through the book again. This time there is less laughter. These three children produced a very sketchy version of the actual story. But now Tom who is older (4.10) joins them, settles himself at the head of the table and offers to read the book properly. Tom cannot really read yet though he is on the verge of beginning to. He gives a much more accurate account of what the book is actually saying but this more accurate account does not lead to spin-offs such as the one about tasting various bits of Nickie. Tom laughs at the point in the book when the roof tops are kitchen implements - a point noted under incongruities. But there is much less laughter. When Nickie is naked, this time there is no laughter though when he says:

"Nickie was a poo/light as a shoe"

there is some laughter. The group laughs a little more towards the end of the book. (x,2)

Many of the books involve animals and the children often laugh as they make animal noises. Emma makes a clucking noise as she looks at a picture of a turkey and laughs hugely. Karen looks at the picture and laughs too. Then Fifi shows Emma and Karen the picture of a lion in a book she is looking at. She waves the book at them, growling as she does so. She does it to get a laugh and Emma and Karen duly laugh.
Then, Emma points at another picture and says something that can't be heard about it. They all laugh. Fifi now becomes the ring-leader and makes a "shooing" noise as she looks at a different picture. She laughs. (Y.3)

One of the long games begins round a book that Julie gives Jamie, Daniel and Charlotte. It is about gorillas. As soon as they open the book, Jamie goes "Bop Bop" and says that that sounds "like a gorilla". Daniel laughs. Jamie adds that "A gun does, a gorilla does". Jamie points out other animals which make Bop Bop sounds. They continue to make such animal imitation sounds. Jojo and Reuben reach the Book Corner. Daniel wails: "He's going to shoot those cowboys". Jojo laughs at that and, with his arms, tries to punch Reuben who says of a picture "It's a very long nose, a very long nose".


Reuben now leaves the Book Corner. Jamie and Daniel continue looking at the gorilla book. Jamie leans over the table at Daniel and laughs. Daniel makes a "gorilla-like" face back and laughs. A minute or so later, the two boys are looking at a picture of a lion. Jamie says: "I want to lick the lion's eyes" and laughs. Jamie then says: "We all begin with L" and their fingers point quickly to every item
in the book which might begin with L. These include a lion, a lamb, a leopard.

High pitched laughs follow. Jamie and Daniel then cuddle, say: "We begin with g" - presumably for "gorilla" - and laugh high-pitchedly again. The two boys calm down a little and then:

Daniel : "Animals aren't as clever as humans".
Jamie makes no reply.
Daniel : "Didn't you know that?"
Jamie : "No", he laughs.
Daniel : "Animals aren't as clever as humans".
Daniel repeats it, says: "Funny man, gorilla man".
Jamie : "Funny man, gorilla man".
Despite the repetition, there is no laughter.
"If you've got a dog and there's fighting, the dogs don't understand what they're fighting about", says Daniel.
There is another pause.
"Gorillas don't have eyes", Daniel laughs putting animals down some more. He then points to the gorilla's nose: "He's funny". (Y.4)

The two boys go on reading and, some moments later, cuddle. About ten seconds later, Jamie and Daniel strike each other, laugh and Daniel laughs saying: "You can bite my nose off". Daniel repeats the invitation and laughs again. The children calm down again, turn over a few pages and then Daniel puts his hands up to his head and ears to shut up Jamie who is yelling "Fire, Fire". They are joined by Oliver. Daniel laughs and says: "London's burning". Oliver
adds: "You're stupid. I know how it goes". (Oliver means the song). Oliver then mimes pouring water but does not laugh. Toby joins in dragging a fire engine. Gabriel runs up. But then Toby returns to his table in the middle of the room. The Book Corner is subdued suddenly and the only sound is of the children singing "London's Burning". Then Daniel and Jamie thump each other and laugh. They see me watching them and ask: "Are you called Don Don ..?" Before I can answer, they laugh and say: "He's called Don Don". Jamie has now left the book corner. (Y.5)

Daniel and Oliver stay in the book corner, quite peacefully. Charlotte joins in. Jamie comes back from the Wendy House, puts his head tentatively round the screen, laughs rather as if he is playing peek-abo and returns to the book corner. Charlotte says: "He's three" and laughs. Then, she says: "He's four". (Y.6)

In the book corner, they now huddle over a book. Daniel thumps Charlotte on the head. No laughter. Charlotte goes on reading. The book is an alphabet book. They get to the letter 'O'. Oliver says: "O is for Oliver". Charlotte says: "O is for Orange" and, to Oliver, "You're an orange". She laughs. They resume turning the pages of the book which is The Night Kitchen. They cry: "Fire, fire" and laugh. They then start blowing out the fire making wind noises. Though they are very excited, there is no laughter. Daniel yells: "Woow, woow" and claps his hands. Charlotte laughs as she comments: "And he couldn't pull down his kite". In the book, Nickie is floating through the skyline on what
looks like a kite. Charlotte then closes the book, adds: "And he's a silly boy". The children now re-open the gorilla book. Daniel kisses Jamie.

With the gorilla book open again, Jamie plays at being the gorilla. He clutches his fists, snarls fiercely and another child says: "You look like my Daddy and my Daddy gargles ... gargles ...".

Daniel and Jamie then stop reading the gorilla book, stand up and take little shuffling steps. They look like robots. The two of them then head for the Wendy House. Interestingly, they are still holding on to the gorilla motif. In the Wendy House, there is also Reuben and Oliver. Oliver makes a fire sound.

"Are you a baby gorilla?", Jamie asks.
"Tea makes you stronger", says Oliver.
"They have a sick baby gorilla", says Jamie.
"I'm going to be the sister gorilla", says Daniel.
"You're going to be the baby gorilla", says Jamie.
"We're all on the same side". (y.7)

**NAUGHTY LAUGHTER. (M)**

**INTRODUCTION:**

There are many examples of aggressive and naughty laughter in the playgroup. In describing some of the games the children played outside, I suggested that their tricycle games often involved an aggressive element - and provoked laughter. Inside, there is more variety of aggressive laughter. The same problem remains, however, It is clear
that aggression sometimes involves laughing but the problems of unknotting the casual relationships remain vast.

OBSERVATIONS:

There are, first, a series of sneaky occasions when a child does something naughty and bubbles into laughter. These laughs are rarely high-pitched or excited since the child seems to want to keep the whole event secret. Charlotte takes another child's pencil and laughs. (N.27) Stephen steals a pencil out of one of the tables and laughs. (N.28) Gabriel pokes the baby's back, says: "Six" and then goes off to the other side of the room laughing. (N.29) Another time, Louisa very deliberately sits in Thomas' chair and laughs. (N.30) There are times, however, when sneakiness fails to produce a laugh. Jannine and Henrietta are playing by the garage and laughing as they make the toy cars crash into each other. Jannine moves away, comes back as Henrietta's back is turned, sneaks up on her and smacks her bottom. It appears to be an invitation to laugh. But Henrietta turns round seriously and says: "No". Neither of the girls laughs. (N.31) Once the children enjoy the prospect of hiding something from the teacher, Julie, and they all conspire to conceal the jigsaw: they put it underneath a big book and say "but don't tell the teacher". The three of them laugh. (N.32)

INTERPRETATIVE:

One interesting impression is that there is much less obscene naughty laughter in the playgroup than was
observed with my own children. Perhaps the most interesting obscene laugh came in the group when Sam said he was going to "listen to Matthew's bottom" in the Wendy House - using a stethoscope. It is worth noting that the Wendy House seemed to promote naughty/obscene laughter more than any other space in the room.

