

# Distribution and denomination in Papua New Guinea: a field method and its results

Anthony J. Pickles

To cite this article: Anthony J. Pickles (2020) Distribution and denomination in Papua New Guinea: a field method and its results, Journal of Cultural Economy, 13:2, 185-206, DOI: [10.1080/17530350.2019.1684338](https://doi.org/10.1080/17530350.2019.1684338)

To link to this article: <https://doi.org/10.1080/17530350.2019.1684338>



© 2019 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 14 Nov 2019.



Submit your article to this journal [↗](#)



Article views: 201



View related articles [↗](#)



View Crossmark data [↗](#)

# Distribution and denomination in Papua New Guinea: a field method and its results

Anthony J. Pickles

Department of Social Anthropology, University of Cambridge, Cambridge, UK

## ABSTRACT

In highland Papua New Guinea wealth distribution after a windfall is typically concealed by the donor. This trend was made easier by the introduction of state-issued currency, such that wealth reckoning and especially distribution preferences are often shrouded in mystery. The researcher set out to learn how denomination structures those money transfers by employing a semi-structured interview method centered around hypothetical distributions based on everyday encounters. Across four tailored ‘scenarios,’ fifteen Papua New Guinean participants dwelt on who to give money to, why, and under what conditions. Observations are made about the driving forces in distribution practices, the pecuniary conception of certain relationships’ importance, and relationships that turn on local conceptions of how to capitalize on the way money operates, thus demonstrating the utility of a culturally sensitive quantitative methodology.

## ARTICLE HISTORY

Received 17 October 2018



Accepted 21 April 2019

## KEYWORDS

Denomination; distribution; demand sharing; Papua New Guinea; fieldwork methods

## Article

Social studies of money are a vibrant and growing field of interdisciplinary inquiry, one that re-inscribes money with the social relations it is often perceived to lack (see Dodd 2014, Nelms and Maurer 2014, Holbraad 2017). Pioneers in sociology (Zelizer 1997), literary criticism (Shell 1995), law (Desan 2005) and anthropology (Guyer 2004) have removed the veil of economic reductionism and described how money economies institute their values and biases, and how these attributes change across space, over time and within populations. This paper investigates hidden distribution practices with an eye towards a structuring factor affecting the cultural malleability of money: uneven access to denominations. By denomination I refer to the way that money is instantiated as cash in specific units of value (e.g. 1, 2, 5, 10, 20, 50, and 100), the mathematical relationship between those units, and the asserted substitutability of one such unit for any other combination of units bearing the same numerical value. Denominations *appear* static in their numerical relationship to one another; they are unbending, hard numbers, but insights from both social psychology and economics have demonstrated how the lived reality of denomination confounds this adage (e.g. Kameda *et al* 2002, Sargent and Velde 2002, Collins *et al.* 2009). Following in the tradition of anthropological enquiry, the present contribution stresses culturally generative possibilities, particularly those created in interaction with the structuring role of monetary denomination in livelihood strategy (see also Pickles 2013a, 2017).

**CONTACT** Anthony J. Pickles  [ajp225@cam.ac.uk](mailto:ajp225@cam.ac.uk)  Department of Social Anthropology, Free School Lane, Cambridge, UK, CB2 3RF

© 2019 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

The article pushes experiments with enumeration to the forefront of its description, foregrounding how field methods can occupy the numerical while continuing to champion human specificity (see also Verran 2001, Pickles 2009, Stafford 2009). In this way I hope to complement anthropological investigations of number that derive their analytical purchase from mythical exegesis or historical documentation (e.g. Mimica 1988, Guyer 2004). Hann argues we need anthropological thinking to create insightful, reflective quantifications (2006, p. 220); in turn we would offer anthropologically astute tools to academic practices that lie beyond our current disciplinary boundaries, and open wider domains of interdisciplinary collaboration (e.g. Larøi *et al* 2014). It is by now well-established that numbers are culturally achieved, variable, but invariably fundamental, and here I try to generate understanding from the process of adapting one's methods to account for our subjects' numerical sensibilities.

