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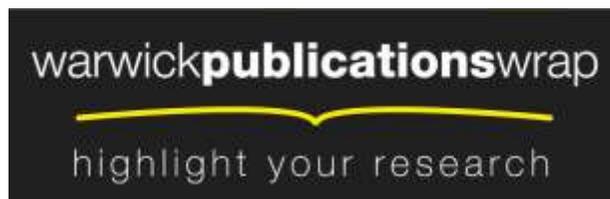
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## **Navigating the bio-politics of childhood: How far can ‘hybridity’ take us?**

### **Abstract**

The study of childhood is currently weakened by a biological/social dualism, separating ‘social’ from ‘developmental’ traditions and falsely identifying the investigation of life processes with the naturalisation of childhood. Researching the emerging space of childhood bio-politics, in which life processes are central to social and political processes, requires that these problems be managed. The view of childhood as a ‘hybrid’ phenomenon allows for the management of dualism but has difficulty navigating bio-political space. A supplementary approach based on multiplicities of ‘life’, ‘voice’ and ‘resource’ is described. The argument is illustrated by discussion of sonic ‘teen deterrents’ in the UK.

### **Keywords**

Bio-politics, hybrid, multiplicity, interdisciplinary, mosquito

In her discussion of childhood studies as an interdisciplinary field, Thorne (2007) identifies a question facing many concerned with the field’s growth. Can the various sociological, historical and anthropological approaches that make up childhood studies meet and cross-fertilize with more biologically based psychological and neurological studies of children’s development? At present, there is a clear obstacle to such developments. As Thorne suggests, the many strands that comprise childhood studies share a theoretically and evidentially based opposition to the ‘naturalization’

of childhood, while the study of child development is often conducted under the defensible assumption that biological processes are fundamental to human existence.

Students of childhood may be suspicious of any emphasis on life-processes. The area is haunted by the potential return of a 'universal' childhood, authorised by accounts of 'biology', that would overshadow the diversity of socially-defined childhoods. In what follows, however, I will suggest that the changing image and role of the 'natural' and the 'biological' provide scope to address life processes without succumbing to 'universalism'. But there are further issues arising from Thorne's question to consider.

The two fields of social studies of childhood and child development are held apart and in tension by the oft-lamented 'dualism' of the social and the biological (Prout 2005). The central dualistic assumption is that the social and the biological are ontologically separate spheres of activity governed by laws and processes that are generally incommensurable one with another. In dualistic thought it is understood that it is possible for the biological and the social to cross the divide and influence one another only at specific sites. In the modern Western cultures most committed to bio-social dualism, the individual 'child' is often identified as one of these mixing sites, like a 'test tube' in which nature and nurture are mixed (Stainton Rogers and Stainton Rogers 1992). It is clear, then, that childhood study's potential and ability to conduct interdisciplinary research are shaped and constrained by these ontological issues.

A further twist is added today with a host of emergent issues often described as 'bio-political' (Foucault 2008, Rose 2007). Wherever new medical, neurological and

pharmaceutical technologies are opening human life processes to intervention and wherever governments consider their populations as a resource to be marshalled and secured, children's status as 'life-forms' (Rose 2007) is becoming key to their positioning in social and political life. For example, increasing rates of childhood overweight and obesity the world over are stimulating new interventions in children's lives (Wright and Harwood 2008). Neuroscientists concerned with learning are bidding for the attention of educational policy makers (Blakemore and Frith 2005). Pharmaceutical companies are developing 'smart drugs' designed to enhance cognitive function (Office of Science and Technology 2005). Any research field that simply ignores life processes looks likely to miss out on a lot of important and interesting research opportunities. Given this, I would suggest that childhood studies now faces two questions;

- How should childhood studies begin to make connections beyond dualism?
- As it follows these connections, how can childhood studies navigate?

The first question carries a sense of optimism that there are indeed ways to address the problem Thorne raises. The second, however, acknowledges that in moving beyond the dualistic framework that has shaped childhood studies thus far, there is a risk of getting lost. In what follows I will first argue that one approach based on the concept of 'hybridity' (Prout 2004) offers a good deal of insight into making connections beyond dualism. I will then argue that, despite its strengths, this approach is relatively limited in its ability to help childhood studies navigate those emerging empirical fields in which childrens' life processes are bound up with social and political processes.

