

MULTIPLYING POSSIBILITIES: A POSTDEVELOPMENT APPROACH TO HYGIENE
AND SANITATION IN NORTHWEST CHINA

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ABSTRACT

Postdevelopment thinkers and writers have critiqued development discourse for its role in perpetuating inequality. In water, hygiene and sanitation (WASH) literature and interventions, the discourse used perpetuates inequality through classing anything other than private toilets as ‘without sanitation’. This implies that the people who use forms of hygiene and sanitation relying on collective toilets and alternative strategies are somehow unhygienic. Yet residents of Xining (Qinghai Province, China) rely on hygiene assemblages that do not always include private toilets, but nonetheless still work to guard health for families with young children. In this paper, I develop a postdevelopment approach to hygiene and sanitation based on starting with the place-based hygiene realities already working to guard health in some way, then working to multiply possibilities for future discursive and material hygiene realities. In this approach, contemporary and future realities may look quite different from those based on private toilets.

INTRODUCTION

The hygiene and sanitation systems of the minority world are often resource-intensive in terms of water usage, infrastructure, chemicals and other consumer products for personal hygiene. Meanwhile, many places in the majority world have problems with diseases caused by contamination through inappropriate sanitation. Water, sanitation and hygiene (WASH) projects tend to imagine a future state of development where the specific mix of practices, socialities, spatialities and materialities that enable hygiene (what I call a hygiene assemblage¹) will come to look the same as those in the minority world. This is problematic for a number of reasons, not least of which is the possibility of overlooking the ways in which specific, more successful hygiene assemblages currently being practiced in the majority world could actually help address issues of minority world resource use. Yet the current big push for the achievement of the sanitation related Millenium Development Goals (MDGs) continues to imagine minority world hygiene assemblages as the only possible sanitation future for the majority of the world.

In early 2013, American actor and philanthropist Matt Damon jumped on board the End Poverty 2015 campaign with the launch of his organisation water.org. In a staged press release, Damon announced that in protest to the lack of access to sanitation for many in the world, he would not ‘go to the bathroom’ until it was resolved. After identifying the toilet as the invention that has saved the most lives, he invited viewers to join his social media campaign #strikeywithme, a bizarre toilet strike used to raise awareness of ‘the global tragedy of sanitation’.² One of the ‘reporters’ in the clip asks Damon if he means he ‘literally won’t go to the bathroom, but do it somewhere else?’, while another wants to know if this includes ‘peepee’ and ‘caca’. The clip uses this staged confusion to highlight the very real confusion people in the minority world feel when they see the statistics for worldwide sanitation associated with the MDGs. If 2.5 billion people in the world are ‘without access to basic sanitation such as toilets and latrines’³, how exactly do they manage? Where does all the ‘peepee and caca’ of the 2.5 billion (and Matt Damon) go?

The #strikeywithme campaign is an innovative way to get people’s attention, and ideally, get people involved in issues of water, sanitation and hygiene globally. At the same time, Damon’s short press release highlights a number of problematic underlying assumptions about water, sanitation and hygiene that appear natural to those living in the industrialised minority world; assumptions that are then institutionalised through all kinds of organisations pursuing change globally. For example, Damon draws on a variety of WASH literature throughout his short talk, stating toilet, water, sanitation and hygiene facts in quick succession, assuming that the links between these different concepts are implicit to his mostly minority world audience. He seeks to harness their shock and disgust: more people in the world own cellphones than toilets! In a hygiene assemblage centred around privately owned, flushable toilets, this fact is indeed hard to comprehend. But in places like Qinghai Province in Northwest China this is hardly shocking news. Here, collective toilet and sanitation facilities are managed through different embodied hygiene strategies, habituated from infancy through the practice of *baniao* (holding babies out to urinate and defecate).

This article seeks to do away with some of the confusion about where the ‘peepee and caca’ goes for families living without private toilets in Northwest China, through a detailed ethnography of the hygiene assemblage there. I argue that while water-based sanitation systems are indeed

effective in many places, their absence does not necessarily indicate poor hygiene or open defecation. Furthermore, the future of hygiene and sanitation in many parts of the majority world may in fact legitimately look quite different from those of the minority world. Aspects of these ‘unimproved’ hygiene assemblages may even offer useful tweaks to the hygiene assemblages elsewhere.

POSTDEVELOPMENT AND THE PROBLEM WITH WASH

The MDGs and the WASH literature today imagine a future where health is improved and the environment sustained partly through the provision of toilets globally. The literature identifies a number of problems: contaminated water supplies, disease transfer enabled through open defecation, inadequate water provision for basic hygiene (Clasen, 2013; UN, 2013; Waddington *et al.*, 2009; WHO/UNICEF, 2000). The solution is imagined quite clearly as the provision of toilets and ‘improved sanitation’ to homes and communities lacking these (Kar, 2008; UN, 2013). In order to measure progress towards this goal globally, the number of people lacking these facilities must be estimated, and then compared regularly with the number of people being provided with them, with some allowance for population growth. For some reason, the statistics on worldwide sanitation used in setting the MDGs specifically excludes shared or public toilet facilities when estimating the 2.5 billion people ‘without sanitation’ (WHO/UNICEF, 2000). No doubt those who collect these statistics are aware of the nuances, but what has effectively happened through the distribution of these estimates is this: *all* those whose toileting habits do not match the norms of the minority world are now imagined as somehow failing.