I am motivated to do so by a combination of personal experience and fieldwork interests. My field work in Papua New Guinea focuses on the importance of gambling in contemporary economic life when gambling was once unknown in the region (Pickles 2019). Before getting to the field I therefore already had a broad interest in how transactions were conceptualized and, given that I found much of gambling winnings was said to be distributed, I became increasingly preoccupied with how winners calculated their distributions. When I investigated the importance of denominational thinking in transactions, I felt limited by intuitive methods, eventually trying various methodological prompts. I was emboldened to attempt to derive ethnographic insight from numerical methods because I had previously conducted a reanalysis of the quantitative research of the Cambridge Anthropological Expedition to Torres Straits in 1898 in the light of later ethnographic material from the region (Pickles 2009). In the knowledge that Papua New Guinea was home to highly original numerical practices (e.g. Biersack 1982, Wassman and Dasen 1994), I was quite sure that an ethnographically informed method that prompted numerical reflection would yield important data. Those methodological prompts that form the basis of this article concentrated on who specific denominations are given to and what relationship these denominations have to the overall quantities transferred during distribution.<sup>1</sup>

I devised a set of scenarios in a task that I called *skelim gem* (lit. 'measuring/deciphering/distributing game'<sup>2</sup>) in the lingua franca Tok Pisin. It consists of simplified versions of real life town situations I encountered such as coming across people and groups on the street, and negotiating distributions during lifecycle rituals, and what I imagined to be logical inversions of those encounters, or disjunctively unusual situations. These situations challenged people to think strategically about their distributions while dealing with the stimulus of limiting denominations. The game gave me a range of prompts and problems, at which point I could ask questions in order to get at the principles and/or pragmatics people brought to bear upon their distribution practices. It was both very quantitative and involved a good deal of reflective discussion that invited participants to become self-analysts in understanding the challenges that denominations pose.

The method worked best as a prompt for reflection and discussion. People openly speculated simultaneously on the nature of their relationships to specific people and to specific monies. Over the course of these semi-structured explorations I learnt how people ranked the importance of distributing to different kinds of people, the expression and acknowledgement of the public gaze through careful use of denomination, the gendering of denominations and their use; about the threshold denomination K5 and its use as a marker of significance, the 'earmarking' of large denominations and strategies to keep hold of them (see Zelizer 1997); the importance of gambling friends and denominations appropriate to them, the balance between desired gifting in Marcel Mauss' sense and the importance of physical presence as a prompt to 'demand sharing;' and the importance of small denominations as an enabler to flexible decision-making. I am quite certain that without the *skelim gem* my conception of Papua New Guinean currency pragmatics would have been seriously impoverished. This article therefore has a double focus: describing distribution as it was revealed through my findings and highlighting when denomination mattered to it; and, relating the utility of this kind of method for anthropological fieldwork. I begin therefore with a description

of the continuing importance and complexity of distribution practices in this part of Papua New Guinea and the competing imperatives that enliven it.

## The ethnographic context

Male dominated ceremonial live pig, cooked pork and shell wealth distributions populate the initial economic anthropological literature of Highland Papua New Guinea of the 1960s (A. Strathern 1969, 1971). A vast and complex body of work on economics, exchange, and sharing in the PNG Highlands has since emerged (see Pickles 2019). The most palpable and persistent trope across core Highland PNG societies over time is the strong focus on the aggregation and distribution of wealth objects. The centrality of aggregation and distribution has come to be signified by the term ‘gift exchange’, or more critically, ‘so-called gift exchange’ (M. Strathern 1991, see also Pickles *in press*). The indissolubility of ‘gift exchange’ (or more accurately: reciprocally entangled wealth transfers) with personhood formation, gender distinctions, cosmology and even space-time in Papua New Guinea cosmologies have had a profound effect upon anthropological representations of the economy and its embeddedness in the lived experience of people well beyond the region. In this particular case, I will focus upon how distribution manifests decision-making and people’s always taxing imperatives toward either demonstrating venerated values or fulfilling their own and their close kin’s material needs and desires.

While some aggregation-exchange-distribution formats have long since disappeared (Stewart and Strathern 2002), mortuary and bridewealth payments have ballooned, while political campaigns, and school fee and compensation payments have become new avenues and now occupy much of people’s attention. Over the same period the media of exchange have narrowed from an array of transactables that included cuscus pelts, feathers, dog’s teeth, pig tusks, pearl shells, cowries and snail shells to primarily focus upon money along with pork and/or other cooked meats, live pigs, net bags and garden produce. Discussions of events and of everyday life have remained fiercely financial even if the kinds of occasions and even patterns of distribution have diverged (see Sexton 1986, Akin and Robbins 1999, Martin 2013). For all the changes wrought upon PNG Highlanders by exogenous forces and their own experimental gestalt, the centrality of transaction and its capacity to elicit meaning is steadfast.