Across the article, I develop a supplement to ‘hybridity’ that captures much of its value, but that also offers childhood studies a way of navigating the bio-political. This supplement is designed to sensitise research to what I argue are the three key ‘multiplicities’ (Deleuze and Guattari 1988) from which students of childhood have long drawn their questions and materials. These are multiplicities of ‘life’, ‘voice’ and ‘resource’. I will begin my discussion, however, with a ‘bio-political’ story that will bring my issues into clear view.

### **The Mosquito Device**

In 2006 a UK company called ‘Compound Security Services’ released a device called the ‘Mosquito’. It was designed to be mounted on exterior walls and could be turned on from a buildings’ interior by pressing a button. It emits a very high-pitched whining sound, so high-pitched in fact that because of age-related hearing loss, the vast majority of people past their early twenties simply cannot hear it. For those who can hear it, the Mosquito sound is extremely unpleasant. The device is marketed with a specific use in mind;

‘to deter youths from congregating in large groups and acting in an anti-social manner as well as causing damage to property’

([www.compoundsecurity.co.uk](http://www.compoundsecurity.co.uk))

The device has enjoyed some commercial success. Since 2006, according to Compound Security Services, some 8000 units have been sold to a range of customers

around the world including police forces, local authorities, retailers, factories, banks and car parks.

So, here is a device that selectively targets the young on the basis of an age-related difference to be found in a feature of biological functioning. Tiny hair cells sit on the inside of the cochlea in the human inner ear. They are surrounded by fluid and move in response to movements of this fluid that are in turn produced by sound energy. Their movements generate electrical signals that are the basis of the experience of hearing. Each hair cell is sensitive to a narrow frequency range. The proportion of cells responsive to higher frequencies tends to decrease with age. So there is a susceptibility to particular frequencies that children generally have and that adults generally do not. Historically, as far as I know, this specific susceptibility of children, unlike many others, has remained dormant but has now, thanks to technological developments and a context of intergenerational conflict, been recruited to the purpose of discriminating between child and adult.

UK shopkeepers and local authorities were amongst the customers for the device. By 2008 a campaign, 'Buzz Off' ([www.11million.org.uk/youth/buzz\\_off\\_campaign](http://www.11million.org.uk/youth/buzz_off_campaign)), had been launched, uniting civil liberties groups, Children's commissioners, and children's advocacy groups against the device. Their case was that it discriminated against the young as a whole, was indiscriminate in which individuals it targeted and thus constituted a groundless constraint on movement and assembly, and that it was plain insulting for youngsters to be related to as one would relate to a pest animal. So, here is a response that asserts children's value as humans who should be related to as such, as citizens who's freedom of movement and assembly should not be arbitrarily

constrained and which articulates their views and feelings, making the most of the spaces available to them for political action.

### **Commentary**

This story involved life processes that underlie the human sense of hearing and the way they tend to change within the human life-course. It certainly testifies to the effects of the passage of time on the human body. The younger one is, the more of the cells that respond to high frequencies remain in one's hearing system and the more likely one is to be able to hear the mosquito sound. This change in a life process over the course of human maturation is probably a 'universal' one amongst hearing humans. So this story contains events that are linked to universal age-related change.

Does this make it a 'universal developmentalist' story? If the spectre of developmental universalism that seems to accompany life-processes is one that threatens to overshadow childhood diversities or children's voices, I would suggest that, at this site, we have little to fear. Here, instead of effacing diversity and voice, an analytic recognition of the role of life-processes casts them both into sharp relief. As the mosquito sound distinguishes between adult and child, it discriminates indiscriminately. It ignores commonsense distinctions between very young children and teenagers and between 'innocent' and 'guilty' youngsters. It's effacement of these distinctions provided the very grounds for opposition to it. Further, for the device to operate as imagined by its manufacturers and as desired by its users, all youngsters who were aware of the sound would respond to it in a relatively passive way, by, for example, leaving the affected area. Instead, the mosquito provided a site for the articulation of young people's 'voices', through a range of organizations and activities

each with their own strategic deployment of 'voice', in active protest against it. I would suggest that here, despite the presence of universal age-related change, recognising the life-processes involved does not imply the application of the full architecture of universal developmentalism. The mosquito device certainly creates a distinction between adult and child; it does so on the basis of a universal susceptibility; but, in doing so it activates distinctions within the category 'child' and stimulates their assertion by children and others.

