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Numbers and the natural history of imagining the self in Taiwan and China

**Article (Accepted version)
(Refereed)**

Original citation:

Stafford, Charles (2009) Numbers and the natural history of imagining the self in Taiwan and China. [Ethnos](#), 74 (1). pp. 110-126.

DOI: [10.1080/00141840902751238](https://doi.org/10.1080/00141840902751238)

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Available in LSE Research Online: February 2011

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Among the imaginative projects in which we routinely engage, telling stories about ourselves must surely rank as one of the most important. In a thought-provoking paper on this topic, Daniel Dennett even goes so far as to define the self as a “center of narrative gravity”. As he reminds us, a centre of gravity is not a physical thing (like an atom) but rather a theorist’s useful fiction. It follows from this that there is no *real* self out there – one which might, for instance, be found in some part of the brain. All we can hope to “locate” is the self constructed by us from the fragments of our lives. Dennett concludes that:

... we are virtuoso novelists, who find ourselves engaged in all sorts of behavior, more or less unified, but sometimes disunified, and we always put the best “faces” on it we can. We try to make all of our material cohere into a single good story. And that story is our autobiography (1992:114).

This sounds highly creative: the self as a work of art. Indeed, to take up the argument of the editors in their Introduction, the example of autobiography might help us move away from overly “holistic” or “culturalist” (and thus potentially deterministic) accounts of the human imagination – which tend to aggregate up to collective experience. Individual life stories, by contrast, are surely always idiosyncratic in *some* way. But exactly how do we learn who we are, and find the tools with which to construct (for ourselves, for others) the stories of our lives? As a cognitive scientist, Dennett approaches consciousness and self-awareness as evolved attributes of human minds/brains. Needless to say, for him the empirical reality of how we come to tell stories about ourselves is hugely complex. In what follows, I will also adopt a naturalistic approach to the issue, albeit a simpler (and more familiarly anthropological) one. I want to outline how certain “artefacts” or technologies of the Chinese long term – those linked to numbers and numerology – relate to the imaginative projects of people in China and Taiwan.

Numbers? Many readers may find the idea of associating numbers with imagination and with autobiography somewhat counterintuitive. Surely numbers are intrinsically dull: the grey stuff of accountancy, bureaucracy and science. By contrast, our life stories seem precisely to defy quantification. They help us resist – sometimes very consciously – being “reduced to a number”. However in the Chinese tradition, numbers themselves may be seen as creative, meaningful, even poetic things, and they figure prominently in accounts of the self. Furthermore, although numbers might be said to restrict, in some senses, what can be said about things, restriction as such is not seen as a bad (that is, in this context, “anti-imaginative”) thing. Briefly, although imagination is often associated, at least in the Western folk view, with freedom, openness and improvisation, in the Chinese tradition one (also) finds the idea that imagination is best explored within *constraints*. This is famously so in Chinese calligraphy, where exact copying is the (very

long) prelude to experimentation – which itself remains heavily rule-bound (Yen 2005). Moreover, the constraining rules of creativity in Chinese art and culture are often numerical or “structural” in some sense – e.g. in classical poetry, where each word, however brilliantly unexpected, has to fit what is effectively a mathematical plan.¹

If this seems too abstract (and perhaps overly focused on classical traditions), I should stress that my main points about numbers, imagination and self-narration are straightforwardly ethnographic ones. The people I’ve met during fieldwork in rural China and Taiwan have tended to be very interested in numbers, which appear to fire their imaginations (in ways that I personally find surprising). This is partly because numbers play an important role in certain Chinese stories about reality, about what is possible, and about what is likely. Popular numerical “tools” of various kinds – artefacts of Chinese cultural history – are put to use by them in their working and private lives. In short, numerical understandings are a crucial part of the framework through which they interpret reality and imagine or “calculate” themselves as part of it.