Rather than raising awareness of problematic instances of sanitation (for example, places where water is inaccessible or where open defecation is causing health problems), the current global push for sanitation collates all the diversity of ‘other’ forms of sanitation and hygiene into one big problem. By no means am I arguing that we should not be concerned about sanitation, hygiene, child health and all the other related issues that the global push for sanitation bring to attention. What I am concerned with is the way that the measurement of lack perpetuates the problem of lumping together a very large percentage of the world’s population in a category marked ‘other’, ‘lacking’ or ‘wrong’. Why are shared toilet facilities classed as ‘lacking sanitation’? Is there shame in sharing toilet facilities with others in a compound? Or are we all

entitled to private toilets and anything less is a travesty, no matter whether health, happiness, capabilities and collective achievements are present?

Since the early 1990s, postdevelopment writers and thinkers have traced the same process happening all over the world in different categories of development – land tenure, agriculture, savings, economic institutions and so on. What these writers and thinkers have taken issue with is instances where development is portrayed as one-way process, where the visions of development in the self-identified ‘developed world’ are imposed (however altruistically or unintentionally) through various mechanisms of power on ‘undeveloped’ peoples and places. They have described how statistics of lack have been gathered across a variety of regions and peoples according to a variety of themes, enabling ‘the Third World’ to be imagined as an actually existing and always lacking place (Escobar, 1995). They have analysed the problematic assumptions of the development industry as it has churned out strategies to reform this majority world (and the bodies assigned to it) in the image of the ideal: the places and peoples of the ‘developed’ (minority) world (Crush, 1995; Esteva, 1992). What these writers have highlighted is that the discourses of development have real-life material consequences which can perpetuate the very inequality they seek to reform, through reinforcing the economic and political systems preferred by the wealthy and slowly undermining the diversity of other ways of being in the world (see Escobar, 1995; Esteva 1992 and others in the volume edited by Sachs, 1992).

While this first generation of postdevelopment thinkers were quite clear about the deficiencies of development (in terms of both discourses and material consequences), they were rather less clear about offering alternatives (Morse, 2008; Pieterse, 2010). The new generation of postdevelopment writing however is moving into a mode of assembling, that is, of constructing real, workable alternative discourses and practices. As Katharine Mckinnon puts it in her take on postdevelopment, we must work out:

...how to continue a project of positive assistance and transformation – while being aware of the political complexities of development...[to] propose a new way of undertaking development that is substantially different, which can acknowledge the pervasive politics of development and find ways to create change in spite of it (Mckinnon, 2011: 3).

The political complexities that Mckinnon speaks of create situations where there are multiple discursive and material realities simultaneously existing in one place (Law, 2004). She argues development professionals must be conscious political actors, negotiating the multiple crosscurrents of possibility and power in their particular place of work, that is, working both discursively and materially to make some realities more real and others less so. Likewise the postdevelopment researcher must consciously seek to amplify and promote ways of thinking and acting that enable emancipatory change to flourish *in spite of* the development industry (Dinerstein and Deneulin, 2012; Gibson-Graham, 2005; McGregor 2009; de Sousa Santos, 2004).

This is something quite different from the paradigm and project of ‘alternative development’, where the *methods* of development are questioned rather than the whole project and discourse. Some postdevelopment authors have therefore called for ‘alternatives *to* development’ (McGregor, 2009; Escobar, 2005). By alternatives to development, they mean seeking to uncover the ways that change *can* happen, where health *can* be improved, where extreme poverty and inequality *can* be addressed – but outside that framework of developmentalist thinking where the unstated assumption is that the material, economic and even bodily habits of the minority world are the goal. The idea is that we work not as representatives of the ‘developed’ minority world, who (apparently) have all the answers and can hand out appropriate solutions like lollies to children. Rather, we approach social change as *co-workers* in change *globally*, in the knowledge that in this era of anthropogenic environmental and climatic change, we can no longer maintain the fiction that the lifestyles of the minority world are reproducible. Social and material change is necessary all over the world.

What would this ‘co-working for change’ look like with regards to water, hygiene and sanitation? One option generally favoured by postdevelopment writers is large scale people’s movements for change, beginning in the global south and spreading (Escobar, 1992). More recently, small scale discursive interventions have worked to facilitate projects of rethinking economies in Australia, the Phillipines and Melanesia (Cahill, 2008; Carnegie *et al.*, 2012; Gibson-Graham, 2005; Gibson-Graham, 2006). When researching hygiene and sanitation, however, the added difficulty in collaborating for change is our own embodied realities of hygiene. These beliefs and practices and habits have been embedded and embodied in our daily routine since infancy. These have

been so habituated and embodied in our personhood itself (Lei, 2010, Longhurst, 2008) that we may have difficulty imagining that they may not be transferable or universal. But indeed, hygiene and sanitation, like many other concepts central to development practice, are situated in their own historical and geographical contexts. Each co-worker in change needs to be open to the possibility that their embodied reality of hygiene is not the only one, nor even the best one necessarily given our planetary limitations.