One constant theme in the regional literature at large and an inescapable part of large scale distributions is the strong tension between the desire to stand out and the need to demonstrate equality (e.g. Read 1959). This tension plays out intensely as wealth is allocated, where fear of recipients’ dissatisfaction can be crippling (Leroy 1979). In earlier publications I have showcased the contemporary importance of pockets in conjunction with concealable cash in efforts to manipulate expectations and thus exceed them with your donations (Pickles 2013a); I have also described how electronic spreadsheets are used by some enterprising PNG Highlanders to strip valuables of the affective hold they have on recipients and impose equality (Pickles 2017); lately I discuss how street sales and centralized markets contribute to the specialization of emergent relationship-contriving transaction practices (Pickles 2019). In each of these publications and in the present effort, I try to elicit the dynamics of innovation that are an inexorable part of transaction practices and the tensions underlying them in Highland Papua New Guinea, and which make themselves abundantly apparent in the urban Melanesian experience.

Urban Papua New Guinea places particular financial constraints on its residents, provoking novel social forms (Rew 1974, Oram 1976, Goddard 2005). Famously Marilyn Strathern used the title of *No Money on Our Skins* to draw attention to the prominence of financial pressures in Highlanders’ experience of their capital city (M. Strathern 1975). Urban life for the migrant is characterized then, and today, by the dependent visiting relative from the village who must be sated, and by frequent chance encounters and the ensuing need to maintain and manage a great number of small-scale give-and-take relationships. The result (for most) is a perennial shortage of ready cash, or money on their skins. What is more, urban Papua New Guineans experience with sources of cash

money has more ups and downs than the average. Unexpected windfalls come from remittances, corruption, gambling, and salaries that go unpaid over months or years and are suddenly back paid in part or in full.

An acute generalized uncertainty about money centers on where it is sourced; how much one attained; was it already spent? And no wonder, because today's windfalls are far more valuable and thus potent than the windfalls of game from hunting and livestock from feasting that predate them (cf. Rappaport 1984). The cost of bridewealth payments is the main event used to track this inflationary process in both my urban and my rural field site. Mothers of married daughters described a tripling, quadrupling or quintupling of monetary costs between their own bridewealth and their daughters. If the daughter had more education than the mother, one could expect even more. It is beyond my capabilities to assess the real cost differences across generations given the different valuables used, but everyone is aware that the events have become more expensive with respect to purchasing power. Yet, despite the increasing volumes of wealth aggregating at moments in people's lives, the reality is that wealth has simultaneously become less visible, not more

Like the exchangeables preceding them, PNG moneys are iconographically striking, colorful, and gorgeous (Figure 1), and they are appreciated as such by Papua New Guineans (Foster 2002). Playful descriptive names given to different denominations in the lingua franca Tok Pisin include calling a K1 coin a *wasu* because the hole in the middle makes it look like a washer, and also, light-heartedly, to express how insignificant its purchasing power is. The blue K10 note is sometimes called *solwara* ('saltwater', i.e. the sea); the K20 is known as a *het blo pik* ('pig's head') because the head features prominently on the reverse side of that note. K50 is the only note to feature a person, first Prime Minister Sir Michael Somare, and it is known affectionately and/or mockingly as the *lapun man* ('old man').

Robert Foster points out that money's iconography signifies an emergent Papua New Guinean nationalism, and here I would add that denomination provides a readily identifiable common vocabulary for signifying social place and making value judgements. In Goroka Town, where I have conducted seventeen months of ethnographic fieldwork, a denomination-centred pragmatics has developed around the distribution of money in response to these financial conditions. Denomination pragmatics finds expression through pockets and spreadsheets and marketing practices. And yet central to contemporary pragmatics is the desire for secrecy and its facilitation through concealable currency, presenting a methodological conundrum. Contemporary wealth calculations and distributions were clearly important, but very often impossible to record.

Monetary distribution in Goroka coincides with the payment of wages at workplaces or at the bank, and distributions also occur at markets and slot machine joints, on the street and at peace ceremonies, and at lifecycle events often held within the boundaries of the urban house. Goroka is a town in one of the world's most rural countries, and as such distribution often flows from town to village, after rural-based public servants have returned from town with their pay. Visitors and locals also collect together in town to gamble, leading to subsidiary distributions. At the time of



**Figure 1.** The reverse side of the 2015 issue Papua New Guinea Twenty Kina.

field work 73 per cent of Gorokans gambled. Gambling occurs primarily through card games, which are illegal and played under houses, in markets and on informal settlement street corners. There are also five high stakes slot machine joints and one bookies. Somewhat like workplaces, these were locations where people with money were sought out by those who expect a slice.