The importance of numbers in South Bridge

In the southern Taiwanese community of South Bridge, Mr and Mrs Chen sell cold teas and iced tofu sweets from a small stand in the central plaza in front of the main village temple.² They are business people, so it is hardly surprising that they are numerate, nor is it surprising that they are interested in the numerical bottom line. Every day after work, having had a shower, Mrs Chen counts up – with pleasure, she says – the New Taiwan Dollars handed over by her customers. The cash is then deposited in a farmer’s association account from where most of it, until recently, has been used to support Mrs Chen’s son at university. There is nothing obviously profound or “philosophical” about the use of numbers in activities such as calculating prices, counting income, or scanning account balances for errors. These techniques of quantification are part of Mrs Chen’s

¹ In classical poetry there are rules about the numbers of characters (and thus syllables) in a line, but also strict rules – which are effectively “structural” and/or mathematical – governing the relationships between the “tones” of the characters/lines in a verse. (As I discuss below, Chinese is a tonal language in which rising, falling, etc., tones help determine the meaning of individual syllables/words.) This makes things much *harder* for poets, because it heavily restricts their choice of words.

² In order to project the privacy of informants, all place and personal names, and some personal details, have been changed. My fieldwork in South Bridge was carried out in 2000-2001 during an ESRC-funded project on numeracy and folk accounting in China and Taiwan (project number R000239088). There are, of course, very significant differences between the popular culture of rural Taiwan and rural China, including differences in numerical culture, but in this brief paper I am unable to explore these differences in much depth (although see below). I am extremely grateful to the people who facilitated my research, including colleagues at National Tsing Hua University and the people of South Bridge itself, most especially the very warm and generous couple who are referred to in this paper as “Mr and Mrs Chen”. I discuss their circumstances in more detail in Stafford 2006.

ordinary working life, comparable in some respects to the mundane technologies (of freezing, ice-blending, electrical lighting, etc.) that help make her business possible.

Having said this, numerical reasoning clearly *is* one of the means through which individuals (including sellers of iced tofu sweets) develop a picture – sometimes a very sophisticated one – of what is going on with their businesses and more generally with their lives. The routine of reckoning profits, for example, has helped Mrs Chen develop a good understanding of the relevant business cycles (and theirs, as it happens, is a highly seasonal business). Meanwhile, counting up and parcelling out money for her son’s education helps her quantify something complex – and, in the event, highly emotional – about the link between work and investments made in her son’s future. In short, simple arithmetic is, for Mrs Chen, a way of thinking about and describing important economic and social realities.

But there’s more. As I have discussed in other publications, numbers are rarely just numbers in China and Taiwan – neutral tools for description and evaluation. For they are central to some of the most important Chinese/Taiwanese cultural narratives, and an interlinked range of special uses of numbers is highly salient in everyday life (Stafford 2003, 2004, 2006, 2007). The first, very obvious, dimension of this is the use of numbers as markers of “value” – e.g. to set prices, or to denominate profit and loss. If the people I’ve met during fieldwork are keenly interested in numbers, it is undoubtedly in part because of the explicit and unremitting link drawn between numbers, money, economic calculation, profit and wealth.

Beyond this, numbers are seen to say something interesting about the predictability and the randomness of life. Consider three brief illustrations of this, observed at the Chen’s cold tea stand. First, I’ve seen a friend of theirs carry out *suan bihua*, “calculating the brush-strokes”. This is a relatively simple kind of fortune-telling in which the numbers of strokes in the characters of a person’s name are used to make predictions about her future. In certain cases, names are actually changed so that these brush-stroke calculations will suggest more auspicious outcomes. (Note that all Chinese divination techniques are numerical/mathematical in some sense.) Second, I’ve seen the Chens prepare offerings for the deities and other spirits (especially ancestors) they worship at their home and in temples. Such offerings are always carefully counted out – three of this, four of that, six of the other – and indeed almost all aspects of Chinese popular religious practice are heavily numericized in this way. If the numbers change, the meaning of a particular religious act is fundamentally altered. Third, I’ve seen the Chens doing what most people in Taiwan do from time to time: selecting numbers for the lottery. This is a kind of obsession, and techniques for arriving at winning numbers are a regular topic of conversation in streets and markets. As everyone knows, playing the lottery is not completely unlike doing religion, and in fact religious means are often used to enhance one’s chances. Sometimes winning numbers are revealed, for example, in incense smoke as it floats over an altar and is “consumed” by a god.

I could give more examples, but a pattern already emerges. In addition to being a way of talking about “value”, numbers are a prominent aspect of Chinese practices related to

luck and destiny. They are revelatory of human “fate”, and they play a key role in attempts to predict, manipulate and inoculate oneself against the course of events. Note that such uses of numbers are often explicitly linked back to the use of numbers as markers of value. A good deal of divination and religious practice is, unsurprisingly, directed towards enhancing wealth and gaining financial security.