This paper seeks to open up the way for co-working in the area of hygiene and sanitation through defining hygiene more broadly. For those of us from English-speaking backgrounds, it helps to remember that the English word ‘hygiene’ has historically had a much broader meaning than mere avoidance of germs or disease. The Greek origins of the word translate as ‘the art of health’ (Oxford English Dictionary, 2012), and what this art involves has evolved over time. While healthful practices to stimulate digestion, immune responses and the like were once common to European hygiene (Smith, 2007), since the discovery of germs things have become rather more focused (Rogaski, 2004). The concept also has complex and situated histories in other languages and places. The Chinese word *weisheng* or ‘hygiene’ translates literally as ‘guarding life’. Chinese hygiene has also been much broader than the mere avoidance of germs or disease – while these practices are also present, they work alongside older traditions in keeping health: balancing *yin* and *yang* and managing transitions between the five phases among other things (Lei, 2009; Men and Guo, 2010). It therefore makes sense that broader hygiene assemblages – the socialities, spatialities and materialities that help to keep hygiene – might look quite different in China.

My proposal is that a postdevelopment project of hygiene and sanitation would look for this multiplicity and diversity, rather than jumping in with preconceived ideas about what hygiene and sanitation ‘ought’ to look like and measuring how far a place is from achieving this standard. I call this ‘starting with what is there’, echoing Gibson-Graham’s call for a postcapitalist politics that “starts where you are” through recognising diverse economic practices already happening around us (2006). A postdevelopment project of hygiene and sanitation would also look for the multiple possible futures present in the current multiple realities we have started with. It would especially be open to the possibility that one or some of these hygiene realities may in all likelihood have something to offer the minority world. In the remainder of this article, I develop

these normative guidelines for ‘doing postdevelopment development’ through a case study of hygiene and sanitation in Qinghai Province of northwest China. These guidelines do not emerge from my expertise in WASH, epidemiology or development projects, but as a researcher who has sought to understand how the particular socialities, materialities and spatialities of one place come together in a particular hygiene assemblage that may be no better or worse than what I am accustomed to elsewhere.

STARTING WITH WHAT IS THERE

I became interested in hygiene and sanitation through my ethnographic research with women in Qinghai Province, China. The ethnographic method is used to gather rich, holistic, descriptive, qualitative data and is traditionally used by anthropologists to understand cultures different from their own. It was developed in small rural village or tribal settings, but in recent decades has been applied to urban and even global settings (Tsing, 2005). Ethnographers frequently use their embodied senses and emotions to reflexively gather information and understanding, and it is an ideal method to research hygiene and sanitation from a qualitative, appreciative perspective.

My ethnographic fieldwork was conducted over three years between 2006 and 2009, and involved living and working in Qinghai’s provincial capital of Xining, for extended periods of time (between three and nine months), with short trips to outlying country towns and villages. I spent time chatting in Mandarin with mothers from a variety of ethnic and economic backgrounds: Hui (Chinese Muslim), Salar (another Muslim ethnic group), Tibetan, and Han Chinese rural migrants. Living conditions included new apartments with full internal bathrooms, old-style apartments with internal squat toilets but often no showers, *pingfang* traditional housing with communal facilities (for extended families or tenants), and families living in shops with running water but no toilet. Among other aspects of their everyday lives, I began researching the fascinating practice of infant toileting known colloquially as *baniao*, whereby babies are ‘held out’ to urinate through a split in their pants.⁴ Along with trying out *baniao* with my own baby in the field in 2007 (Dombroski, 2011a; Dombroski, 2011b), I also conducted 25 recorded interviews in 2009, in which *baniao* and home hygiene were key strands of discussion.⁵ It was through detailed research into *baniao* infant hygiene that I became deeply familiar with the broader hygiene assemblages present in this part ‘out of the way’ part of China.

I have already stated that the starting point in any postdevelopment project of hygiene and sanitation should be detailed collaborative research in to what is *already* there. I do not mean collecting statistics on toilets and water supply, but grounded, rich description based on attempting to understand how hygiene and sanitation *already work* (in some way) to keep health. This open ‘beginner’s mind’ (Gibson-Graham, 2006) is essential if we are to put aside our own embodied knowledges of hygiene and be open to the possibility that there are other realities coexisting with our own. I approached the practice of *baniao* with an explicit assumption that it must, somehow, work – otherwise why would it have survived for so long, even among wealthier families that could presumably afford to buy disposable nappies? Like other ethnographers, I attempted to participate and observe local practice concurrently. I adapted my own hygiene practices, and that of my infant daughter, to match local practice as closely as possible. I began to map out the hygiene assemblage mostly through paying attention to the embodied awkward engagements where my ordinary practice clashed or collided with local expectations (Dombroski, 2011a; Dombroski 2011b).

Beginning with *Baniao*

In Qinghai, *baniao* infant hygiene works through an assemblage of objects (basins, floors, split-crotch pants, cloths, mops, newspaper), beliefs (about babies’ bodies, abilities, communications, health, and the harmlessness of urine), spaces (public and private, clean and dirty), practices (holding out, feeding, carrying, sleeping, whistling) and more. The signs for impending urination or defecation in babies include squirming, specific cries, unsettled breastfeeding and more. Caregivers (mostly grandmothers, mothers and hired nannies) respond to these signs by holding out the baby in a legs-apart position and cueing it to release (through the opening in the split-crotch pants) with a consistent sound, such as a low whistle. The more these signs are responded to, the more they are deliberately used as conscious signals by the babies. As the verbal cue is consistently given at the time of elimination release, the baby comes to respond to the cue by relaxing the sphincter muscle. With this two-way communication, babies can be kept dry fairly consistently from around four months.⁶ Families varied slightly where babies were held out, but a consistent pattern emerged — somewhere light, easy to clean, and comfortable for the carer, and with a good view for the baby. Typically, until a child is old enough to squat independently, a carer would sit and hold out the child over a wide basin, a tiled

or concrete floor in the living area, or outdoors.⁷ These places were used in preference to internal bathrooms even when these were present, because they offered no comfortable place for a carer to sit and hold baby out.