The peculiar role of life processes in these events is also instructive. Here life processes were not a neutral backdrop to any exclusively social, cultural or political matters of discrimination. Cochleas shaped the way sound could be used to create distinctions. Cochleas also made those distinctions crude and difficult to justify. Likewise, a relatively well-understood and reliable change in human life processes over the life course was key to the discrimination, but, crucially was not available for use as a legitimating basis for the standardisation of childhood or for the treatment of specific children.

This has interesting consequences for those wishing to navigate and understand events of this kind. The bio-political space in which the events surrounding the mosquito device took place is, in a sense, larger than the space imagined within developmental universalism. It can certainly include that set of interactions amongst biological, social and political phenomena that are often understood to take place 'within' the child, considered as individual 'test tube' – the myriad interactions of nature and nurture, of biological potential and socially mediated influence. But, as a space of activity and research, the bio-political also extends beyond those questions to cases

like that described above, where the place of life-processes, even of ones that bear description as ‘universal’, cannot be decided once and for all. In bio-political space life processes participate in politics without needing mediation by the ‘nature/nurture’ question.

### **The value of hybridity**

So far what I have presented is consistent with much existing literature on childhood and Actor Network Theory, ‘assemblages’ and ‘hybridity’ (Prout 2004, Lee 2001, Lee 2005). Much of this literature has aimed at extending the empirical reach of social constructionist approaches to include objects and technologies alongside discourses, representations and social institutions in accounts of the creation of adult/child distinctions and the shaping of children’s lives and circumstances. In this section I will explore the most recent statement of this tendency to ‘hybridity’ (Prout 2004). I will show that the notion of hybridity can provide us with a reading of the mosquito story that can prepare us to respond to the emerging field of bio-politics. Its key strength is that it avoids biological/social dualism. But I will then suggest that, for all their problems, dualisms, especially that between the biological and the social, have in the past been very useful to students of childhood as a navigational guide that established traditions, controversies and intellectual trajectories. I then ask what direction hybridity can give us once it has managed dualistic tension.

Attempts to overcome dualisms of many kinds were a notable feature of the cultural politics and intellectual scene of the late twentieth century. Butler (1990), for example, recognised a space of gender ‘performance’ that questions not only the male/female dualism but also the sex/gender distinction. Haraway (1991) created an

inspirational vision for women and others of marked identity as ‘cyborgs’, persons whose embodiment was not neatly bounded like that of the hegemonic adult male, but was enfolded and mixed with technologies. Latour (1993) advanced the view that even though the history of modern civilization can be narrated as an increasing transcendence of natural process, it depends on ever-closer involvement between humans and non-humans. In each case, dualism was collapsed into hybridity, and the specific form of tension that had existed between poles such as ‘nature’ and ‘society’ vanished. I do not suggest that these authors forgot about tension, conflict and difference. Rather they tended to imagine thousands of tiny contests taking place amongst the elements of any given hybrid or assemblage, in place of any singular dualistic tension or contest.

This strategy of hybridisation has clear appeal for students of childhood. It is one way to articulate the idea that children and adults are really not as different as they are often portrayed. Neither is ‘complete’; each is ‘in development’ and dependent on the people, objects and devices that surround them and make them who and what they are (Lee 2001). Hybridity also helps to control a tendency for social science to measure persons against an assumed adult standard of autonomy and completeness. It is useful in sensitising research to just how empirically questionable this standard is and helps point out that the standard is prejudicial against taking children seriously as social participants. The strategy’s appeal goes deeper. As discussed above, nature/social dualism can position the individual child as one of the special sites at which the two incommensurable ontologies can meet. Arguably it is this special place and the search for evidence of the laws of mixture in the mind and body of the individual child that yielded the notion of childhood as a fundamentally invariant human universal. If

everyone is hybrid, however, then the natural and social are not incommensurable ontologies. Instead elements of each mix freely on a mundane basis. There is no obligation, then, to try and ‘solve’ childhood as if it were a grand ontological puzzle.