If numbers are important because they relate to “value” and “fate”, of equal importance is their relation to a third term which I will gloss as “logic”. It is hard to summarise this briefly. But in China the logic of reality is, in some basic sense, rendered numerically. One simple illustration is the frequent use, in official and popular culture, of numbered lists which clarify the field of play in a given domain: e.g. the slogan “Three Principles of the People” (which sums up a political philosophy) or the designation “Ten-Star Civilized Household” (which commends households for proper civility). Numericization along these lines generates a simple logical framework for thinking. However there are much more abstract versions of the same thing, which might be labelled “structuralist”. Briefly, Chinese culture provides an excellent illustration of Levi-Strauss’s thesis about the role of structural logics – which may, precisely, be seen as mathematical – in human thought. Explicitly oppositional/dialectical logics are found almost everywhere one looks: in poetry, architecture, popular religion, myth, kinship, etc. Furthermore, this structuralist way of expressing the logic of the world and the universe is often explicitly numericized or made mathematical – as in the Yi Jing, and in the use of numbers in the “twinned couplets” (*duilian*) of Chinese poetry. My point is that ordinary people regularly encounter this sophisticated use of numerical/mathematical/structuralist reasoning, and that it is a pervasive means of expressing the logic of reality.

Now let me return to the cold tea stand in South Bridge. In her working life, Mrs Chen deals with numbers on a routine level. But both in work and in the patterns of everyday communal activity that constantly interrupt her working time, she also experiences numbers in a range of more complex ways. Here (in divination, for instance) numbers are not merely practical tools for counting and calculating. They also say something meaningful – sometimes even poetic – about *value*, about the *fatefulness* of human experience, and about the *logic* of the universe. This means that to live with numbers is to live with a set of complex, and potentially very powerful, tools. How does this relate to imagination and self-narration? My claim is that numeracy is an important means through which people in rural China and Taiwan gain knowledge about themselves, and about the world around them. And when people like Mrs Chen tell stories about themselves, i.e. when they spin out the story of their lives, quantification is typically integral to the narrative.

Numbers in the story of Mrs Chen’s life

But I should be more specific, because everything I have said so far is consistent with a “culturalist” or “holistic” account of the Chinese numerical imagination. That is: Mrs Chen has undoubtedly mastered, to some extent, a repertoire of ideas from Chinese numerical culture – some of which, as it happens, are incredibly widely distributed across time and space. Holding these ideas is part of what makes people “be Chinese”. So

where does individualism (the room for creativity, or even idiosyncrasy) actually come in?

One point is that the kind of accounting, and life-accounting, I'm referring to is often imprecise. It is much looser and more "creative" than one might expect. For instance, although Mrs Chen counts her income daily it turns out that she does *not* actually reckon her expenses, nor do she and Mr Chen bother with any formal system of accounting at all for their business. As she told me, it's always small amounts of cash, and anyway it is "our own money", *ziji de qian*. Meanwhile, buying from and selling to others often involves a similar inexactness vis-à-vis price, e.g. a sense that arriving at a "good sounding number" (*haoting de shuzi*) – normally one that is auspicious or fair-sounding – may be more important than actually doing proper sums (cf. Stafford 2003). It isn't as if the numbers are determining the narrative here – in many cases it could, in fact, be said to be the other way around.

To give a more personal example of this fluidity, when Mrs Chen talks, as she often does, about the cost of her son's education, the numbers are clearly intended only as a rough, and evocative, guide. One day she told me it had cost NT\$2,000,000 to put their son through university, but the next day it had risen to NT\$3,000,000! This particular sum – however vague – is no doubt striking for Mrs Chen, a woman from a relatively poor background who as a child did back-breaking work in the salt fields around South Bridge. What also seems important to the Chens is the fact that their son, during his studies, has been very cautious in spending the money sent by his parents. They delight in listing the *prices* of things (such as noodles) in the city where he lives, against which their son's frugality is, of course, all the more striking. Mr Chen told me several times that it causes his heart to ache (*xinli hen tongku*) to know that his son has been so careful with their money, to the extent of sometimes failing to eat enough.