It is fairly clear that the *baby* was kept clean and dry effectively — probably to a greater degree than with nappies. But what about the rest of the family and the general public? Surely this practice endangers public health in some way? These are commonly voiced concerns of foreign residents and health workers, who may view the practice of *baniao* as potentially second-rate, a concession to poverty or ignorance or lack of a decent sanitation system. The assumption is that like open defecation in South Asia, *baniao* is a practice slated for eradication as Xining becomes more economically developed and has better water and sanitation systems in place. Many are unaware that babies are able to signal and to release on cue, and assume that a lot of mess and accidents must be part and parcel of the practice. They are also not aware of the socio-spatial ‘rules’ for infant and adult hygiene or the appropriate embodied interactions with public spaces. Mothers, grandmothers and other caregivers in Qinghai are so familiar with the practice that they rarely see the need to explain it to outsiders — it all seems rather obvious.

I investigated the socio-spatial rules for *baniao* through asking direct questions in the everyday toileting language of mothers and caregivers (“Can a baby wee-wee here? Why/why not?”) and through embodied observation (it started to feel ‘wrong’ to take my baby in this place but not that place). In interviews I tested out my theories with further questions and vignettes (asking for examples of unhygienic practice, asking mothers to describe daily toileting routines). The rules of *baniao* are informed by general socio-spatial rules for engagement with spaces and objects — and the general socio-spatial rules for engagement have been developed in the context of *baniao* as normal infant hygiene practice.

Through researching infant hygiene, I came to see that more generally in Qinghai and urban Xining hygiene is kept through shared practices of *imagination* and *separation*. Different spaces are *imagined* as dirty or clean then enacted as such through practices of *separation*. Spaces such as the ground and the floor are imagined as dirty — and may quite literally be so due to the fine soil composition of the region that constantly coats floors in the province. They may also be visibly clean and shiny, and even decontaminated through cleaning procedures. Even in these

places, one would not place a bag or drop clothing on the floor, or sit on the floor, or walk about barefoot. The ground and floor are enacted as dirty, and thus kept separate from things enacted as clean. Clean things include beds, couches and chairs, tables, rugs, and also the body and things associated with the body such as bags or clothing. Children and babies do not sit or lie on the floor, but may be physically or verbally redirected into a more appropriate squat. Babies may be held fairly constantly, or lie down on a couch or sit on a rug.

Whether this state of affairs is *a result* of the practice of *baniao* or whether it has *enabled* the practice of *baniao* is moot — the imagination of spaces and the hygiene of infants are intimately intertwined with adult embodied spatial habits. Even in homes with sparkling clean floors, where children and babies are not present at all, or do their business in basins, people do not sit or place objects on the ‘dirty’ floor. Through physical redirection and verbal encouragement, children are habituated into an engagement with space that prevents them from coming into contact with faeces or urine or any other potential floor dirt. This embodied habit continues on into adulthood and thus ‘hygiene’ — the art of good health — is performed.

***Baniao* and the Health of Babies’ Bottoms**

Xining may be situated in an out of the way part of China, but it is not isolated by any means. How have the rapid changes in China — particularly economic — changed infant hygiene practices in Xining? In Xining, changing hygiene habits are the result of direct government campaigns and the increasing availability of hygiene products and the marketing campaigns that run alongside them. Traditional understandings of the body and health are alive and well in the city of Xining, greater China, and the expatriate overseas Chinese community. These ideas interact with marketing ideas, biomedical ideas, and other cultural values in unexpected and sometimes bizarre ways.

The increasing availability of disposable nappies has certainly changed aspects of infant hygiene practice — but not as much as one would think. Multinational pharmaceutical company Proctor & Gamble, after a multi-billion yuan campaign encouraging the use of disposables, admitted that the average Chinese consumer used only *one* a day (Frazier, 2010) – rather than the 6-12 per day common for fulltime nappy users (Day, 2004). A number of women I interviewed in Xining used a disposable nappy overnight, but many reserved them only for illnesses such as diarrhoea

(especially where the household did not have a private toilet). The main reason given for rejecting the use of disposable nappies was that baby's bottom was *tai nan* 'too delicate', and it must be cared for attentively. Han migrant grandmother Lao Yang⁸ notes that as a carer 'you are forever trying to keep the child dry and clean', and the best way to do this is to hold the baby out, to *baniao*. This is the only way you can ensure the baby's delicate skin does not come into contact with faeces or urine. While baby urine is considered relatively harmless, the idea of a baby sitting in a damp nappy is objectionable, and a soiled one, inconceivable. Although Proctor & Gamble's marketing campaigns have ensured that mothers know disposable nappies 'draw away' urine from the skin, most mothers I spoke to felt that even so, dampness was present and contained against the skin because the nappy did not 'breathe' or allow air to circulate. Han migrant mother Deng Yi insists:

Just sticking them in disposable nappies, that kind of sealing up I think is not good — too airtight!

Deng Yi and her neighbour also both disapprove of what they have seen of Western-style cloth nappies, which are quite different from the thin piece of cloth they tucked in the split of their babies' pants:

Neighbour: Our cloth nappies are different from yours. Yours are thick, pretty thick. Ours are comparatively simple....