Drawing principally on Latour (1993), Prout (2005) describes a version of hybridisation that bids to manage dualism so as to free the student of childhood to move within spaces where the technological, biological and the social are mundanely connected. In such space, adults and children alike can be understood as emerging from a complex ‘...medley of culture and nature...’ (Prout 2005: 81). On this view the adult/child distinction emerges as part of ‘society’ that itself has its roots in hybrid interactions;

“‘Society’ is seen as produced in and through patterned networks of heterogeneous materials, it is made up through a wide variety of shifting associations (and dissociations) between human and non-human entities...so ubiquitous are the associations between human and the rest of the material world that all entities are seen to be hybrids...’

(Prout 2005: 70)

In a sense, the central claim of hybridisation approach is that the hybrid is what the world is in itself, and that the dualisms and the academic disciplinary boundaries they shape should be recognised as part of just one, albeit commonly held, perspective, that of the people and cultures that self-identify as ‘modern’ (Latour 1993). On this view ‘moderns’ try to navigate the world by reference to ‘purified’ images of themselves as

social beings surrounded by a separate field of natural phenomena. Denying ontological mixture lends confidence, however poorly grounded, and confidence allows travel. Such purified perspectives have their uses as a way of navigating the world and ordering knowledge about it, but Prout (2005) provides a convincing argument that, as applied to childhood, its costs now outweigh its benefits. He describes an alternative research orientation for childhood studies based on hybridity;

‘...the task is to see whether and how different versions of child or adult emerge from the complex interplay, networking and orchestration of different natural, discursive, collective and hybrid materials.’

(Prout 2005: 81)

All this is promising from the point of view of Thorne’s (2007) problem. The concept of hybridity can help to cut dualism down to size. Even though the research fields and modes of inquiry that surround the hybrid phenomenon of childhood are very often shaped by dualistic assumptions, that does not mean that ontological dualism is a feature of the world that researchers must respect. Instead, adopting hybridity as a perspective allows for a productive form of ‘double vision’. On the one hand it is clear that any child or childhood is the result of interaction amongst hybrid phenomena – biological, social, political, economic etc.. On the other hand it clear that many attempts to understand and intervene in childhood begin with an attempt to apply a purifying, dualistic classification of relevant phenomena. This may seem to be a highly abstract and theoretical enterprise, but often it is a simple and practical operation. For example, selecting an area for empirical investigation and determining

just what questions to ask involves making decisions. Dualistic classification offers a ready-made 'decision tree'. For the 'social' oriented researcher as envisaged by Thorne (2007) the mosquito device story might be approached by emphasising the parts that seem social and political – voice and prejudice – while treating the way a universal biological feature plays into the story as merely the stage on which generational conflicts take place. For the more biologically oriented researcher concerned with child development, the mosquito device story may be a less attractive research topic. Biology is certainly involved, but is it the 'right' biology? Do cochleas have much to tell us about cognitive, moral or emotional development? Over the years, decisions like these have cumulatively helped shape the image and experience of childhood. From the point of view of hybridity it is clear both that childhood is a hybrid phenomenon and that it is shaped by dualistic attempts to navigate and manage that hybridity, as represented by research on and intervention in children's lives.

### **The problem of navigation**

So far I have suggested that the field of bio-politics is a large and largely uncharted space and that the strategy of hybridity would allow us to make some interesting observations about it. I have also noted that, for all its problems, dualism is a way of composing a research field like 'childhood' so that researchers can make navigational decisions, choices about what to research and how. In contrast, the strategy of hybridity leads us to complex interplays of ubiquitous and shifting associations. As I tried to explain hybridity as applied to childhood, I drew a list of disciplines (biological, social political, economic) and was compelled by the logic of hybridity to add 'etc.'. I think that this speaks to the potential that hybridity has or lacks as a navigational aid.