Of course, even these are well-known cultural stereotypes: the hard-working parents from a poor background who want something better for their son; the filial son who struggles dutifully to live up to his parents' expectations and to repay their support. And yet, as one gets into the details of Mrs Chen's (individual) case, interesting links emerge between numbers, money, gender, kinship, emotions – and imagination. Focusing on these links, I suggest, helps illuminate the space between "culturally-determined" (and thus very common) life trajectories and the uniqueness of individual narratives.

As I've noted elsewhere, Mr Chen has been involved in several different lines of business over the years, none of which has been entirely successful (Stafford 2007). However, his wife's business (of selling cold teas and iced tofu sweets) has worked out relatively well, so now the two of them rely on it entirely – more specifically, on the slow, steady, accumulation of profit as measured out in Mrs Chen's daily counting-up. They both told me (to return to a cultural stereotype) that in Taiwan "it is women who control the money" (*nuren guan qian*). One reason for this, they say, is that men like Mr Chen basically "cannot calculate/reckon" (*bu hui suan*) – meaning not that they are incapable of doing simple arithmetic, but rather that they find it harder than women to pursue profit, and also that they find it harder than women to be thrifty. More specifically, Mrs Chen

told me, her husband was inclined to spend money on cigarettes and collectable tea sets. Back in the days when they had no money at all, he “could not reckon” and save, she said, and the same remains true today. However, her son clearly *can* reckon, at least to the extent of being cautious with his parents’ hard-earned cash. If he needs to spend a significant sum, he always calls his mother (not his father) for approval. Similarly, Mrs Chen’s husband tells her if he wants to buy something, and she gives him the cash.

In extremely simple terms, then, the story of Mrs Chen’s life (as she tells it on at least *some* occasions, thus contributing to her own centre of narrative gravity) is one in which she works carefully, accumulating the money needed to send her son to university, while pushing against her husband’s (supposed) tendencies to buy and to spend. Emotional relations with her husband and son are clearly mediated by money. But in the *telling*, money becomes a numerical thing – thus linking her money-narrative up with other similarly numericised aspects of life experience, such as fortune telling, religious worship and gambling. For instance, her son’s academic success, of which she is hugely proud, is (obviously?) measured numerically – via his achievements in competitive examinations and his position in numerical class rankings, which in Taiwan are a focus of intense parental concern.

Then there is the fact that her beloved father was a spirit medium. Partly as a result of this she and her husband are to this day heavily immersed in the – highly numerological – world of Chinese/Taiwanese popular religion. As I noted above, numbers provide a way of talking about “fate” within this tradition, and of pinpointing and possibly altering individual, familial and communal destinies in the flow of time. But in religious life there is also accounting of a more mundane sort. As Mrs Chen explained to me, she and her husband have (reluctantly) become responsible, because of their deep respect for her father, for sustaining the rituals held at the altar where his spirit medium cult was based before his death. To this day, she therefore has to count up everything related to these religious observances (in effect, calculating the offerings), but she also has to do the final reckonings and act as organiser and chief accountant for all of the other participants, whether she wants to or not. Again, numbers are part of the story – sometimes rather obliquely but often in a strikingly central way – of her *emotional* relationship with her deceased father, as well as with her husband and her son.

It is interesting, then, that although social scientists might think of numbers primarily as a way of aggregating the (otherwise unmanageably diverse) experiences of individuals, for Mrs Chen numbers are one way of differentiating *her* story from everybody else’s. Virtually all Taiwanese parents spend money educating their children, of course, but the amount she has spent is possibly more than anybody she knows, and her son’s results have generally been as good as (and on occasion better than) those of any other young person from South Bridge. When Mr and Mrs Chen organise an event at her father’s altar, the numbers (of participants, of “visiting detities”, of offerings, of cash contributions) are part of the story – making *her* religious practice distinguishable, in quantity if not in quality, from that of her neighbours. Her personal accounting system, in short, helps her set herself apart, just as the accounting of diviners and “calculating destiny persons” (*suanmingren*) would ascribe to her, or to anybody else who bothered to

ask, a life trajectory which is unique. To put this differently, although numbers appear to aggregate things, restricting the scope for what can be said (because they simply tell us “how things are” once everything is added up), in reality numbers may equally help *disaggregate* individuals from collectives and may also help them to see (and to say) something new about their lives. An interesting (and, it seems, psychologically compelling) illustration of this is found in lottery numbers: more or less everyone in South Bridge has a ticket but to have the ticket with the winning numbers is, of course, a different thing altogether.