DY: Ours have just one layer, very thin. It should be changed right after it is wet.

Thus both disposable and cloth nappies are considered bad for the skin *even if clean*, by virtue of the fact they do not allow air to easily circulate. Nappy rash is considered unusual and abnormal, and guarding against leakage is not seen as necessarily good, especially if it involves plastic or thick layers of cloth.

But nappy rash is not the only concern of these carers. Keeping the bottom area overly damp and hot creates other health and skin related concerns, according to traditional Chinese medicine (Flaws, 2006). Tibetan migrant mother Zhuo Ma notes that it is not appropriate to use disposables while sleeping on a heated *kang* platform in rural villages, because the dampness and airtightness combined with the warm *kang* means that the 'blood cannot go smoothly in its vessels', a reference to 'coagulated blood' common to traditional Chinese and Tibetan medicines

(Men and Guo, 2010). If the blood coagulates, and is not flowing smoothly in its vessels, there is a danger that this will allow the development of stagnant damp heat. Nappy rash (or redness around the genitalia) is a *symptom* of damp heat, rather than a condition itself. This damp heat can migrate, causing other health problems such as cradle cap, eczema, night-time colic and continuous abdominal pain (Flaws, 2006).

Because of these reasons, nappies are therefore not always desirable from a health and hygiene perspective. In many ways, nappies were seen as less convenient than *baniao*, since they did not allow one to care for this important area of skin easily. Disposable nappies, while having their place in modern Xining, were not considered more hygienic except for in the case of diarrhoea, since the social environment was already adapted to *baniao*. The practice of *baniao*, while confusing and confronting for those who are unfamiliar with it, is in fact a key strand in the hygiene assemblage gathered in and around the city of Xining for adults and children alike. It enables and is enabled by a particular engagement with the ground and floor, a reality that may be seen by outsiders as ‘unsanitary’ or ‘unhygienic’. Yet this practice, and the hygiene assemblage of which it is a part, persists even after interactions with other forms of hygiene, mainly due to the significance of the practice of *baniao* in infant health and hygiene.

By beginning with *baniao* and attempting to understand the hygiene assemblage of which it is a part, I illustrate how we might approach a different hygiene reality in a respectful way as a co-worker for change. Through understanding and implementing *baniao*, I was able to map a broader hygiene assemblage that is predicated on this form of infant hygiene. I was then able to consider how this assemblage has shifted and changed as it has interacted with other hygiene assemblages, such as that of the minority world from whence the technology of disposable nappies has emerged. Because the technology of disposable nappies has emerged from a hygiene reality based primarily on protecting surfaces and spaces from contamination (rather than babies’ bottoms), the technology has had limited uptake in a reality where babies’ bottoms are accorded prime consideration. The point is, *the new technologies were taken up, but only to the degree that they enhanced hygiene according to local understandings*. The question with regards to WASH, then, is considering how recommended interventions might interact similarly with the hygiene assemblage already present.

MULTIPLYING POSSIBLE FUTURES

Recognising multiple present realities allows us to more easily recognise multiple possible futures (Massey, 2005; Gibson-Graham, 2006), because certain realities become amplified and made more real by research and development practices (Law, 2004). The second step in a postdevelopment project of hygiene and sanitation is therefore carefully thinking about which realities could be amplified and made more real. In the case of *baniao*, this hygiene assemblage offers an environmentally friendly alternative to disposable and cloth nappies in a context where embodied relations with space presume a separation/imagination form of hygiene. It therefore makes sense to describe, analyse, enhance and in general make ‘more real’ this option of infant hygiene. But what would happen if in northwest China, the hygiene reality of the minority or Western world were to become enhanced and made more real to such a degree that *baniao* came to be considered unhygienic? Would *baniao* ‘die out’ as knowledge and practice, thus reducing the multiple possible hygiene futures for this world more broadly? Or would it ‘hold out’ against this process of homogenisation and continue to offer an alternative reality to those so narrowly prescribed in our WASH literature? We can get a sense of how this might work in China by looking at some historic hygiene realities and their ongoing influence today.

Historic Hygiene Realities

This is not the first time that multiple hygiene realities and multiple hygiene futures have been considered in China. In the early Republican period of China (1911-1949), some Chinese intellectuals even installed flush toilets and plumbed bathrooms only to rip them out several years later in solidarity with those who could never afford them (Lei, 2009). In this reality, the ‘greatest invention of all time’⁹ was rejected as a selfish investment in private health, where selfishness was seen to create further ill health in the long term (Lei, 2009). Public washrooms, chamber pots, and simple wash basins were seen as preferable, as they worked to better ‘guard life’ for all (the literal meaning of the Chinese word *weisheng*, translated as hygiene). What would these proponents of the ‘guarding life’ tradition think of the current MDG statistics that disregard public facilities when counting sanitation? The ‘guarding life’ proponents may support a general push for improved sanitation, as long as it did not mess with other important elements of guarding life. Sean Hsiang-lin Lei argues that they:

...repudiated modern hygiene not because it was ineffective in preserving health, but because it was harmful to the moral community they cherished and identified with... In the apparently personal realm of hygiene, the most social relationship between the individual and community unfolded, a relationship... based on compassion and identity (Lei, 2009:497).