Far more frequent were rude laughs. The children said something naughty or rude to each other - and then laughed. It is interesting that, in adult life, the only kind of analogy I can think of is when people flirt rudely with each other. Among the children, the rudeness was more basic. Jamie finished a picture before Oliver, said "I beat you" and laughed. (N.33). In the book corner, as seen, Charlotte called Oliver "an orange" and laughed. Loudly. (N.34) Caroline saw Damian and said: "Look at that funny old Damian". (N.35) Conspiracies between two children against a third led sometimes to rude things being said. Emma and Fifi were playing together when Emma calls: "Big fat Jannine". Fifi laughs. (N.36) Some minutes later, Emma whispers to Fifi and they both laugh. They are sharing a table with Giles and, then, Emma leans over the table and tells Giles: "We said we don't like you". And both girls laugh. (N.37) A few moments later, Fifi and Emma are whispering again about not liking someone and they both laugh. (N.38) Another day, Fifi runs over to join a game at the sandbox in which Hugo and Rupert are being wizards. Fifi: "I'm a witch".
Rupert says: "Hello Fifi". Fifi says: "Hello Smelly-boots" and laughs. (N.39) Ben and Dominic are playing a game with masks and Dominic says: "I want to crunch my teeth at you". And he laughs. (N.40 see also X.17)

Fifi waves her scissors at Reuben. They are deciding that Emma should be in a big box. "No", says Fifi, "'cos I like you. It should be him". She points at Daniel, laughs, "in a big box". She laughs again and returns to her cutting out. (N.41)

AGGRESSIVE LAUGHTER (M)

INTRODUCTION:

The children also often laugh when they hit each other, fight with sticks or swords, hit animals or threaten to perform any combination of these actions. There is less difference in the laughter provoked by these actions than one might imagine and a really interesting question concerns those occasions when there is no laughter at all. Apart from the fact that they provoke no laughter, they do not appear to be very different. The variability of laughter continues to be perplexing.

OBSERVATIONS:

Threats are not uncommon in the group though few
children seemed to continue with them for long. Emma and Rupert, sitting opposite each other, claw the air with their hands and laugh excitedly at the same time. The clawing is quite aggressive towards each other. Karen has a paper toy in her hand, places it close to Charlotte's nose, pinches the toy and says: "Pinch your nose Charlotte". She laughs. Charlotte's nose is not touched. (M.36) A few moments later, Charlotte makes a pinching movement with her fingers in the face of one of the teachers - and laughs. (M.37)

Attacking animals is often a source of laughter. We have seen how in the book corner, Angus hit the skeleton and produced much laughter. (M.38) Another day, Charlotte shows her Panda to Giles who bangs it on the head. Both laugh. (M.39) Robert and Oliver hit the leaves of a bush in the courtyard and both laugh. (M.40) Jannine waves her dog at Giles who bonks it on the head. Both laugh - three times. Jannine says: "Hello, hello, hello" and Giles bonks the dog again. (M.41) Another day, at the end of the group round 12.15, the children are waiting for their parents to pick them up. Jojo and Angus thump each other with furry animals. Reuben joins in waving his anorak and they all bonk each other and laugh. (M.42)

One of the more interesting aggressive games the children play involves using the cars at the garage. The children quite often put the cars on top of the
garage, make them fall off and laugh. But one day, Daniel and James are playing with the cars when James comes at Daniel with a car. Daniel laughs. Then, James runs the car up Daniel's back. Daniel laughs. Then Daniel runs a car up James' back. Both of them laugh. They repeat that twice, running cars along each other's back. Then, they run cars all over each other's head. And laugh. (M.43) Jannine skips and laughs as she comes towards them. She skips away. The two boys stop running the cars all over each others heads and now crash the cars into each other. There is no laugh when the cars just crash. (M.44) Another day, Hugo taps Jannine on the shoulder with a car. As he turns round to face the class, she also turns round and they both laugh. They repeat the performance immediately and laugh. (M.45) Some moments later, Giles has joined them. Hugo tries to put a wooden box (with some cars still in) on Giles' head as a hat. He laughs. One of the teachers takes Hugo away. (M.46)

The notion of using the cars like this is not exclusive to them. Reuben and Sam place cars first on their own heads, then on each other's heads, making "brmm-brmm" noises as they run them along. Both boys laugh. Reuben says: "The bus has got people in it". And he laughs. (M.47)

One of the less predictable games to emerge is the game of body woggle. The children often make odd movements in this period. Body woggle is included under aggression since, during it, the children seize a number
of opportunities for hitting and pulling at each other. The game begins outside the Wendy House and ends up inside it. It starts with Nathan telling Daniel to "get off that chair" and then, he adds: "Anybody woggle". Both of them laugh. Daniel then tells Jamie that he's wearing a tabard the wrong way round. Daniel laughs and then laughs again, saying: "No". He shakes his head. Jamie beams and says: "Yes". Then he grabs hold of Daniel and they both laugh. (M.48 see also Z.1)

A few moments later, Daniel is wearing a tail made out of a hose. He looks at the tail he's wearing and says: "Golliwoggla". Then he lifts up Nathan's hair and laughs. Daniel and Nathan make for the Wendy House. Once inside, they point to each other and laugh. Some other child says: "Body Woggle". They now settle to a game with a feather duster. (M.49) About three minutes later, Hugo pulls at Daniel's tail and he - and Jamie - both laugh. Daniel says: "He stole my tail" and Hugo laughs loudly. Nathan then bags Daniel on the head and says: "Don't forget Mrs. Body Woggle". Jamie, Daniel and Nathan all laugh. A few moments later, Nathan repeats "Mrs. Body Woggle" and laughs. That is the final appearance of the body woggle, a game which allowed a certain amount of pulling and hitting around a parody of dancing movements. (M.50)

INTERPRETATIVE:
But if all these are instances either of threatening or of parodies of violent behaviour in which laughing
might help defuse and control a potentially dangerous situation, other instances showed that the children could attack and laugh. The attacks, while not vicious, were often sharp enough.

Angus and Oliver wave at each other with their arms and hit each other. Both laugh. (M.51) After using rods to make the snake (as discussed earlier), Sam and Damian threaten each other with the rods and drop them. Sam laughs. He goes on to pick the rods up with Matthew. The two boys turn them into walking sticks or crutches and they both laugh at this transformation. Miss Sayer arrives and transforms them again saying: "Let's measure you". So the rods become mathematical rather than menacing. (M.52)

In a number of cases, the children laughed when they were either trying to pull things from each other or succeeded in pulling them. Toby tries to take a stick off Hugo and they both laugh. (M.53) Reuben tries to pull something from Jamie and laughs. (M.54) Even the "vanquished" can giggle. Toby pulls a hat off Jamie's head and Toby and Jamie both laugh. (M.55) In the Wendy House, Giles holds a shampoo hose between his teeth and laughs - keeping his teeth clamped - as Jannine and Daniel try to pull it away from him. (M.56) Even frank fighting could be funny to the children. Nathan and Hugo push and pull each other while playing with the garage and both laugh. (M.57) Gabriel taps Jamie with a stick and then brandishes it at him.
Nathan, who is watching, laughs and Gabriel smiles excitedly. (M.58) Two boys nearly laugh as they give each other injections with a pencil. (M.59)

Two instances of funny aggression occurred. Nathan covered Jamie's face with a cloth, laughed, thumped him and then laughed some more. Again, the "victim" also laughed at the beginning in this case, but then it hurt and he cried. (M.60) Jannine threatened Daniel brandishing a picture book with a bear in it saying "Oh oh". Giles laughed. Jannine then became so excited, she dropped the book. Both children laughed. (M.61) There were other cases of a child who was the "victim" of an attack also laughing. Hugo, with a laughing face placed a lasso round Jannine who let him do so and laughed. (M.62) Karen fabricated a folded piece of paper into a snapping monster and used it to chomp at Charlotte's face. As the snapping monster snapped, Karen laughed and so did the threatened Charlotte. (M.63) Once, Oliver walked so as to impale himself on a stick one of the teachers was holding - and laughing. (M.64) A child watching aggression also might well laugh as Fifi did when Emma poked Daniel quite hard in the chest and Nathan did when Gabriel attacked Jamie with a whisk even though Jamie was whining he was hurt. (M.65)

The sand table is one of the places in the room where there is, in general, the least laughter. But on one occasion, Hugo thumps Jannine and then swings a ladle twice in the direction of Charlotte. Hugo does
not laugh and Charlotte is not intimidated. She skips, laughs and goes away. Hugo now picks up a handful of sand and threatens to dump it over Giles. As Hugo places the sand against Giles' nostril, Hugo laughs. A few moments later, however, he moves away from the sand table for no apparent reason other than to follow Jannine. (M.66) The most violent laugh occurred, possibly, when Gabriel was jumping on Giles' back and making animal noises. Despite the animal noises, Gabriel was jumping hard - and laughing. Giles did not laugh. (M.67)

It has been suggested that one function of laughter is to be a behaviour which demarcates borders. Between fear and pleasure, there is laughter. In the playgroup, such intimate situations were rare. Outside the Wendy House, there was almost no tickling, for instance.