The actual process of learning numbers

I’ve been suggesting, in brief, that people like Mrs Chen sometimes “narrate the self numerically”. How, then, should anthropologists go about studying this phenomenon? Obviously we can, among other things, describe the everyday uses of numeracy in places like South Bridge in order to explicate China’s rich numerical culture. We can look in detail at the cases of people like Mrs Chen and hear what they have to say for themselves. However this may not, in itself, get us very far with the question of how they actually *learn* what they know about numbers, or the more general question of what makes human numerical learning possible – either in cognitive or historical terms.

Here I want to mention the work of the cultural psychologist Michael Cole (1996). Inspired by Vygotskian models of cognitive development, Cole suggests that studies of psychological phenomena should be made with reference to three interlinked developmental processes. The first, *phylogenesis*, refers to species evolution, in this instance to the evolution of cognitive abilities and constraints in humans. Numerical thinking, for its part, depends not only on neurophysiological realities put in place by evolution but also on evolved domain-specific abilities which dispose us to respond to “number” and numerical information in our environments in particular ways (see Dehaene 1988, Butterworth 1999). Cole’s second process, *ontogenesis*, refers to the development of individual organisms over time. For example, on the road to mastering complex numerical reasoning, children obviously go through a long process of learning. This involves interactions not only with physical objects in the natural world but also with other kinds of “things” such as language, school-based mathematics instruction and electronic calculators (see Karmiloff-Smith 1996). These bring us to Cole’s third developmental process: the *cultural-historical*. Briefly, over the course of history, human societies/cultures have produced various tools or artefacts – such as languages, schools, electronic calculators – which, in turn, profoundly mediate individual cognitive development, including the acquisition of “number”.

Mediations of this kind are intrinsic to Cole’s model. That is, his three developmental processes are intimately linked to one another, and none can be said to operate independently of the others. For example, a Chinese child’s growing understanding of number (an illustration of ontogenetic development) is mediated not only by her evolved cognitive abilities (an illustration of phylogenetic development) but also by her exposure to artefacts (an illustration of cultural-historical development) such as Chinese counting terms and a popular cosmology in which, as I’ve said, numbers relate to “value”, “fate”

and “logic”. But the point isn’t simply that the child is the *outcome* of prior phylogenetic and cultural-historical processes. On the contrary, she is – through activity and ongoing practice in the world – simultaneously the producer and transformer of cultural knowledge. Otherwise, where would the artefacts have come from in the first place?³

Consider the influence of one especially important cultural-historical artefact, language, in a bit more detail. We know, from the psychological literature, that language use and the development of numeracy are intimately linked. This is illustrated in Karen Fuson’s fascinating research on children’s counting, in which she describes the complex relationship between counting words and children’s developing grasp of numerosity and numerical logics (Fuson 1988). As might be expected, features of particular languages, e.g. the structure of their counting words, have an impact on children’s acquisition of numeracy. Now it happens that the Chinese language – an artefact of Chinese history – has a very logical system of counting words, one which is entirely consistent with the base-ten logic used in most modern arithmetic. As a result, this language is a positive aid to the development of numeracy. It is easier for a child to learn to count to twenty, and on to one hundred, in Chinese than it is in, say, English. As a result, the psychologists argue, Chinese children (and those working in related languages such as Japanese and Korean) not only generally learn how to count to twenty and to one hundred sooner than their counterparts elsewhere, they also develop a good grasp of base-ten logic, and therefore of simple arithmetic, at a younger age (Geary 1994).