Lei's work describes two hygiene assemblages then at work in Republican China, one of which draws broadly on holistic Chinese medical tradition, where the state of the heart and mind and spirit influences health at least as much as germs. In this 'guarding life' assemblage, 'good health' includes the very act of considering the most effective means for preserving health for the majority of Chinese families, living in relatively simple circumstances (Lei, 2009). The other hygiene assemblage was based on the desire for wealthy Chinese citizens to modernise and develop and shake off the title 'sick man of Asia' (Hong, 1997). The battleground was the body of the average Chinese person, who must put aside Chinese medical and social tradition and become the 'hygienically modern subject' already coming into being in the West and Japan (Rogaski, 2004). Lei considers this project to have mostly occurred, as in his view the first assemblage has mostly disappeared from view – but his sources are historical documents of the Chinese public intellectual. On the street level, in Qinghai at least, I argue that the guarding life assemblage is very much alive, although interacting with the materialities, socialities and spatialities of so-called 'modern' hygiene.

Contemporary Hygiene Realities in Xining

Like the Chinese intellectuals Lei studies, the relatively simple circumstances of many of my research participants in Xining is a key concern for me. Just as 'without nappies' does not necessarily mean 'without hygiene', I am pushed to consider how 'without toilets' may not necessarily be 'without sanitation'. According to the World Health Organisation, sanitation 'generally refers to the provision of facilities and services for the safe disposal of human urine and faeces',¹⁰ while the Oxford dictionary defines sanitation as 'conditions relating to public health, especially the provision of clean drinking water and adequate sewage disposal' (Oxford English Dictionary, 2012). Clearly, measuring sanitation through the provision of private toilets is a proxy indicator, since by definition sanitation could refer to any facilities or services that safely dispose of waste and protect public health, including traditional nightsoil or 'honeypot' collectors (Yu, 2012). But the case of *baniao* pushes me to consider this further: does urine

really need to be disposed of ‘safely’ through a sewerage system? Or does the spatial system of separation keep public health just as well? Might it be that in terms of simple sanitation, we are really just referring to adequate disposal of faeces and rubbish? Where ‘adequate’ might mean avoiding disease and water contamination? If so, how might homes without private toilets be ‘sanitary’ and hygienic? I consider these possibilities through the lens of everyday hygiene in Xining.

There are four main types of accommodation in Xining, and each deals with issues of sanitation and hygiene somewhat differently. At the time of research, there were many people living in apartments with internal private toilets and shower facilities. In recent years, these apartments have been going up at incredible rates and to incredible heights, and few of them are over ten years old. Although plumbing might frequently be blocked, toilet paper must be disposed of in the rubbish rather than down the toilet, and babies may still be allowed to urinate on the floor, there is still a large overlap with the sanitation realities of the minority world. The second type of accommodation used by participants were old-style apartments that belong to work groups (*danwei*). Some of these four to six storey buildings had private toilets but shared shower facilities, which people used around once per week. The third type of accommodation was *pingfang* or traditional Chinese urban housing. These single or two-storey courtyard dwellings were mostly rented out as single rooms or series of rooms by a landlord.¹¹ In these dwellings, it was common to share toilet, shower and water facilities to some degree (in various combinations – some courtyards had standpipes, some rooms had taps and basins but no toilets, some had ensuite showers but no toilets, some had showers draining over squat toilets). Finally, there were participants living in shops, which were essentially rooms with the front open to the street, sometimes with a back storage room, often windowless. These shops rarely had any facilities beyond a simple basin and tap. For the latter two types of accommodation, sanitation looked rather different from the minority world.

Each of these accommodations allowed a slightly different form of hygiene to emerge. For reasons of space, I will limit myself to discussion of the hygiene and sanitation assemblages of people living in shops and rented *pingfang* rooms with no toilet or shower facilities. The first most obvious point is that the lack of a private toilet did not mean open defecation or unsanitary conditions. Families used commercial and public washrooms, where a small fee was paid to a

fulltime attendant to use the toilet and a higher fee for a shower. Potties or chamberpots with lids were used during the night (urine only) and discarded in the gutter or down the drain. Babies and children were generally the only ones to defecate at home, and this was disposed of wrapped in newspaper or a plastic bag in the daily rubbish collection. They might also be held out to urinate in the gutter or over the drain or against the base of a tree in the street. Hairwashing was done at home over a basin of water, and strip washes or ‘face and bottom’ washes were common for children and babies. People washed out their socks and underwear every night and dried them indoors. Larger items could be washed by an attendant at local Laundromats. The cold outdoor conditions of Xining, and the traditional emphasis on keeping warm and dry common to both Chinese and Tibetan medicine, meant that weekly washing and showering in a public facility was often considered preferable to maintaining the shower and hot water cylinder required for more frequent bathing. This was especially true among elderly *pingfang* dwellers.

For many of these families, the choice to live in a shop or rented *pingfang* rooms rather than a separate home was often a short term one, a way to invest in their future through literally putting everything into their business. All of the mothers I interviewed living in shop conditions were relatively new migrants – either migrants from rural parts of Qinghai (often ethnic minorities), or migrants from rural parts of provinces as far away as Shandong (in the northeast near Korea). Some had family members with apartments where they might go for family meals, sometimes even leaving their children to sleep there during the week.

Luo Gui Hua, a Hui migrant from rural Qinghai, lived in the back room of her fruit shop with her husband, three daughters and father in law. Her husband used his mobile phone to manage a delivery business on his quad bike. They had running water and a shared toilet with the *pingfang* compound behind them. Her baby was held out over the floor, and she or one of her older daughters mopped it up with a raghead mop. The family regularly visited their hometown to stay at the family home, but preferred to live in Xining because of better quality schools and more opportunities for business.