THEORETICAL SUMMARY:

All these examples of aggressive laughter culled from the group suggest that it would be neat to be able to claim that the children laughed only when the aggressive situation was a safe pretence or only when there was aggression and some other factor involved so that the laughter could be seen either as a borderline behaviour or as some form of displacement. Such an analysis would be neat but incorrect. There were occasions when both children in a fight - and even when one was losing - would laugh. The laughter suggested that the fight was not that vicious but it was still a real and
proper physical bout. There is a danger of a circular argument if one claims that laughter has to be a signal that the situation is essentially a safe one since the only fact to show that the situation is not "for real" is that there is laughter.

PRETENDING AND GAMES (0)

INTRODUCTION:

In the observations of my own children, I gave a number of instances in which the children pretended and laughed. The first instances of pretence in Reuben's case came at 18 months. In the playgroup, there are many occasions when the children pretend and find their pretence amusing. Sometimes, they consciously set out to repeat a pretence they are enjoying, saying they want to do it again. I have divided the times the children laugh in pretending into two situations. There are, first, simple pretences as when Karen laughs as she pretends to chew a piece of flannel. The pretence is an isolated act and does not fit into any game. The second pretences are long games such as when the children play doctor or start swimming in the middle of the floor. There is, in describing simple pretences, some overlap with situations described earlier such as when the children are reading a book and put on gruff animal voices.
OBSERVATIONS:  

Fifi makes grimacing eating noises and laughs as she does so. Emma, who is watching her, also laughs. (0.20) In the Wendy House, Reuben gives Daniel a plastic cup and Daniel pretends to drink, making slurping noises. He and Reuben both laugh. A few moments later, Reuben pretends to be "Fantastic Man". He adds "Fantastic Man can stretch his arms" as he stretches his arms. Having mocked Fantastic Man, Daniel pulls Reuben's arms and they both laugh. The children often put on capes and hats and become Batman. But the Fantastic Man game does not catch on. (0.21) A minute later, Daniel pretends to drink out of a plastic kettle spout and he chuckles. (0.22) Reuben plays with the telephone and laughs. (0.23) He then pretends to pour water over himself and Daniel. Both of them laugh. (0.24) A few moments later, Oliver and Daniel pretend to eat from a pot using imaginary spoons. They do not make slurping or any other exaggerated noises but, still, they laugh as they eat. Then, Oliver throws the pot to the floor but he merely smiles. There is no actual laugh. (0.25) 

Feeding games continue. Reuben pretends to pour Daniel a cup from the kettle, saying: "Yes sir". Daniel giggles. (0.26) A few moments later, after a dive under a table in the Wendy House, Daniel gets up, places a cup on his head, says: "Hello, hello". As he bends his head forward, the cup falls to the table and
he laughs. (0.27) A moment later, Reuben pretends to pour tea from the kettle into a cup and chuckles. He then "feeds" Jamie from the spout and both he and Daniel, laugh. The children then become bored with pretending to feed because Oliver shouts down the kettle spout and leaves the Wendy House. Reuben follows, laughing. (0.28)

Miming is often accompanied by laughter. Daniel tells Fifi something about drinking and laughs as he mimes it, lifting his hands to his mouth and tilting back his head. He continues talking with broad smiles and chuckling as he looks at Fifi. (0.29) Later on the same day, Fifi goes through a similar routine. She is cutting pictures out of a magazine and she makes grimaces of greed/pleasure as she pretends to eat the pictures she has been cutting out. Emma laughs. Fifi goes on to mime eating, bringing her hands to her mouth and chewing. (0.30)

The vast majority of the miming - with and without toys - has to do with eating or blowing or some form of aggressive behaviour. Sometimes, the children deliberately use toys which they cannot eat. Fifi gives Karen a big black block to eat. Karen puts the block in her mouth, laughs. There is a pause. Then, Emma says: "I think I'll be sick". Fifi then puts the block in her mouth, and sucks, almost kisses it, as if it were a pipe. She laughs. (0.31) There are two exceptions to this oral pretending. Jannine picks up an old camera and pretends to take a picture of Giles who laughs. (0.32)
Daniel pretends to cry which makes Jamie laugh. Then, Daniel laughs. (0.33) Another time, Gabriel tells Giles that Giles is Batman's Daddy. They both laugh. (0.34)

In the next section, I will outline a number of elaborate fantasies the children devised. But, once or twice, the children started to pretend something and, despite it leading to laughter, dropped the topic. In the Wendy House, once, Toby said: "I'm an Indian Lion", which made Reuben and Daniel laugh. Daniel then crawled along the floor to Toby, said: "Red Indian Lion". Toby's response was to bang on the door and laugh. The children did not continue with this game, however, but started putting on different hats. No further word about lions or Indians could be heard. (0.35) Another time, Gabriel put on a cape and said: "I'm an Indian of the reef" - according to one observer and "I'm an Indian of the teeth" - according to the other observer. This remark made Gabriel laugh. But again, the pretence went nowhere. (0.36)

Outside, I reported one occasion when Caroline said there was a witch loose and flew into a fit of giggling ( ). The children do often say that one of them is a witch which sometimes leads to laughter - and sometimes not. In one instance, without any laughter, it prompted a remark which conveys how sharp
even such young children can be about the role of pretending. Gabriel says to Fifi and Reuben: "There's a witch in the Wendy House. That's a witch dressed up". But there is no laughter. (0.37) Gabriel then moves towards the baby and smiles. "I only pretend to kiss your baby", says Gabriel to Nathan, "because he doesn't like kisses". (0.38) The complexities of pretending that the children can manage come out best in some of the longer games they play.

SPACES TO IMAGINE

INTRODUCTION:

Even more than the book corner, the Wendy House provides a snug space set apart from the rest of the room. The Wendy House is in one corner and it is fitted together from six different slats. Between each slat, there is a small gap which the children use to peer through sometimes. There is no roof. Inside the Wendy House, there is room for four, perhaps five, children to move about. There is also an assortment of toys - a Welsh dresser complete with cups, saucers, a kettle, pans, a telephone, a shampoo hose, a small table, a stethoscope, even a cash register though this piece of plastic capitalism does not get much used. The end wall of the room serves as the end wall of the Wendy House. Some of the children's coats hang on pegs here and there is a bench, the bench Ben and Matthew scampered
up and down on. The children only get to use the Wendy House after they have sat and worked at their tables for about 90 minutes. The children are aware that the Wendy House is a space set apart. Nathan says once: "We're going to do silly things in the Wendy House". And, more sinister, there is an aggressive exchange without laughter which goes like this:

"We'll kick up" says Nathan.

"We'll kick him when we're in the Wendy House", Emma adds.

**OBSERVATIONS:**

Perhaps the most predictable games are the ones which are either obscene or aggressive. Sam, Giles and Robert are in the Wendy House. Sam suggests: "Shall we both be dead and you be the doctor?" They lie down without laughing. Soon, Sam has his pants down in the Wendy House and Robert wipes Sam's bottom with a toy iron. There is no laughter. Now, Robert irons Sam's front. Again, there is no laughter. Robert says suddenly that it is his turn to be dead and adds: "I have to iron our bottoms". No laughter and, given that Sam is there, there is a very uncharacteristic quiet. (0.39)

Robert now begins to iron Sam's penis. Sam giggles. Giles now takes hold of the iron and irons both Sam and Robert's bottom. There is no laughter. Then, Giles begins to iron each of their penises. They giggle but
not wildly. Then, Giles begins to iron each of their tummies. They are laughing now and, it seems to me, making an effort not to laugh too loudly. Robert says: "Do my toes". Giles obliges; Robert giggles. There is a period of ironing toes which provokes considerable giggling. So much so that Miss Sayer goes over to the Wendy House and tells them that they should get dressed. (0.40)

Later, in the Wendy House, Sam tickles and is tickled with much laughter. It is, again, noteworthy that there is rather little tickling outside the Wendy House.