But counting words are not the only feature of the Chinese language which relates to the development of numerical thinking. As I’ve pointed out elsewhere, many such features – including the average speed of pronunciation of counting words, the obligatory use of “measure words” when counting objects, and the numerical aspects of the Chinese writing system – may influence, in different ways, a child’s developing relationship to numerical knowledge (Stafford 2003). Some of these influences are not immediately obvious. For example, Chinese is a tonal language and this means that number words (in common with all words) are, if you like, sung rather than spoken. That is, each of them is enunciated with a particular pitch and pattern. In Mandarin, one is *yi*, spoken with the flat first tone. Two is *er*, spoken with the falling fourth tone. Five is *wu*, spoken with the wavy third tone. Ten is *shi*, spoken with the rising second tone. This tonality also means that number combinations, e.g. 1949, have a characteristic “melody” which may, in certain contexts, make them more memorable. Ease of memorisation, in turn, may have an impact on the ability of individuals to do mental (rather than written) calculations. The effect of this is probably incredibly small, but it nevertheless exists as a micro-influence on numerical cognition.

The point I’m getting at is that in order to be comprehensive, the anthropology of numeracy (and by extension, of the numerical imagination) might need a framework

³ She is also, by implication, a contributor to the pattern of human evolution. Remember, for example, that cultural-historical artefacts – collective products of human cognition and therefore also, equally, of ontogenesis – may be seen, in evolutionary terms, as fitness-increasing or fitness-decreasing.

which is more *microscopic* than the standard anthropological one (which rarely deals with variables as small as the tonality of counting terms, cf. Stafford forthcoming). At the same time, it might need to be more *macroscopic* – prepared to take long-term historical and natural historical processes into account. On the natural historical said, Cole’s model of learning incorporates, as I’ve said, phylogenesis, i.e. species evolution, recognising the cognitive endowments humans have as a result of it. This is not the kind of thing that socio-cultural anthropologists are necessarily happy to engage with, but I suspect that Cole’s nuanced account (in which phylogenesis, ontogenesis and cultural-historical developments are intrinsically interlinked) would get a sympathetic reading from most of them.

In any case, a child learning to count and add (in Taiwan or anywhere else) undoubtedly encounters cultural-historical artefacts (technologies) of different kinds along the way, as every anthropologist would expect. And of course it is important to stress that such artefacts were not always there, and instead have emerged or had salience during particular historical moments. For example, it happens that Mrs Chen is not a native Mandarin speaker. She speaks “Taiwanese” (i.e. the southern Min or “Hokkien” dialect spoken by the majority of people in Taiwan thanks to the migration, several hundred years ago, of their ancestors from Fujian). This means that her earliest childhood experience was in fact *not* of the numerical counting terms I have just described. The southern Min dialect uses different terms, not to mention a different set of tones. When Ms Chen eventually went to elementary school, as she did for a few years, it happens that she learned Mandarin counting terms (and was taught mathematics in Mandarin) because at that time the “national language” was the basis for instruction. But this too is down to Taiwan’s history. If it had not been for the defeat of the Japanese (the colonisers of Taiwan between 1895 and 1945) in World War II, she might well have learned to count in Japanese! And if the KMT had not managed to suppress the movement for Taiwanese independence after the war, her schooling might have been in “Taiwanese”. And so on.

Similarly, the *evaluation* of numerical knowledge and its artefacts must be seen historically. This is a very complex topic, so let me focus here simply on one aspect of it. I’ve described the Chen’s involvement in popular religion and their use of ritual and divination as means of trying to understand, and sometimes manipulate, fate. Their religious practices draw heavily on popular versions of Chinese cosmologies which, as I’ve said, are numerological in various senses. However, as is well known, these cosmologies and religious practices came under heavy and sustained attack during the 19th and 20th centuries precisely because they were held to be great mystifiers of the common people. Far from helping people grasp reality, they were held to be superstitions which had significantly contributed to the generally desperate condition of the Chinese nation. In many quarters it was suggested that science (or to put it differently, the numerical/empirical logics of modern science, engineering and technology) would have to replace the mystifications of China’s cultural heritage before China could be saved. As it happens, the implications of this ideological battle in Taiwan and China, and for religious practice in both places – and, of course, for the Taiwanese and Chinese individuals living at particular historical moments – have been strikingly different.

Conclusion

The subject of mystification takes me back to the idea of the self as a centre of narrative gravity. For Dennett, the self is a useful fiction, a work of the narrative imagination. In which case, how is this ability to spin self-narratives actually enabled and constrained? I've been discussing this primarily as a psychological question. But from a Marxian or Durkheimian (and, for that matter, Hegelian) perspective, one might of course ask how self-narration is constrained by the realities of history, including the history of our position within a society and of our enculturation into a particular (historically determined) *habitus*.⁴ In short: how *imaginative* is it, really?