People with money are often faced with the demands of family, friends, and etcetera and must make decisions about how to conceal/reveal the wealth they carry and, if revealed, how to respond to such distributional demands and allocate value. PNG people have particular ways of making those important distribution decisions, and denomination directly shapes (while not fully determining) those choices. Specifically, denomination structures the form of the value to be distributed, requiring a method that directly addressed that form so as to capture how people thought through their distributions.

## The game and participants

I filmed the skelim gem with fifteen people over 2009–2010, always at the end of a semi-structured interview that typically lasted an hour and a half, and after refreshments; by this point we were both generally relaxed and conversant. It was conducted in complete privacy either within my own accommodations or in two cases in a location of the participant's choosing.

A participant was told that there are four different scenarios, one after another, in which they meet people after they have won at gambling. They were given a card representing them named *Yu Yet* (lit. 'you yourself') together with 250 matches taped together into a variety of 'denominations': two 50s, four 20s, three 10s, five 5s, five 2s, and five 1s.<sup>3</sup> The pile was handed over unsorted and the participant given a minute or so to go through them. They were told they would encounter quite a few people and offered the chance to change one of the K50s at a shop for K49 in two K20s, one K5, and two K2s. (Charging for change is common practice in PNG.) Eleven participants elected to make this cash sacrifice to lubricate distribution, and their decision carried across all four scenarios. I explained that the *Yu Yet* card would represent them and that the money they didn't give away would be theirs. Then we went through the following four scenarios.

*Individuals (Scenario 1)*: the participant has won at cards or slot machines; they are walking back home, and will meet people individually on the way. They can give them some money if they wish. Nineteen different cards with words like 'mother' or 'pastor' on them are then presented to the participant individually and at random. I ask what if anything they will give them, why, together with follow up questions. If interviewees don't have a 'pastor' or 'mother' for instance, they are free to either imagine they do or remove the card.

*Small groups (Scenario 2)*: the same premise is given, but this time on their walk the participant meets people in groups. They are given random groupings of cards two, three, or four at a time. No new cards are introduced in this or any following scenario, but the participant is not told so. Both *individuals* and *small groups* represent recognizable everyday decisions.

*Ambush (Scenario 3)*: each interviewee is instead told they have won this money on a big annual horserace. They return home only to find that all the same people are waiting for them at home (in the form of all the cards randomly spread around the respondent), and everyone there knows exactly how much they have won. The participant is asked to say what they would do and group monies accordingly. This scenario was intended to ape traditional distribution patterns in public places.

*Free play (Scenario 4)*: as in the third, the cards are spread at random, but only as an aide to memory, participants have free rein to see whoever they wish, tell who they want, in the order and groupings they prefer, and to avoid anyone they want to dodge. None of them are aware of the win and need not find out. By this point participants usually express relief, and they seem to enjoy this scenario, and in particular the opportunity to sidestep difficult decisions. *Free play* was a deliberately fictitious scenario designed to bring out participants ranked preferences independent of any situation.

**Table 1.** Cards given to participants during the skelim gem.

As written in Tok Pisin	English Translation
Yu Yet	You
Mama karim yu	Mother
Daddy bilong yu	Father
Pikinini meri bilong yu	Daughter
Pikinini man bilong yu	Son
Daddy bilong daddy bilong yu	Father's father
Clansman bilong yu	Clansman
Tribesman bilong yu	Tribesman
Chief bilong lain bilong yu	Head of your clan/tribe
Meri/man bilong yu	Spouse
Brata bilong meri/man bilong yu	Spouse's brother
Susa bilong meri/man bilong yu	Spouse's sister
Brata bilong mama bilong yu	Mother's brother
Friend em wan size long yu	Friend of equal status
Friend em bikpela long yu	Friend of senior status
Friend em liklik long yu	Friend of junior status
Wanwok bilong yu	Colleague
Man em givim yu mani taim em win lo kas/pokies	Person who gives you money when they win at cards/slot machines
Pastor bilong yu	Pastor
Man/meri yu no save lo em	Stranger