Another medical interlude - though not quite as brazen - takes place when Jamie lies down dead in the Wendy House. Gabriel, (who has just been playing a game with the shampoo hose) enters and says: "Are you ill?" Oliver laughs. Gabriel explores all the bits of Jamie's body that appear to be dead. He announces: "I don't know. I'm puffing you up to make you better". He blows down the stethoscope at Jamie. Then, Gabriel puts the stethoscope through the Wendy House's letterbox and laughs. Hugo is the other side of the letterbox and laughs. Gabriel says: "I don't know. He might be dead". Then, Jamie gets up. "How did you fall over like that?", asks Gabriel. Jamie demonstrates and Gabriel laughs - at what could be seen as a play - triumphing over death. Then, Gabriel says: "If I came next, there can be no doctor, just a man who makes you better, no doctor". At this apparent witticism, Gabriel laughs. (0.41)
A number of times in the Wendy House, children play at being monsters. But what is perhaps curious is the way in which even quite simple imaginative games can be given a darker twist - a sign that the children's anxieties are being expressed perhaps.

In the Wendy House, Reuben, Toby and Daniel have been playing the feeding games which were described earlier. Toby says: "Batman sometimes has a tail" and chuckles. Gabriel says: "No, he doesn't". Toby says, with a fading smile: "He sometimes does". Reuben says to Toby: "You're a batman dog" and smiles at him. Having turned the situation away from a hostile one, Reuben now distances himself a little. Gabriel tells Toby: "Batman, sit on your seat". Toby and Daniel laugh with their hands over their mouths. Gabriel picks up a piece of fluff off the "tail" and pushes it into the other boys' faces saying: "Here's a bit of Batdog's tail". He laughs. Toby then barks like a dog and laughs. So far, no depths. But then Toby says: "I don't die". And he laughs. (0.42)

It is impossible to guess what brought that last sentence out though, again, it is telling that, inside the Wendy House, the idea of death surfaces.
There are simple aggressive games that occur in the Wendy House too. Gabriel, Nathan and Jamie tussle with a shampoo hose. Then, the three boys all get a hose and all blow down it while watching each other. When they stop blowing, they all laugh. Later, still in the Wendy House, they bash each other with hoses and laugh. (0.43 see also M.56)

One game which does not occur in the Wendy House but by the sandbox ought to provoke laughter but fails to provoke laughter, even though it begins promisingly. Rupert laughs as Hugo dribbles sand. Hugo says: "It's a volcano" and then scooping some sand up, "this is gunpowder". Hugo pours sand into an old tomato ketchup bottle and spells out the letters on it. He makes noises as of gunpowder firing but there is no laughter. Hugo imitates some more gunpowder-like noises. The two boys scoop more sand into a vessel and say: "This is the cannon". They are concentrating. Hugo announces: "I use gunpowder to light my cannon". Jannine has already skipped over to try and join in but her arrival went unnoticed. Now, Fifi runs over. Rupert says: "I'm a wizard". Fifi says: "I'm a witch". There is still no laughter. Hugo: "Hello Fifi". Fifi: "Hello Smellyboots". And Fifi laughs. Hugo does not laugh. (0.44 see also N.39)

**Interpretative:**

It is not clear why a game with so much noise and aggressiveness should not have led to laughter and it is intriguing that it should have taken place outside the
The children can use laughter to put other children down in longish arguments. In the Wendy House, Jannine is playing with Nathan, Gabriel and Oliver.

Jannine : "I'm a Mummy"
Gabriel : "I'm a Daddy"
Jannine : "They're three Daddies"
Nathan : "I'm a Daddy"
Gabriel : "I'm we're both Daddies"
Jannine : (of one of the boys) "He's just a boy"

She laughs and Charlotte laughs. (0.45)

Wolfenstein (1953) suggested that children laughed when they were assigned the wrong sex. The one time that happened when Damian was counted as a girl, no-one laughed. (0.46)

Three other games take place outside the Wendy House.
and reveal, among other things, how the children can stick to a theme and elaborate it in quite different ways. Early one session, Toby is playing with the magnets. Much later during this session, he fabricates his one-legged clown with the leg unfortunately chopped off. But, before that experimenting with the magnets, getting them to stick together, Toby exclaims: "Magic".

"Can I do it", says Oliver. Oliver gets two magnets to stick together. "Magic", he says and laughs.

Fifi comes over. "That's not magic I see", says Fifi. "It's a sort of magic", says Fifi.
"Doesn't feel like magic to me", says Fifi, "it's not magic".
"It is magic", says Toby.
"He's just taking it off with the sticks", declares Fifi - the sticks being the magnets.
"Well, it's a sort of a magic", Toby clings on.
Then one of the teachers, Julie, arrives. "If he thinks it's magic, it is". (It is curious, incidentally, that while the children in this argument function quite logically, Julie's own intervention is completely irrational, making Toby out to be egocentric in a Piagetian sense). Toby goes on experimenting with the magnets. Fifi subverts again: "I saw it on the telly". She laughs.

Julie : "She's got a cheeky laugh".
Charlotte : "She did see it on the telly".

It is interesting that though Toby goes on playing with the magnets, and builds his clown, we hear no more about the magic of magnets from him that day. (0.47 see also H.59)
A more unlikely long game took place around a bottle of perfume. Ben started to play with a bottle of perfume. He pretended to put some on his face and laughed. Louisa joined him and then Thea. While Ben was fiddling with the bottle, Louisa and Thea banged their heads gently together and laughed. Then, Ben left the table with the bottles, laughing. Dominic took over the bottles. He opened the perfume. "Look what happens", he said and poured out some. "I smell it funny", he said. He then sniffed perfume and laughed. He then put the stopper back in the bottle and laughed, withdrew the stopper, sniffed again and laughed. For a minute or so, Dominic then sorted out the various bottles on the table arranging them without laughing. Then, Ben returned to the table. He and Dominic sang.

Dominic (singing) : "Out and about".
Ben : "Spout". Laughs.
Dominic (singing) : "Out and about".

Dominic sings on as he pours out perfume. Ben smiles as he unscrews the bottle top. Camilla (who has joined Ben) takes the bottles. Ben keeps on unscrewing the top, laughs, then actually removes the top, shows it to Camilla, laughs again. Camilla gives him another bottle to smell. Then, she turns round. Ben makes a hissing sound at Camilla and laughs. Camilla then sprays Louisa with perfume and Louisa says: "Yes please". Louisa has been drawing and shows her drawing to Ben and Camilla. Ben pours some more perfume on himself, passes the bottle on to Camilla half laughs. Louisa says to Dominic who is at the table still: "That's you with
a beard" and she laughs. Ben carries on unscrewing the bottle and then drops it to much laughter. A few moments later, he places the bottles back on the table. Then, he tries to whisk the bottle Camilla has been playing with from her and to pour some perfume on to her. Camilla laughs as she is perfumed against her will. Then, she takes Ben's bottles. But Ben then loses interest in perfume and pays attention to Dominic. Soon, they begin playing the game with masks that was described earlier. (0.48 see also X.16 and X.18)

**INTERPRETATIVE:**

Much of the laughter round the bottle of perfume seems to be connected with novelty. The novelty is the smell and funny smells have many associations though, curiously, none of the children is tempted to suggest it stinks. Ben also shows a certain repetition compulsion. He keeps on unscrewing the bottle and he keeps on laughing as he performs that action. There is also an obvious aggressive delight of pouring perfume on the unwilling Camilla. The children spent perhaps ten minutes enjoying this game. But, unlike the games in the Wendy House, it would seem difficult to argue that this frolic conceals hidden meanings.

The third long game occurs when Giles enters at 11 o'clock having just been to visit the big school he will go to next term. Before Giles arrives, there is relative quiet, no manic activity or laughter.
follows follows on from his arrival. Emma and Karen laugh at Giles as soon as he enters. Jannine skips over, laughs, says "Hello", laughs. Then, Nathan skips over to Ciles and says "Hello". Karen leaves Giles to skip over to Rebecca and Emma. Emma then comes over to Giles, laughs and then all three girls return to him. Emma and Karen ask Giles who he saw at the big school. Emma laughs. Karen then picks at Giles' new grey jumper and backs away. She tells Emma what she has done. Emma tells Giles. Karen smiles sheepishly. A moment later, Fifi skips over and says: "He does kick". It is not clear who kicks. But having said that, Fifi lies down in the middle of the classroom. Karen lies down in the middle of the classroom too. Both girls kick and wave their arms as they lie down in the middle of the classroom. They laugh as they do this.