In a more upmarket part of town, Xue Lan lived in her small alcohol store opposite an impressive village of high-rise apartments. Along with her husband and eight month old baby, most of her life is lived in full public view. They cooked over a portable gas stove and slept in a loft bed concealed by shelving. She nursed and played with the baby as she served customers, talked with

sales reps on her small cellphone, and used a public pay-as-you-go bathroom across the road. Her extended family had all migrated here from Shandong, some 30 hours train ride away. They all had similar shops across the city, and one family had an apartment where she was able to rest for her post-birth confinement.

For rural migrants such as these, the decision to live in the shop is an investment in a different sort of future for their children, a way to increase savings while keeping hygiene in ‘relatively simple circumstances’. Access to plumbed water nearby and regular waste collection appears to be the minimum requirement for sanitation. A cellphone is likewise a minimum requirement for conducting business and saving for the future. Like disposable nappies, the technology of private toilets, showers, and cellphones are taken up as it suits. In this hygiene reality, *baniao* infant hygiene, collective and public wash facilities, family economic priorities, connections and financial strategies, landlord-provided plumbing, municipal waste collection, and more assemble to ‘guard life’ for those in simple circumstances.

Mapping out these realities is not to say that these hygiene assemblages are static or even desirable in the view of those who live them. It is merely recognising what is already going on from an appreciative perspective that does not assume inferiority or irrationality. Understanding the multiple realities of hygiene within and between places is a first step to multiplying possible future hygiene realities based on these. In the next section, I think about how we might tweak the hygiene assemblages present in Xining, and what this means for a postdevelopment project of hygiene and sanitation.

POSTDEVELOPMENT HYGIENE AND SANITATION

The WASH hygiene assemblage relies on well-engineered water-based sanitation systems, and is indeed very effective in preventing faecal contamination and thus some forms of diarrhoea in children. But it is by no means the only hygiene assemblage to work. A workable hygiene assemblage may not necessarily be dependent on a plumbed bathroom or a flush toilet, and the practices of the industrialised world may not be taken up even if available. For example, wealthier families in northwest China still use *baniao* in preference to disposable nappies. People living in shops and households without private toilets in northwest China use spatial strategies of habituating children into a particular relationship with ‘dirty’ spaces and may not see the need

for a private toilet. Given this case and the potential for others, then surely it makes more sense to tweak the WASH assemblage somewhat by separating out concerns with hygiene from concerns with sanitation or water supply.

Jewitt (2011) argues this point even further: we need to separate out concerns about *faeces* from concerns about water, sanitation, and hygiene. Contaminated water supply is one issue, and it *can be* related to faecal contamination in places where basic hygiene systems are breaking down due to poverty or crowding. But sanitation (or more particularly, disposal of faeces) is *another* issue, which may or may not be related to water — for example, the traditional nightsoil or ‘honeypot’ collectors in urban China were a form of waterless sanitation, who made their living by selling ‘honey’ to farmers (Yu, 2012). China has a long history of using ‘humanure’, and hygiene practices have evolved in this context – in Qinghai people only really drank boiled water and tea, and all food was cooked at high temperatures, where even salads consist of blanched or cooked vegetables. This is not to say there is no room for specific improvements, but that we need to look carefully at what is happening and not assume hygiene is lacking because we feel an embodied emotional resistance to its form.

Through reflexively mapping hygiene assemblages in place, a postdevelopment project of hygiene seeks to identify how specific practices, materialities, spatialities, and socialities are *already working* to keep health. Subsequent projects would then be able to identify the specific trajectories of hygiene (or water, or sanitation) that require ‘tweaking’ or reassembling. These may or may not require plumbed household toilets. For example, a study examining the relationship between water supply, sanitation and child growth in rural China concluded that improvement in water supply was statistically related to improved child growth outcomes (presumably through reducing contamination), but the addition of flush toilets resulted in only marginally higher weights in children (Cheung, 1999). Households with ‘excreta present’ (which was not defined, but could mean the use of basins, potties, newspapers, or dirt floors as toilet spots for children) had slightly lower growth rates, but it was not statistically significant. What this means is that plumbed household toilets, in this context, do not seem to significantly improve hygiene in the sense of reducing childhood diseases that stunt growth. If clean water is part of the hygiene assemblage, the socio-spatial hygiene rules outlined previously seem to work

fairly well.

As yet no similar studies have been done in Qinghai, but we know that in Xining, the main cause of childhood death is pneumonia, followed by birth asphyxia, premature birth, congenital heart disease then diarrhoea (Liu and Yang, 2010). Given Cheung's research described above, and an understanding of how hygiene works in Xining residents of more simple circumstances, it is possible that the best 'tweaks' to the current hygiene assemblage may actually be ensuring clean water supply to all kinds of homes to enable washing (of hands, cooking utensils and crockery in particular). This of course is in the context of ongoing access to safe toilets, as well as continuing to provide low-cost healthcare for young children. I do not mean to argue that private toilets are bad or that some people are less worthy of them somehow. Rather, I am arguing that hygiene and sanitation solutions may look different from what we first expect. I am arguing for the importance of detailed research into current sanitation and hygiene assemblages in specific places, and an appreciation of the potential diversity that may arise. While open defecation may indeed be an issue in parts of south and south-east Asia, we cannot assume that all hygiene systems are inappropriate if they are different from those we see in the 'developed' world or those which our own bodies are most accustomed.