In my view, the principle disadvantage of the ‘hybridity’ approach centres on the issue of navigation both within the empirical fields of childhood bio-politics and between empirical and theoretical statements about childhood bio-politics. This issue of navigation is at once theoretical, methodological and strategic;

- At what points in a given field does one begin one’s investigation?
- How is one to make comparisons between empirical fields?

With a dualism composed of polar opposites (biological/social, nature/nurture etc.), one has something like a magnetic compass. The compass needle is a straight and reliable line between North and South allowing the researcher to choose a direction. It is possible, of course, to see any journey planned on that basis as ultimately Quixotic, but many disciplines and theories have found that ‘compass’ useful as a navigational aid. With that aid, the questions of starting points and modes of comparison can be answered: It is clear that research should begin at those points most likely to speak to the universality or generality of one’s theoretical statements and that empirical fields are to be compared according to the manner in which they reflect a universal phenomenon, say ‘cognitive development’, or the degree to which they embody a general principle, ‘respect for children’s voices’, for example.

In contrast, hybridity offers little navigational aid. Hybridisation works by folding both poles of the relevant dualism within the entity under consideration. Each entity is understood to contain both poles within itself. Thus, whatever way the analyst travels s/he is always travelling ‘North’ and ‘South’ at the same time. At one level, this is

clearly the whole ‘point’ of the hybridity view. At another level, however, the hybridity view seems restrictive. Once one has determined that a distinction between adult and child has been produced and stabilised in the course of the interaction of heterogeneous materials, and once one has described that set of materials, where then does one go? Managing dualism by introjecting it into every phenomenon one examines, I suggest, can create a short circuit between empirical and theoretical statements. Under this condition, there is a danger that the key empirical finding that is available is equivalent to the theoretical commitment ‘everything is hybrid’. Thus, the issue of navigation is closely connected with the maintenance of the critical distance between broad theoretical statements and empirical findings.

### **From Hybridity to a Method of Multiplicity**

If it is to engage effectively with the bio-politics of children’s lives, to chart those articulations of events, materials and plans in which children’s life processes become key to wider social and political processes, childhood studies needs to loosen the hold that biological/social dualism still has on it. I would further suggest however that the hold needs to be loosened in the right way. I have already drawn attention to the limitations of ‘hybridity’, but it might be supposed that the way out of the contest lies in emphasising the ‘particular’ or the ‘specific’ as challenges respectively to the ‘universal’ and the ‘general’. Remember however that these terms, though often tactically useful, are key elements of a larger dualistic contest, viz;

- How does one challenge a statement about the ‘universality’ of childhood? By asserting the realities of ‘specific’ children and their circumstances. This challenge is a commonplace of social constructionism.

- How does one challenge the ‘general’ principle that children’s voices should be respected? By measuring each ‘particular’ child against an axis of development, presumed to be universal. This challenge is woven into the ambiguity of children’s participation rights in the UNCRC (Lee 1999).

This quadrille can last as long as students of childhood and/or others put energy into it. So a navigational aid is needed that has no part in dualism and that stands outside the cramped logic of universal/particular/general/specific. The positive requirements of such a navigational aid are that it should;

- Provide clues about what sites of investigation might prove particularly interesting and significant
- Provide a basis for systematic comparison of different empirical circumstances
- Be flexible enough to retain the ability to recognise the unexpected when it presents itself

As used here, the term ‘multiplicity’ is derived from the same intellectual traditions as gave rise to the hybridity view (Deleuze and Guattari 1988, Latour 1993, Serres 1995). One of the major features of this body of work is to demonstrate the limitations of dualistic categorisation of objects of study and to provide alternative ways of navigating inquiry. The key to the ‘method of multiplicity’ (Lee 2009) I advocate is to recognise that the pairs ‘universal/particular’, ‘general/specific’ and, indeed, ‘biological/social’ have thus far allowed us skim across the surface of the world in a

series of tangents, but also to allow that the forces at play in the world are often rather less stably and predictably ordered than these pairs would allow for.