Suddenly, Fifi says: "Just doing the backstroke". No-one has mentioned swimming before. Karen laughs at what Fifi has said. Then, Fifi laughs.

"I'm stuck", says Karen and tries to get up.
"I'm going on", says Fifi.
Julie, the teacher, says they can play that game in the Wendy House.

The girls go into the Wendy House but quickly wander back to the centre of the main room. Fifi lies
down again in the middle of the room and does the backstroke. She laughs. Fifi invites Henrietta to join her, then she gets up, skips over to the table she uses, then goes to the Wendy House. She knocks at the Wendy House. Gabriel says: "It's the Batman Cave". "No it isn't", says Fifi, and she goes in.

A few moments later, Fifi comes out of the Wendy House, says: "I'll swim again" and laughs. She settles herself back on the floor.

"Stop", yells Henrietta. Henrietta bends down over the swimming Fifi and laughs. Then, Henrietta goes to look at the baby.

Karen joins Fifi down on the floor and starts making swimming movements too. "Henrietta's our teacher", says Karen.

Daniel now skips into the space they are using to swim in - clearly an undefined space. Fifi laughs: "He's in the water", she says. Daniel is still standing up. There is an explosion of laughter from Fifi who says: "You don't stand up in the water". She swims a little more, then returns to the Wendy House. But about two minutes later, Fifi and Karen are lying prone again. Giles and Daniel come out of the Wendy House and go "stamp stamp" over Fifi and Karen. As they utter their stamp, stamp, the boys laugh. (0.49)
THEORETICAL SUMMARY:

These long fantasies differ enormously from each other. In the case of the perfume game, no deep point appears to be made, though within it, there is laughter provoked by a variety of stimuli and situations. The novelty of the smell is, clearly, a factor here. But in many of the other games there would seem to be, if not a deep purpose, at least moments when, in the middle of the laughter, some anxiety is being ventilated. The best example of that seems to be the times when the question of death is raised which, for these children, was certainly not immediate. No-one in the family of class members had died. It was a rather abstract issue, perhaps. Much less abstract was the matter of leaving the playgroup and heading off for Big School. The episode which followed on Giles' arrival was, certainly, interesting. I would be pleased to be able to offer an interpretation which explained why the children first lay on the floor - was it to claim the floor and attach themselves to it? - and then started swimming. The swimming seems particularly hard to fit. It is worth noting that the older children alone participated in this particular game. Younger children like Reuben and Gabriel did not get involved. All the children of all ages did, however, join in the naughty/obscene fantasies such as ironing-the-penis.
TENTATIVE CONCLUSIONS:

The observations make it clear that the children engage in many different kinds of activities in order to make themselves laugh. It is also interesting that, while different sessions produced a different amount of laughter and while observers could tell which were dullish days, there was always a considerable amount of laughter. Never did a day pass without blocks being built up and toppled and children laughing. A number of actions, such as this one, suggest that, like N and R, these children set out to create their own laughter, aware that certain actions would culminate in it. It is hard not to read intentions into their behaviour.

This attempt at naturalistic observation is, perhaps, less novel now than it was when first envisaged. The grand master, Piaget, of course, indulged in just such naturalistic observation but the increasing sophistication of psychological research discouraged. Recently, however, there has been a
trend towards such observation - and not just by 'displaced' ethologists. Sluckin (1981), for instance, spent two years in a playground in Oxford without even the benefit of a co-observer. I have argued that there seemed to be no major difference in the laughter observed when I observed it solo and when I observed it with someone else there. I have also argued that there is enough similarity between the accounts given by both of us to suggest that my observations were not too theoretically polluted.

There are some very evident conclusions. First, while different sessions produced different amounts of laughter, there was always a considerable amount of laughter - even on dullish days. When towers were toppled, there was nearly always laughter; when tricycles crashed, there was nearly always laughter. But as well as this consistency, there was a tremendous variety of laughter. The children sometimes laughed in response to unexpected events or stimuli but, often, they themselves created situations in which it was probable that they would laugh. Research has focussed too exclusively on the stimuli of laughter that produce. Some spaces seem particularly good at creating situations in which children will laugh - the Wendy House and the Book Corner being evident, obvious ones. The observations in the playgroup, though not as detailed as the observations in the home, make it clear that any theory of laughter which settles for one cause as the cause of laughter, is bound to fail.

In some ways, the differences between laughter in the playgroup and laughter in the home were telling. There were
Relatively few occasions of laughter in the playgroup when an adult was crucially involved. The children laughed far more often in response to other children than they did in response to anything an adult did or said. And the adults laughed only occasionally at anything the children did, though they often smiled. One interesting difference was that it was rare to find a child laughing as he said "No" or contradicted a teacher. There was infinitely less defiant laughter in the playgroup than in the home and was also much rarer to see affectionate laughter.

In my description of Nicholas and Reuben's laughter, I outlined a number of physical games between them and their parents which involved much laughter. There were times when such games and the laughter they produced was intense. The only remotely comparable intensity in the playgroup was found in the Wendy House and with tricycles and the see-saw. These last two pieces of equipment produced tremendous physical energy at times. Given the recent emphasis on environmental psychology (Canter 1981), it would be interesting to test this notion that cramped spaces do produce laughter. Informal observations of a gazebo in another playground by the present writer revealed the same pattern.

The evidence from the group as well as the home suggests that children create their own occasions for laughter often. They elaborated incongruities in "class"
but usually with help from each other rather than help from a teacher or adult.

It is important to grasp the difference between the two situations because these observations suggest that, by the age of three, children are perfectly competent at evoking laughter from their peers. I would argue that, to some extent, their parents have trained or taught them to laugh.

Finally, these observations in the playgroup lead on to two more general points. Nearly everything in this section has been describing rather than explaining occasions of laughter. I have often given an example of a laugh and then offered a plausible explanation of it. The dangers of such an approach are evident. I believe, however, that the observations have pointed up much useful data neglected by more experimental approaches which require children to respond to stimuli, and usually, to stimuli adults select. Nevertheless, what is offered is descriptions with plausible interpretations - and a proper sense of the empirical limits that must be kept. Secondly, and forgetting such limits, it seems to me that the observations recorded here make it possible to offer a more realistic view of what a theory of laughter must include if it is to cope with all the data.
The detail of such a theory will be offered in the Conclusions but, it seems manifest, that the questions which psychologists have asked about laughter have tended either to be too simple or too intricate. Where Bergson, like Hobbes, like Ludovici wanted the one cause of laughter, others like Chapman and Foot have tried to unravel the minutiae of relationships between who is your friend and how much you laugh. It seems that a proper account of laughter will need to incorporate four different levels.

(i) It is necessary to understand the social situation in which laughter is produced. It is usually assumed that one laughs in situations where one feels safe or to signal that it is not for real. But it is clear that this is not always the case. For all the laughter that a friendly dinner party may produce, consider this story of Marie Jahoda. In 1937, she was captured by the Nazis and imprisoned. They believed she had socialist party funds. At one interrogation she was confronted with research notes by her interrogator. She had been collecting jokes to study. She hated the interrogator; he hated her. But he started reading the jokes. He started laughing; then she started laughing. They laughed for an hour and a half in a stressful
situation in which they hated each other. Examples like this suggest that no simple model of "safe" laughter will do.

(ii) The structure of the joke. Theories have tended to concentrate on gutting the structure of the joke. This is clearly important but by itself it will not suffice to offer a total account. Some jokes are funny one day but not funny the next. Pollio (1975) has found that cinema audiences laugh at different points in the same film - and a film is, after all, always the same stimulus.

(iii) The personality of the laugher. The evidence from adults shows that some people laugh more, that there are highly individual tastes in humour. Even amongst the children studied here, differences in "personality" are clear. Fifi laughs more often than anyone else in the group; other children laugh rarely and rarely find a mention. Any account of the development of laughter needs to examine this area and any proper theory will need to look at the interaction between (i), (ii) and (iii).