In this era of environmental crisis, it seems clear that privately owned water-based sanitation systems may *not* be our best option for sustainable and globally equitable hygiene futures. Currently, the majority of the world's water is used in agricultural and industrial production, with domestic use only accounting for about five percent (UNEP, 2008). Yet given the increasing levels of water stress and scarcity being experienced by communities all over the world (UNEP, 2008), it hardly seems helpful to continue promoting increased use of freshwater resources for private sanitation in places where water is already scarce — especially if other options are already being practiced and private maintenance is difficult. Practitioners advocating ecosan and dry toilets are already going down this line of thinking and this is great progress (Jewitt, 2011). But ecosan is not the only solution: my point in this paper is that we need to be *multiplying* hygiene and sanitation possibilities rather than looking for magic bullets. Through detailing the practices of people keeping hygiene in northwest China, I hope to add one more possibility to the table.

CONCLUSION

In the case of sanitation and hygiene, world progress is partly measured by the provision of private toilets. In this paper, I have argued that this assumption is typical of development strategies, where the norms of the minority world are imagined as universally desirable and approaches to transformation and change assume homogenisation. In contrast, this paper has sought to *start with what is there*, mapping out the hygiene assemblages already working to ‘guard life’ or keep health for those in simple circumstances. Using these appreciative conceptual mappings, we then might *multiply future possibilities* by taking these diverse forms of hygiene seriously, and amplifying them by making them known to a wider audience. This does not mean romanticising the difficulties of those living in poverty, but neither does it mean eliding the simple circumstances of toilet-less families in places like Xining with the sanitation and disease horrors of overcrowded refugee camps or the complex issues of open defecation in parts of south Asia. This is what a postdevelopment project of hygiene and sanitation might look like: directly engaging with the discursive politics of development, and working to amplify the diversity of hygiene and sanitation realities considered possible and feasible, and thus what is enacted through development projects. And these ‘development projects’ might not only be enacted in the majority world: a local council in Sydney, Australia is tweaking their sanitation assemblage by offering training in a form of *baniao*, encouraging people to reduce faecal matter and disposable nappies in their municipal waste.¹² By taking seriously the hygiene assemblages of the majority world, we might better act as co-workers in sanitation and hygiene change globally, towards a future that may look quite different from what we have been able to imagine so far.

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¹ I draw on John Law's discussion of assemblages (2004), where he uses 'method assemblage' when he wants to refer to the extended hinterlands implicated in methods: the 'fluidities, leakages and entanglements that make up the hinterland of research' (2004: 41). In the same way, I use hygiene assemblage to refer more broadly to the bundle of spatialities, socialities, materialities and entanglements that make up the hinterlands of hygiene and are themselves both implicated in and produced by hygiene practices and beliefs. These assemblages are:

...a process of bundling, of assembling, or better of recursive self-assembling in which the elements put together are not fixed in shape, do not belong to a larger pre-given list but are constructed at least in part as they are entangled together. This means that there can be no fixed formula or general rules for determining good and bad bundles and that... [the assemblage] grows out of but also *creates* its hinterlands which shift in shape as well as being largely tacit, unclear and impure (Law 2004:42, his emphasis).

I prefer this term to just straight 'hygiene practice' as it signals a departure from the fixed rules of good hygiene which often underlie discussions of WASH, unchallenged. It also allows one to consider the interaction and co-production of discourse and materiality within hygiene, a key theme of this paper.

² See <http://youtu.be/jQCqNop3CIg> Last accessed 21 May 2014.

³ Citing a popular infographic published by the UN and circulated by social media, available at: <http://www.un.org/millenniumgoals/mdgmomentum/images/MDG-infographic-7.jpg>. Last accessed 24 June 2014.

⁴ Literally, 'to hold out to urinate'. Refers to the action of grasping a baby or small child under the thighs and holding them in a squat like position to urinate or defecate.

⁵ The interviews were in Mandarin Chinese, with a student helper present to assist me with my Mandarin when things got too complex, sometimes using English words, and sometimes just rewording or pronouncing things clearly to match my fluency level. The recorded interviews were transcribed and translated by language students to enable quicker data analysis, although any direct quotes are my own translations direct from the recordings.

⁶ Before this age, strips of cloth are tucked in the split-crotch pants to catch any 'misses'.

⁷ For a bowel movement, a piece of newspaper might be used in addition to the floor or basin.

⁸ I use pseudonyms throughout this paper.

⁹ As voted by readers of *The Economist Intelligent Life* after an article in *The Economist* claiming this century has not produced anything half as useful. See Valery, N. (2012) 'The flush toilet is the greatest invention' *The Economist Intelligent Life*. <http://moreintelligentlife.com/content/ideas/flush-toilet-greatest-invention> Last accessed June 17 2014.

¹⁰ See <http://www.who.int/topics/sanitation/en/> Last accessed June 17 2014.

¹¹ Traditionally these courtyard homes would have been owned by one family, with all the sons and their families living in various rooms within the home.

¹² Manly Council Waste Committee, Minutes of April 2011 meeting, Manly, NSW, 2011. Available at www.manly.nsw.gov.au/IgnitionSuite/-uploads/docs. Last accessed 7 July 2012. See also <http://www.manly.nsw.gov.au/environment/waste/how-can-i-reduce--manage-my-waste/> where residents are invited to book a consultation on alternatives to disposable nappies, last accessed 20 June 2014.

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