Table 1 lists the categories of people that were written on the playing cards I used. Aside from limiting the denominations on offer, participants were free within the confines of the scenarios to act in any way they wished, for instance to go and buy beer for all the people present in the *ambush* scenario, or in the *small groups* scenario to give money to one person in a group and to tell that person to buy lunch for the others.<sup>4</sup> Bundled matches are an unfaithful representation of actual denominations with none of their beauty or beguiling affective qualities, therefore posing questions of validity. I had to choose between using real money and giving away a lot of money to the participants; or using the money and not giving it away; or trusting participants to act as if a substitute represented denominations. I knew that the first two options would color all our future encounters so for better or worse I chose the latter. I felt satisfied that participants were deliberating *seriously enough* with the contrived denominations that I could derive value from the exercise.

The fifteen participants were from a broad but not representative range of backgrounds. They ranged as far west as Enga Province and as far east as Lufa District, Eastern Highlands Province, all within the Papua New Guinea Highlands as defined by DK Feil (1987). There were ten men and five women; two of the women and seven of the men were married; two married men and one married woman were wed in the last couple of years, the rest had longstanding marriages. All were twenty or older. Two women were separated from their husbands long-term, supporting themselves financially. One of the men was wed to his third consecutive wife; three other men had two wives. Three women and seven men were in employment, and another man owned a business. Three men and two women were regular churchgoers. Three women and two men never attended a place of worship. The rest fell somewhere in-between. Of those who professed a religious affiliation of some kind, two belonged to a Christian church but I failed to learn which, two were Catholic and one was a Seventh Day Adventist. These are among the longest standing churches in the area. The rest were adherents of newer Pentecostal churches. Religiosity is important not just because it colored how much people donated to their pastor, but because church communities frequently attempted to short circuit kinship obligations and create their own total communities within which all transactions are directed by Christian practice and focused upon church activities.

All except one woman were long-time residents of Goroka or had lived in a number of towns, and Goroka was always a significant distance from their ancestral villages. It is also important to note that twelve of the fifteen participants were gamblers and thus presumably had some experience with

winnings, and this conforms to ordinary levels of gambling participation according to the surveys I conducted during fieldwork (Pickles 2019). Having outlined how skelim gem worked and given basic sociological information on the participants, I now contextualize the approach and anticipate its shortcomings.

## Methodology

Skelim gem contains a number of formal elements, and I think it is necessary to explore them in case a reader decides to emulate the method. *Research Methods in Anthropology* might put the skelim gem under the banner of a quasi-experiment because I chose my participants rather than selecting them randomly, and a field experiment, because it was done outside of a laboratory (Bernard 2006, p. 110). None of the four different scenarios acted as a control; they were all variations upon the theme of distribution. A natural experiment would have been if I kept a record of real life distributions of gambling winnings that happened to occur under different circumstances. In fact skelim gem was born out of frustration that these real distributions were not observable, and so I manufactured a reality in which decisions like them could be witnessed.

Experimental economics is an emergent field with some conceptual overlap to the skelim gem. Pioneered by Smith (1982), and later Henrich (2000), experimental economics take prisoners dilemma type games (dictator game, ultimatum game, public goods game) outside of the laboratory, away from undergraduate students and into the global south. These studies claim that stinginess is often more apparent outside of the global north than we might expect, and suggest a clear correlation between participation in the market and ‘fair-mindedness’ (Ensminger 2002). Experiments conducted by Tracer showed that contrary to this larger trend, in Papua New Guinea there exists a tendency toward ‘hyper-fair’ distributions (2003, see also Oosterbeek *et al.* 2004). The focus on comparative and evolutionary frameworks in such work orients the analysis toward the abstract. I am using similar techniques to embed decisions within local specifics of enumeration, kinship and organization. In form, implementation, and in the kinds of knowledge it claims to elicit, the skelim gem is therefore dissimilar to these kinds of experiment.