(iv) Finally, there is the "personality" of the teller of jokes. It seems to be the case that some people tell a story and it is apt to fall flat while, when others do it, it is likely to win a laugh. This is much less observed amongst the children than (i), (ii) or (iii) but it is a facet of laughter that requires study.

In these tentative conclusions, I have not tried to interpret again the laughs I observed. It seemed more sensible to do this after describing them, which risks "theoretical pollution" but is, perhaps, easier to follow. The variety
of laughter suggests, however, that we need a multi-faceted account of laughter - and that between children laughter is not exactly the same as it is between parents and children.
LAUGHTER CONCLUSIONS
One aim of this thesis has been to chart the development of laughter in as much naturalistic detail as possible. I have argued throughout that the laboratory was a difficult setting in which to study such complex, spontaneous behaviour. Pollio (1975), a leading researcher, has noted that he never in his experience witnessed a 'Class 4' full-scale belly laugh in the laboratory. Usually, in the laboratory, the scientist controls what is going to happen. While it is certainly possible to deceive subjects and video their conversations this may limit the laughter evoked. One of the findings of this thesis has been that even young children often create, for themselves, the occasions on which they laugh. That sort of event seems exceedingly hard to recreate in the laboratory even if one were to skilfully deceive subjects in the tradition of some clever social psychology experiments.

This thesis' total reliance on naturalistic observation runs counter to a particularly well-accepted tradition of research. The 1960's and 70's saw much controversy on whether psychology should be scientific or humanistic with perhaps the most eloquent defence of the traditional position coming from Donald Broadbent (1974) in his In Defence of Empirical Psychology. Broadbent was worried by the self-indulgence of humanistic psychologists whose gut intuitions turned out to
be wrong. Their 'insights' were often flights of fancy prompted by self-regarding motives and they had no patience with the proper rules of science.

Naturalistic observation, however, need not be undisciplined or self-indulgent. It is hard to argue, in the field of children's laughter, that adherence to the rules of science - or one set of them - has led to much gain in real understanding. Failure to get subjects to laugh in the laboratory has driven psychologists to examine secondary areas such as judgments of humourousness or relationships between cognitive development and joke preferences. Laughter itself has been simply too difficult to evoke in order to study systematically.

Such considerations led me to try and study my own children in their own home over a long period of time. There are obvious empirical disadvantages to such a procedure. The sample is tiny. I, as the observer, could hardly remain totally detached. Nevertheless, the method used can be justified both practically and theoretically. Practically, it seems possible to argue that the great variety of naturalistic observations set out in this thesis could only be recorded over a long period in a home. Some of the occasions of laughter - especially those where the children created their own laughter - were unlikely to occur in a laboratory where the experimenter would,
of necessity, have to impose the structure of an experiment. This has usually meant that children react to stimuli to see how funny they find them. It can also be argued that adequate developmental work requires the close and continuous observation of a very few subjects over a long period of time.

Theoretically, Clarke (1982) has argued the case for intensive as against extensive design. Though the observations were of just two middle class children, there is no reason to suppose that their development of laughter was abnormal. Moreover, in an attempt to guard against this, I added observations of children in a playgroup which were carried out with the help of another observer. There were differences in the kinds of laughter found in the playgroup and, in the observations of N and R, but the differences were not so vast as to make it easy to argue that the observations in the home were vastly untypical or skewed because of the fact that they were the children of the researcher.

In the playgroup, a deliberate decision was made not to use a checklist as Groch (1974) had done. Checklists constrain observations to predetermined categories. Part of the aim of my research was to use the yield of rich qualitative data to establish categories. Groch reported, fundamentally, on the ways in which boys and girls tallied different numbers of aggressive laughs, naughty laughs, glee laughs and 'productive' laughs, so preempting the classificatory categories available.
The other possibility would have been to rely on the use of video. One such session was set up at the Institute of Education but, unfortunately, the tapes went missing. The session required the children to come into the Institute of Education studio for a substantial period because to find out what causes a laugh one needs to observe in sound and vision, before, during and after the laugh. This is a complex project, and requires skilled video technicians and very crafty filming. The pilot attempt in the studio showed that though the children acted up to the cameras there were some useful observations by exploiting their reactions to when they saw themselves on screen.

In order to get the full richness of the playgroup data, there seemed no alternative but to rely on two human observers who could compare observations. There are risks and flaws with such a technique, but, used properly, it does seem to have much to offer as it enables one to deal with complicated behaviour in a natural setting with some rigour. The technique is well established in ethology. The joint observations revealed many parallels with my own home observations which suggests that, perhaps, I was not too deluded or biased in these. These methodological points are important because joint naturalistic observation, which has some checks upon it, seems to offer a way forward in studies of laughter.
The data gathered in the course of this study suggest that, even with very young children, the kinds of simple theories advocated by Hobbes, Bergson, Freud and many others fail to account for the wide variety of laughter that can be easily observed in any naturalistic setting. Even children under one year of age laugh for a wide variety of reasons. The parsimonious imperative - the desire to find one stunning cause for a complex behaviour - has served laughter research badly. Few authors have been willing to admit that the question of why we laugh is unlikely to have a simple answer that it is due to one cause.

One principal conclusion of my observations has been that any proper account of the development of laughter has to examine the problem from, at least, three different perspectives. First, there is the stimulus that is said to provoke laughter; second, there is the situation in which laughter does or does not occur; third, there is the personality of the people involved in the "laughter-situation", a neologism I shall attempt not to use again. The observations have highlighted the variability of laughter. Almost no situation, not even tickling, always produces laughter. These observations in this thesis offer good evidence of such variability. They add to the work of Pollio (1975) with adults to show that the same stimulus does not
produce the same laughter. Pollio rigged a cinema with microphones. He measured the points in a film where the audience laughed. On different nights, different audiences laughed in different places. This would be no news to a stand up comic but it had implications for psychology. The unchanging stimulus, the celluloid film, was always the same. But the audiences laughed at different points so that they saw the stimulus in different ways. Toppling the tower in the playgroup showed the same variation. Leuba (1941) also found that a child did not always laugh when tickled. If Leuba donned a frightening mask or even just a bizarre Santa Claus mask, tickling generally did not lead to laughter.

The great variety of laughter suggests that there are also personal differences in what jokes people like best and, perhaps too, in the ways in which they try to elicit laughter. The data on my own children suggests, too, that parents do teach their children what to laugh at. The parent who plays with a child is not just having a "good time" and creating affectionate bonds but may also be moulding that child's sense of humour. There has been so far almost no work on the way laughter is used in family life apart from some observations of Valentine's (1942) and the data preferred here. Piaget (1952) in his account of play has
very little to say about laughter. The data gathered here suggests strongly this an area worth investigating further. The creation and use of laughter in the family setting leads to one of the major themes of this thesis, the ability of very young children to act intentionally.

One important conclusion to emerge from the data concerns intentionality. The observations show that even when very young, N and R set out to create situations in which they knew that there would be laughter at the end. It is hard not to claim that they sometimes intended or even planned to laugh. The same happened in the playgroup. There, too, children could create the occasions for their own laughter. They appear to set up situations, such as building a Lego tower, where they know in advance that the end result will be laughter. Observations such as those in Falling suggest either that when an individual child begins the process of building towers, or when two or more children begin the process of building, they already have enough experience of the game to know it must end in a laugh. Observations of my own children such as when N asked Aileen to repeat the game about the train on Saturn or ... when R started a game of Batman lead one to the same conclusion - that the children intend to create laughter. The earliest observation that could be interpreted in this sense is that of R when, at the age of 1.2, he began
to play peek-abo. By that age, he had played peek-abo enough times for it to be reasonable to conclude that he knew it would terminate in a laugh and intended it to do so. Moreover, the Observations noted that R was laughing just before he started the game.