Each multiplicity I will describe below is a field of ‘forces’. Here, an infant’s cry or the effects of a pharmaceutical on a child’s nervous system are considered ‘forces’ just like those involved in exerting social power over a child, for example. Though they may seem to belong to different sides of an ontological divide all forces have one thing in common; their effects depend on the way they are articulated with other forces. Examining childhoods through a given multiplicity will not yield evidence of a universal law to govern all articulations. Nor will it yield a general principle against which to judge each articulation. However, patterns and regularities may be discerned in the way forces articulate one with another that can help account for commonly observed effects. In what follows I identify three such multiplicities. The list may not be exhaustive. It is not intended as a final statement, but as a navigational aid. So why three multiplicities, why not two or four? As I discuss further below, these three have themselves emerged from the empirical study of childhood over the years. In other words they are themselves a relatively large-scale regularity in the articulation of forces that has produced and continues to produce childhood as experience, as social category and as object of enquiry.

### A Multiplicity of Voice

The general ethico-political principle of children’s enfranchisement is often articulated as a call for children to be given voice (Alderson 2000). From many points of view outside the discourse of childhood studies and children’s rights, this might seem like an odd position since children can be very voluble (Oswell 2009).

The point of this contrast is not to gainsay the principle of enfranchisement, but to demonstrate that whatever the term 'voice' indicates, it is not one thing, but rather consists of a multiplicity of forces and of the effects brought about by the articulation of those forces. Some of these articulations are best understood on the model of democratic recognition and participation, but many vocalisations and expressions are not best understood on that model. A multiplicity of voice, then, includes the vocalisations of the baby who is able, through her crying and its anticipation by others, to shape the temporal and spatial arrangements of an entire household. It also includes articulations of discontent within a multi-media campaign against the mosquito device that, to be heard, must respect the rhythms of the news media and, to be possible, must find ways to draw on children's time that do not interfere too much with legally enforceable temporalities of schooling. It includes the conversation between and amongst children, shopkeepers and others, the time it takes within conversation to formulate children's or shopkeepers' actions as problematic.

None of these instances of 'voice' is more basic or simple than any others. Each has its articulations and temporalities. They *can* be arranged in a hierarchy that culminates in the form of political representation, judged against a general principle and thereby seen as better or worse approximations of children's authentic enfranchisement. But it is equally clear that they need not be so aligned. Children's voice is often investigated for the degree of its presence and authenticity as assessed against a general ethico-political principle of enfranchisement. In many circumstances that approach makes very good sense. In bio-political circumstances however, if we are to hold biological/social dualism at bay, a slightly different approach is required. When 'voice' is seen as a multiplicity, a gathering of forces, articulations and timing, it can

be investigated without the need to measure it against a general ethico-political principle of enfranchisement. In bio-politics, voices and forms of voicing proliferate.

### A Multiplicity of Life

For many years, close ties between social scientific childhood research communities and the bio-political strategies of states meant that questions asked about children as life-forms tended to focus on the conditions of 'normal' development and the power of adult-sanctioned and other influences on children. Knowledge of the conditions of development would allow policy and practice to assist in the transformation of children into adults who were responsible, autonomous and, crucially, biddable. Knowledge of child development and socialisation would allow liberal democracies in particular to treat children's universal 'nature' as the guide to their own reinforcement and growth (Agamben 1998). On this view, normal development was like a path through a thicket with snags and barbs either side. Sticking closely to the path was the way to achieve the politically and economically critical transformation of persons from 'child' to 'adult'. Even though it has been strongly criticised (Burman 1994, Morss 1996) this model has not gone away.

The cochleas of the children and adults discussed in the stories above certainly testify to the effects of time on the human body. The younger one is, the more of the delicate cells that respond to high frequencies remain in one's hearing system. But these phenomena do not speak to the bio-political developmental pathway as described above. They are examples of age-based difference that, thus far, have had very little part to play in the alignment of human life processes with the political and economic goals of states. This is the sense in which we can speak of a multiplicity of life. Just as

‘voice’ exceeds a general principle of enfranchisement, so life processes exceed the normalisation of development. Similar issues are raised by debates on the ‘enhancement’ rather than the normalisation of human physical and psychological functioning by genetic and pharmaceutical means (Harris 2007) and how that might connect with children’s status as human futures, particularly where they feature as bio-capital (Rajan 2007).