From the evidence of her direct speech, the definitive story of Mrs Chen's life is closely related to three things. First, there is her hard-won (albeit modest) success as a businesswoman. While her husband went through a number of different careers, as I've said, she stuck with one thing and very carefully saved all the income. Second, there is her religious commitment as a devotee of certain deities and her membership, with her husband, in a Taiwanese religious sect. As a young mother, Mrs Chen became very seriously ill, and she and her husband now believe that she was saved only by their deep religious faith, which continues to be a huge influence on their lives. Third, there is the strength of her family, and in particular the success of her son in Taiwan's highly competitive educational environment – something which has been made possible, in her view, precisely by her careful running of the family business and her deep religious commitment. Without wishing to belabour the point again, numerical conceptualisations lie behind all three of these aspects of her life: i.e. her economics, her religion, her kinship.

Still, all the main aspects of her life – her immersion in work, religion, family – can be construed as heavily shaped by the ideologies of modern Taiwanese capitalism, and by the classic mystifications of Chinese religion and kinship. In fact, Mrs Chen could be said to be a textbook example of the Chinese mother who transforms her own exploitation at the hands of patriarchal kinship into the reproduction (primarily through investments in her son) of this very same system (Sangren 2003). And although she works for herself, it could certainly be argued that Mrs Chen – as a very small trader from a poor background within Taiwan's economy – is simply party to her own self-exploitation. This is made bearable, it could be said, by the mystifications of the religious practice into which she and her husband invest so much time, energy and money. To put this differently: although Mrs Chen may be very happy with the trajectory of her life, this could be interpreted merely as a symptom of the effectiveness of her indoctrination into a set of (self-exploitative) aspirations in the spheres of kinship, religion and economy.

⁴ Pierre Bourdieu (2000) and Ghassan Hage (2003) have both written very movingly on the essentially Marxist question of what people can hope to make of their lives, given the circumstances in which they live and the (socio-economic and ideological) constraints placed upon them.

Most of my discussion, however, has implied that numerical knowledge of different kinds actually *does* help people to comprehend various realities, and to develop a picture of where they really stand in the scheme of things. For Mrs Chen, this kind of “self-knowledge” might develop through arithmetic means such as reckoning price and value, or – in a rather more poetic sense – through her contemplation of folk cosmologies in which the fatefulness of her existence is rendered numerically.

Of course, whereas the former might be seen as a purely factual or “scientific” use of numbers, intended to show how things really are, the latter, as I’ve just noted, has been repeatedly attacked in China and Taiwan as a means of hiding socio-economic realities. In fact, most of the people I’ve known in rural China and Taiwan have seemed to hold a rather fuzzy distinction between what might be called “religious” and “scientific” uses of numbers. Obviously, they understand that, for example, school-based mathematics and numerological divination are two very different things. They know that religion is supposed to be “superstition” and that science is supposed to be truth. And yet popular Chinese cosmologies (which, again, tend towards the numerological) are felt to be respectable in part because they are thought to be rigorously logical – they seek to describe, rather precisely, and through the use of calculation, the mechanics of the universe and the place of people within it. They represent a naturalistic philosophy of a kind, and many people are attracted to this exactly because it seems equally scientific *and* religious (or metaphysical).⁵ By extension, what a number is – for example, whether it is a rigorously objective thing or a poetic one – seems to be unclear. This lack of definitional clarity (something we *don’t* tend to associate with numbers) arguably makes numerical artefacts particularly suitable as tools for imaginative projects in China.

Indeed, from a cognitive perspective, one of the striking things about the everyday experiences of people like Mrs Chen is their ability to hold in mind, more or less simultaneously, very different uses and meanings and evaluations of “number”. One result of this is that mundane numerical practices such as counting up, which seem to simply represent objective reality as it is, may come to have a highly complex range of associations – financial, poetic, religious, emotional. And, as I’ve been suggesting, they are one of the ways in which people like Mrs Chen begin to construct the fiction of the self.

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⁵ This popular view is not completely far-fetched, and indeed a similar point was made by Needham in his account of Chinese science; he suggests that certain aspects of popular belief, and Daoism in particular, may be said to have contributed to the advancement of Chinese science.

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