This model of laughter supplements, of course, the traditional view that a particular stimulus will "cause" laughter. In cases like N asking Aileen to repeat a game, it is clear that the child acts to create laughter as opposed to reacting to a stimulus. The two models are, however, not exclusive. I analysed Observation 0.18 in such a way as to find a point where, it seemed, that N's intentional attempts to produce more laughter had petered out, almost run out of steam. Then, when Aileen used a fork to eat soup, he reacted by laughing. The intentional and reactive models of explanation are not in direct conflict but ought to be used in tandem. It is, of course, particularly interesting to see that certainly R by 2.0 was able to intend to laugh. Valentine (1942) noted a not dissimilar skill when he said of one of his children, Y, at 2.11:

"she makes up a hearty laugh to make her mother laugh".

Though not concerned with intention as such, Valentine did note that children of three could use laughter as
a "creator of friendly feeling" (p.247). His impli-
cation seems to have been that, at three, the children
knew that by laughing they could summon up friendliness.
It could be argued, therefore, that he saw not unsimilar
intentions at work. Intention flowers early, in other
words.

Precisely because it has been, until recently,
traditional to regard the child as reacting rather than
acting, there have been few studies of children's
ability to act intentionally. Even Wells' studies
(1981) on language interaction, studies which show 15
month olds to be able to take part in a complex social
act, tend to see the child learning to speak through
reacting to its parents. The data on laughter gathered
here suggests both that very young children can form
the intention to create laughter and learn quickly the
skills needed to carry that intention out. Often, they
take the lead, becoming agents rather than reactors.
It would be interesting to examine other social and
communicative actions to see where, in those cases
also, children show signs of acting intentionally.

A second important conclusion concerns the child's
ability to laugh at increasingly complex situations and,
also, to create more complex occasions of laughter for
himself and others. These abilities are linked to the
social cognitive development of the child. The data
shows that the range of what children can laugh at grows - and grows very fast. Whatever produces the first laugh, by the age of 6 months, the infant can laugh in response to a variety of social and audio/visual "situations".

Developmental studies have often aimed to identify the stages in which children master skills. Piaget again offers the best known such theory although Fischer (1980) offers a rather looser notion of stages based on hierarchies of skills. Classic stage theories suggest that the child at a particular stage has only the option of one kind of behaviour. There would be something very strange in a child of eleven who failed to understand conservation. Freud's theory of psychosexual development suggests that those who stay stuck at early stages of sexual development become neurotic. With both cognitive and emotional behaviour, development seems to involve not merely evolving higher forms of behaviour but shedding more primitive ones. In times of acute stress, an adult can act as a child, bursting into tears, but, normally, such behaviour is not appropriate. One is meant to be beyond such "childish" behaviour.

The interesting possibility with laughter is that it is an exception to this developmental rule. It will be proposed that the developmental framework in which laughter needs to be studied is singular. Children do
"progress" and develop in their laughter but, by and large, they do not lose the capacity to laugh at things they found funny at earlier levels of development. Clearly, laughter does develop. No one year old child is going to make the crack that Valentine reported when one of his children, hearing on the radio that the House of Commons was swept off its feet, retorted that it was nonsense as "Houses aren't swept off their feet". The six year old has quite different ways of laughing than the three year old. However, it will be also clear from looking at N's laughter from 3.6 to 6.4, that N can still laugh at precisely the kinds of things that he laughed at 3.6. But he can also laugh at other situations and jokes. He has a wider range of humour he can create and, often, the "funny games" he makes up for himself at the age of 6.4 are very different from those he played at 3.6. However, he can still laugh on the level of 3.6. The repertoire of what the child can make funny, and can find funny, develops with age. But the child does not lose access to earlier, more primitive laughter. Furthermore, many kinds of primitive laughter continue to be acceptable into adulthood. It seems in laughter, we can progress without losing the means, or the social permission, to regress.

Earlier, it was argued that one of the interesting conclusions from the observational data was that children could create laughter. A similar growth of complexity seems to function here.
There is a point at which young children can act in such a way that it is reasonable to assume they intend to create laughter. Once they have become able to do that, they can develop and refine the capacity. They become more skilful and diverse in the ways they set about making themselves and others laugh but these are all evolutions of one basic capacity. The fundamental point is that the young child moves beyond laughing only in response to stimuli or people. Valentine's first classes of laughter all appear to be non-intentional, examples of where the child responds by laughing rather than creating it. Again, a framework will be suggested where, as the child grows older he acquires new techniques for promoting laughs but he still can use many earlier ones. In some situations, after all, adults enjoy tickling each other, "childishly", perhaps.
In the chapters on my own children I have tried to chart expansion of objects and occasions of laughter - while still retaining the ability to laugh in a "primitive" way. By the age of ten, the child can laugh at sophisticated cognitive jokes, at incipient dirty jokes, but also at being tickled, like a baby. One of the more interesting kinds of laughter I saw develop between the ages of three and four was a capacity to laugh at oneself, necessitating sufficient cognitive sophistication to treat oneself as an object of attention and assessment. In the playgroup, I recorded incidents such as when Caroline fell down accidentally, laughed a little, got up and asked her playmates to watch while she fell down again. Which she did, laughing. Games by the clothes pegs on the bench - such as that described with Ben and Matthew - showed this same pattern of learning to laugh at one's physical mistakes. It can be argued that the middle class children studied in this thesis were privileged and, perhaps, precocious. But there is little reason to suppose that other children do not develop just such self-critical laughter. My reason for focussing on this is that it seems to me to be the best
illustration of a very cognitively and emotionally complex form of laughter - which develops early. My suspicion (and I have no evidence for it outside my own children) would be that many of the parents of the children in that playgroup encouraged their children to laugh at their own mistakes rather than scold them too harshly.

The data suggests, that children build their ability to laugh at a variety of different levels. They do not usually lose touch with the "earliest" forms of laughter and they quickly learn the different occasions in which different kinds of laughter are socially acceptable. As Valentine observed, his children had mastered by the age of three, many social uses of laughter, including the vital one of appeasing angry parents. Older children know that it is fine to mimic a schoolteacher behind his back but to his face would be very aggressive and, possibly, hurtful to him. One form of laughter which dwindles with age is triumphant laughter. At about 4 years of age, it is quite acceptable to laugh at being "king of the castle" or, when thumping another child and guffawing that he's an idiot. By the age of ten, certainly, that disappears and adults know that it is "not done" to do so. Laughter is a social act with social uses. As they grow older, children's mastery in this area increases. There is clearly a need for research both in the family, and in the school, with children older than those studied here.
One additional area where the observations may be useful is that of safety. It has been said that we usually laugh in safe situations but this generalisation has its limits. Children and adults certainly often laugh in "safe" situations where social cues abound to confirm that this exchange is not "for real"; it is a joke, part of a game. The ice has already been broken so one can laugh. A second version is different; it focusses on laughter as a signal. Here, the laugh occurs not when it is safe but, rather, laughter itself acts as a signal to indicate that the situation is one which is not threatening. Laughter itself breaks the ice. No experiment has yet been ingenious enough to disentangle these two closely related accounts of laughter. There are instances reported in this thesis of children laughing in situations that are safe, such as games in which there was much running and chasing. By the time N was 4.6, however, there are observations which suggest that he could try to laugh in order to make the situation less threatening (Observation M18) or in order to get away with naughty behaviour (Observation N.23)

There are, however, no instances it seems of laughter being used to evoke relief in a genuinely stressful situation. Though the children observed in this study were not in such situations many children no doubt sometimes are. There is a view that laughter
is a "borderline" behaviour which occurs in frightening situations. The data presented here suggests that this does occur but not frequently.

It would be neat if one could argue that the different models of laughter outlined earlier applied to different social situations. For example, it would be comprehensible if, in relaxed "safe" situations, people laughed when they intended to laugh. In stressful, "borderline" situations, however, they laughed when laughter was forced upon them by implacably funny stimuli. Unfortunately, the data do not fit such a neat pattern. Perhaps the closest to physically dangerous situations occurred in the playground since children could fall off the tricycles at speed and hurt themselves. Here, however, there was much laughter and, arguably, the children intended to laugh when they set up the chases. Though the bicycle chases looked stressful - the children seemed also to know laughter was a likely end result. And there are also instances of children laughing in "safe" situations where it is clearly not their plan to laugh, such as those described in Observation M.13 for example.