It is important to grasp just why this multiplicity is becoming important today. The multiplicity of life is not gaining in significance because life processes are now being recognised as a space beyond politics, as some universal limit to human schemes, designs and fantasies or as a source of liberation from control by powerful agents. Rather, this multiplicity opens up as more life processes become open to intervention and available as resource with increasing bio-technological sophistication and as states, amongst many other agents, pursue their agendas through the life processes of populations. In bio-politics, life, growth and change are multiple and cannot be understood as if they were a simple backdrop, passive enabler or mute limit to social and political events.

#### A Multiplicity of Resource

This multiplicity is perhaps the most familiar within the social scientific study of childhood. Children are treated as a resource in many different ways and the question of what ends should shape their treatment is hotly contested. As argued above, states often relate to their younger population as human fragments of the future - a form of bio-capital. In many nations, this relationship is hegemonic, drawing strength and legitimacy from parents and children themselves as they buy into plans for future

economic growth. There are many worse things than growing up as an element of a state's bio-capital. If one is not considered a resource for any larger project at all there is scant incentive for anyone to pass resources such as food, water, education and healthcare in your direction. There are good demographic and economic reasons to pay close attention to the place of children as bio-political resources. Projected world population growth toward the 8 billion mark by 2050 will be driven by less developed countries where the bio-political connections between states and children are weakest (Dicken 2007). Further, the developed world has, historically, ridden a tide of cheap fossil fuel energy. Not only is this resource in decline, but the continuing ability of economies to externalise the environmental costs it brings is seriously in doubt. This may bring the expectations of economic growth that have long legitimised states relations to children into question. So the near future may hold some surprises in the matter of intergenerational relations, not all of them pleasant.

### **From the Compass to the 'Stick Chart': The benefits of multiplicity**

The list of multiplicities I drew above is not exhaustive, nor is it intended to be, but I would suggest that it represents the key fields of activity that have provided material for students of childhood over generations. I have distinguished between these three multiplicities and presented them as particularly useful for the consideration of childhood precisely because they have each in their own way become so densely connected within the bio-political complex described by Foucault (2008). Historically, the classics of childhood studies, navigating with dualistic compasses, have each tended to emphasise one multiplicity over the others. Piaget (1927) saw children's cognitive development as an instance of wider issues of species' adaptation and learning and, even as he listened very carefully to children, he was interested in

their ability to take viewpoints rather than in their views. In my terms Piaget strongly emphasised 'life'. When Parsons (1956) discussed the 'normal American family' as a place of socialisation, he tended to emphasise the application of established adult values to children, giving strong emphasis to 'resource'. More recently Alderson (2000), amongst many others, has argued for the recognition of children's ability to formulate their own views and to speak for themselves, giving greatest emphasis to 'voice'.

The strength of each of these approaches was built through muting of one or more multiplicity and the ordering and assessment of selected articulations within the chosen multiplicity according to a central principle, be it biologically universal adaptive process (Piaget), the use of the young to reproduce a social system (Parsons), or the recognition of children's views (Alderson). There is no suggestion here that these approaches were mistaken, simply that their carefully crafted means of navigation are ill-suited to the contemporary demands of the bio-political. I suggest that rather than divide the territory of childhood with compasses, the set of multiplicities I have described above should itself be treated as a navigational aid. Thrower (2008) describes the use of 'stick charts' by the Marshall Islanders to navigate between low-lying Pacific atolls. These charts illustrated the distribution of wave patterns produced by interactions of wind, water and the islands themselves. The navigators periodically lay down in their boats to feel the rhythm and pattern of the sea, compared their impressions with the appropriate stick chart and thereby deduced their proper direction of travel.