One aim of a naturalistic thesis ought to be to throw up some potential experiments. Despite my reservations about laboratory work, it might well be fruitful to carry out studies in which the same jokes
are told to people in quite different situations. The jokes would need to be told by believable stooges and they would need to occur during the flow of ordinary conversations so that subjects should not be bombarded with humour. Rather, they should be fed jokes as part of as realistic a situation as possible. One could do worse than look at some of the experimental designs used by Argyle and by the cognitive dissonance enthusiasts for inspiration. It would be important to check how subjects perceived these situations. Such an approach, realistically telling jokes in different settings, might help clarify what is special about situations in which people laugh more easily.

It is not just the stimuli and the situation, as perceived by those in it, that determines whether or not there is laughter. A theory of laughter must also incorporate reference to the personality of the teller of the joke and his/her relation to the audience. I did not perform personality tests on my own children or on the children in the playgroup though there are scattered asides on the personality of various children. McGhee has suggested that, by the age of seven, it is possible to identify children who will create laughter in class. McGhee argues that these children are extrovert, seen as leaders and that they use laughter as a way of being acceptably aggressive. Though McGhee does not draw the conclusion, this suggests that laughter is being used intentionally. A similar point
emerges from a rather rambling account by Fisher and Fisher (1982) of the psychology of clowns and comedians. They suggest that comedians had used laughter quite consciously as children in order to defend themselves both against their parents and in schools. Woody Allen's comic neuroses are true to life - and started young!

But many children who are unlikely to become professional comedians use humour as part of their personality style - to be clever, to get away with naughtiness and, most controversially, to see themselves in perspective. The observations where N refused to brush his teeth and laughed or set out to miskick a football and trip himself up, suggest to me that one aspect of laughing is that it allows the child to play out a variety of roles. The observations of R playing Batman games from 1.6 suggest, at least, that he knew he was doing something that was not quite like being his ordinary self.

Self critical laughter also appears quite young. The earliest instances are to be found when R laughs having slipped down the stairs accidentally and, then, deliberately, sets about making himself slip down the stairs. In the playgroup Caroline (4.3) set herself to falling on her bottom again on the trampoline having made a friend watch her. Such actions are not a question of children laughing at mistakes but, intentionally, setting out to repeat mistakes in order to laugh at them. I would argue that this process is a
little like that Goffman (1963) has called "taking role distance" in that the child acts out the role of being himself or herself and treats being clumsy as another role. It would seem worthwhile exploring the hypothesis that children who spontaneously produce such self-critical laughter are different - and, arguably, happier with themselves - than those who do not. Such a study would require a mix of naturalistic observation and more conventional techniques.

Any theory must also deal with the notion of the audience. Only rarely do children, or adults, laugh alone. In his cinema study, Pollio (1975) established that different audiences laugh at different things. He attributed "high laugh" nights to the presence of a group of hearty laughers. He did not, however, specify what made the hearty laughers laugh more heartily nor did he learn why, on different nights, hearty laughers laughed heartily at different points. Together with the other observations this leads one to suggest that a proper account of any laugh must involve a four-sided analysis of:

1. the structure of the stimuli that "evokes" laughter.

2. the structure of the situation as perceived by the person who may laugh. The findings concerning the creation of laughter suggest that there are two quite different relations between person and situation involved here.
There are occasions where laughter is simply "caused". The child does not intend to laugh but is faced with an overwhelmingly funny stimulus such as a loud noise or a parent starting to play peek-a-boo. The child is, so to speak, a victim of the situation. The traditional model in which laughter is "caused" applies here as long as the child is not too frightened or too distracted or, mysteriously, not "in the mood". Relying on such a vague expression shows that there is still a vast amount of work to do to explain the variability of laughter these observations have revealed.

Another and active relation obtains between child and situation in those instances when the child intends to laugh or to produce laughter. From the age of roughly 18 to 20 months, R was able to set in train actions which, it is reasonable to infer, he knew would provoke laughter. The model of laughter being "caused" by stimuli is inappropriate here. The infant creates his own occasions of laughter. It seems plausible to suggest that the situation as he perceives it is quite different from that where laughter is caused. In the latter, it tends to be the absence of negatives that allows laughter. If the child is not too frightened or too upset or too distracted, he may laugh. Where the child sets out to create laughter, all these may also apply but there is a crucial difference in that
the child means to do it. The situations are thus quite different. It seems useful to explore these differences.

The other two factors needed to understand a laugh are also complex though, perhaps, not philosophically complex.

iii. the personality of the teller of the joke or the person making the laugh.

iv. the personality and characteristics of his audience where, of course, the audience may be just one other person.

It is to be hoped that the evidence presented here in this thesis will make it possible to lay down a useful framework for the study of laughter. The observations do seem to show that children learn early what stimuli might be funny, some of the situations in which it is right to be funny and how to use laughter in the stream of their life. Placing laughter in the context of family and school, as model social worlds, may not solve the "problem of laughter" but it should push studies forward and may even offer clues to the crucial point that Allport raised. Allport noted (1937) : "The greatest obstacles to a satisfactory explanation have been that unlike other basic forms of behaviour, laughter does not serve any known biological purpose". Curiously, for a social psychologist, Allport seems not to have followed
up the possible social purposes of laughter. The
observations suggest a good many social uses though
there are others too. At any rate the approach offered
here may indicate useful methods and hypotheses in what
has been a very problematical field.

The substantial implication of the data gathered
is, therefore, that it is no good trying to home in on
the stimulus - and grand analyses thereof - for a
theory of laughter. There need to be at least the
four elements considered - the "audience", the stimulus,
the situation and the personality. So far, much work
has concentrated on analyses of the stimuli to the ex­
cclusion of the other important factors.

The kind of development plotted in these pages
also shows how dynamic the process of laughing is. At
the very start of this thesis, I pointed out that it
was odd psychologists had ignored laughter, given how
powerful it was, and given, too, the cultural evidence
which suggests that much of what the ancient Athenians
took for a joke, we still can. Some authors like
Frankl (1971) have suggested that laughter is a uniquely
human act. The most fervent supporters of the abilities
of apes do not suggest that gorillas or chimps can see
a joke and especially not a joke against themselves.
In "The Mentality of Apes", Kohler (1925) noted that he
had never seen an anthropoid ape laugh or cry in quite
human a manner. Other species do not see a joke. Yet
much of the developmental evidence I have adduced suggests that very young infants develop the ability to laugh young - and even to see a joke. That must prompt speculation as to the origins of laughter. And perhaps also speculation as to why we carry out the action of laughing when we find things funny. We could, after all, respond in different ways. By winking, or waving our left arms about or yodelling. It is only because we are so used to laughing when we find things funny that such ideas prompt Monty Pythonesque images. But why laugh ...? Because of its old roots, we do still laugh at things that are not funny but such laughs are the exceptions. It is pure speculation but it is not meant as a joke.

Ethologists have often claimed that the sort of laughter apes use either in order to threaten or to appease is very much an action associated with hierarchy within a group or between groups. We still smile, the argument runs, when we enter a new group echoing our hairy ancestors who offered up the appeasing smile-like grimace in order not to be belted with bananas by other baboons! There must have come a time, in the evolution of the human species, when the evolution of speech allowed some of these acts of threat or appeasement to be expressed more verbally. We, now a verbal species, could use words in order to threaten or to appease. There must have come a point
also in evolution when the repertoire of threat and appeasement apes used became just not subtle enough. Merely laughing at a rival was too crude. At the same time, laughter was a powerful and perfected action. The growing human brain also allowed its owners to perceive incongruities, oddities which had quite passed by the duller ape. My speculation is that the old perfected behavioural act (laughter) and the new skill (seeing the funny side of neanderthal things) married up. And we came to laugh when things were funny.

William McDougall wrote: "The perfectly happy man would never need to laugh". I hope by now it will be clear that the perfectly happy child who never laughed would be not merely perfectly unhappy but rather catatonic. Learning to laugh at many different things is an integral part of growing up, stretching one's mind and one's personality. And McDougall, in seeing the happy man as never laughing and in claiming we laugh at minor mishaps mainly, may have been wrong. But he did, at least, pay attention to the topic. Most psychologists to date have treated it as peripheral. Given how interesting and how "human" laughter is, that neglect remains unfortunate.
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