In each of those places where the biological, the social and the technical meet, and plans are laid by and for children, we can use the three multiplicities as a guide to inquiry, just as a stick chart was used to guide the interpretation of wave patterns to navigate between islands. Where a compass established an objective space defined by the twin magnetic poles, the stick chart was limited to relatively local representation and to making links between just a few atolls. Take the stick chart out of the navigational context it was devised for and it is of no navigational use. Likewise, the set of multiplicities I have described does not pretend to establish a universal or general space of supposedly objective assessment or disinterested judgement. Instead, in combination, they provide a device for sensitising research to key features of the bio-politics of childhood.

In practical terms, in each empirical circumstance we can ask what forces are involved, how they are articulated one with another and what regularities, if any, emerge. We can ask how voices are produced and distributed, how it is that some are muted and limited in effect whilst others resonate widely. We can ask what life processes are deployed, deliberately shaped or unwittingly affected. Wherever children are considered a resource we can ask about the time scales and substance of investment and return.

Navigation by multiplicity has two beneficial features from the point of view of Thorne's problem. First, it is likely to give a high sensitivity to the diversity, tension and conflict in childhood bio-politics. Once the 'biological' is seen to exceed the organising principle of 'normal' development, bio-political tension and conflict can be highlighted and appreciated without the obligation first to 'deconstruct'

developmentalism. As the mosquito story suggests, the cochleas of adults and children have become key elements of some skirmishes in wider generational conflicts about the use of space and proper behaviour. Likewise, within the same body, having a strong appetite for fatty, sugary foods is as 'natural' as that body's development of type 2 diabetes in response to obesity. The key bio-political question here is neither 'what is normal?', 'is normalisation legitimate?', but why it has become difficult effectively to hold the line of 'normal' development with regard to body mass index in children the world over. Which deployments of which life processes are involved in this and how are children's voices articulated?

The second benefit of navigating with multiplicities is that it makes movement between areas and topics that are normally held apart by the old biological/social distinction a rather more obvious and simple step to make. Multiplicities of voice, life and resource are in such intimate relation with one another that consideration of any one will very often reveal points of contact and mutual influence with the others. Voice can be *about* life processes and issues of resource, but it is also very often built out of their articulations of force in ways that affect outcomes for children. From the cycles of agitation that pattern infants' crying, through the embodied learning of speech, to the effects of anxiety and fear on breathing and vocal apparatus, voice connects with life. Where children figure as resources they are offered some opportunities to speak and denied others, they may also use voice to alter patterns of investment in them and to negotiate within their position as bio-capital. Steady, articulate, confident speech, for example, often impresses the many adults who judge children and shape their opportunities. The precise way in which children are positioned as resource has profound implications for their life-processes and voice

opportunities all the way from whether or not they are fed, to painstaking attempts to shape them for a productive future.

## **Conclusion**

I began this article with Thorne's (2007) question about the major divisions between different traditions for the study of children and childhood. Contemporary developmental psychology and approaches based on the concept of 'social construction' are often estranged from one another. Like Thorne, I am convinced that the naturalization of childhood is deeply problematic, but I am also aware that without life processes there would be no children. It is clear that a dualistic separation of the biological and the social cannot help us to relate these two well-grounded sentiments.

Further, Thorne's question has a strong contemporary resonance. It may once have made sense to think of 'nature' as a stable universal backdrop to human affairs, secure in its autonomy from human plans. This vision of 'nature' is the basis both of the naturalising idea that 'nature' can tell us how to live and of the idea that socially critical researchers can safely ignore or decry it. Bio-technological and governmental developments discussed above have made this vision untenable.

Throughout the piece I have asked how childhood researchers might navigate the new bio-political space that is emerging as trusted dualistic compasses diminish in relevance. While it is clear that, just like the adult/child distinction, childhood, growth and change are hybrid phenomena, I have argued that this recognition alone has limited ability to navigate bio-political space and runs the risk of confounding theoretical and empirical registers of enquiry. The alternative I offer – navigation by

multiplicity – draws on a wide range of resources devised by childhood researchers over the years. Previously these resources have been used to create distinctions between research traditions, but I argued that, when understood as multiplicities, they are a key to navigating the space of childhood bio-politics. Finally, as Thorne (2007) suggests, the challenges facing childhood studies are not just conceptual in nature. I hope I have shown, however, that conceptual discussion of research tools and strategies is one sensible place to start.

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