In certain of its characteristics and certainly if performed under laboratory conditions the skelim gem resembles an experiment, but as a fieldwork method it is more at home under the loose category of the semi-structured interview: it used a mixture of formal requirements, free conversation and the advantage of privacy. A set of hypothetical between-you-and-me situations allowed people to explore variations upon natural conditions in Goroka. Each had some elements of real-life distributions accentuated and some missing. In scenarios where participants were confronted with groups of people that they had to value either publicly or in private, the experiment took on a loosely ‘cultural domain analysis’-like structure. A ‘cultural domain analysis’ is where a number of people are asked to sort things, and the sorting is analyzed for similarity across various cultural divisions. The most familiar cultural domain analysis method is probably the triad test. Triad tests ask which one of a trio of terms (such as ‘car,’ ‘taxi,’ and ‘bus’) is the most different or which two are the most similar; the skelim game pivoted upon similar distinctions, but those distinctions were expressed through the restricted scaling technique allowed for by having a limited number of different denominations (Bernard 2006, p. 307).

The participant’s circumstances were not altered from one scenario to the next (e.g. by offering a reward for distributing in a certain way). One possible bias (which is particularly pronounced in triad tests) therefore is ‘order effects’, the order of the questions condition later responses upon earlier ones. In the skelim gem the desire to act somewhat consistently may have affected the results, and, from the end of *individuals* (scenario one) onwards expectations of who they would encounter primed participants not to give away too much money too early. I therefore chose to order the scenarios as I did for three reasons: (1) Experiencing the *small groups* and *individuals* scenarios before the latter two does not introduce any new bias, whereas *ambush* and *free play* (scenarios where participants met everyone simultaneously) would prematurely reveal to participants who they would meet.

(2) I judged the *free play* scenario to potentially introduce the most bias, and so it had to go at the end. (3) I put *Individuals* first because it is less complicated than *small groups*.

During the *free play* scenario (4), when they were given the chance to order all the cards as they wished, more than half of the participants (nine) did some pile sorting, the most common practices were grouping mothers and fathers together (six participants), removing all non-recipients (five participants), and grouping sons and daughters together (five participants). Pile sorting presents participants with a range of concepts/objects and asks them to order them in a way which makes sense to them; it can be very useful in determining conceptual distinctions. Pile sorting games play on limited supply because in most cases an object is not allowed to go in more than one pile, meaning that participants are forced to prioritize one out of any number of competing conceptualizations. Skelim gem participants sorted people into groups that seemed to them to belong together for the purposes of a distribution. Some participants also insisted on sorting people into groups during *ambush*, imagining themselves taking a couple of people aside or waiting for someone to leave.

In addition to sorting people into categories, what resulted was a set of what Bernard calls simple scales within and between categories of people (2006, pp. 318–320). The skelim gem is a device for scaling people in two senses: (1) I assign participants a place on a scale based on the numbers they respond with, and (2) participants are scaling the people I present to them. The conjunction of these two senses means participants' efforts to scale can be compared across participants and scenarios. Specifically, the numbers that I asked people to assign to various people were supposed to represent concrete moneys, so they appear to have ratio properties at a superficial level (someone assigned ten is worth twice someone assigned five). One must simultaneously take into account that participants run out of money as they go (inserting a deliberate order effect), and that the necessity to give to some people is dependent on the context in which they are seen, and the perceived value that the recipient will attach to the money they are given.

Ostensibly the skelim gem lacks both internal validity (not having randomized respondents) and external validity (I did not replicate the same experiment). It is also subject to testing bias, where the tested changes their answer because of the influence of the tester. Unlike other interview methods, skelim gem could have been used in a more clinical, less ethnographically situated way, leaving my attempt susceptible to criticism on the statistical side. I aimed instead to prompt ideas and make reasoning explicit. Contextualized knowledge and in-depth discussions over why people made the choices they made provide a different, complementary kind of data that gains its validity from its explanatory power while speaking to more statistical, more focused practices of knowledge-making (see Chibnik 1985, Stafford 2008).

Emphasizing the denomination problem in valuation situations can help people focus on money as a problem of commensuration and distribution, making explicit the way they reason with denomination. An analogy would be when a researcher is doing pile sorting and uses drawings or photographs of a house or a fish etc. instead of using written words on the cards they hand out; this subtle difference is known to change people's focus from function (or other hidden attributes) to form when they sort (Borgatti 1998, p. 133). The skelim gem stimulated participants to think about people in terms of money not in a simple scalar numerical way, but through the way denomination actually constrains people's daily activities. In this regard the skelim gem takes its lead from the kind of research into everyday mathematics pioneered by Jean Lave in the United States (1988). Reasoning with denomination was therefore both a situated practice to be studied and a shared analytical project between researcher and research participants. This protracted exploration of methodological flaws and potentialities should temper the following attempt to extract insights from the results I obtained.

## Results

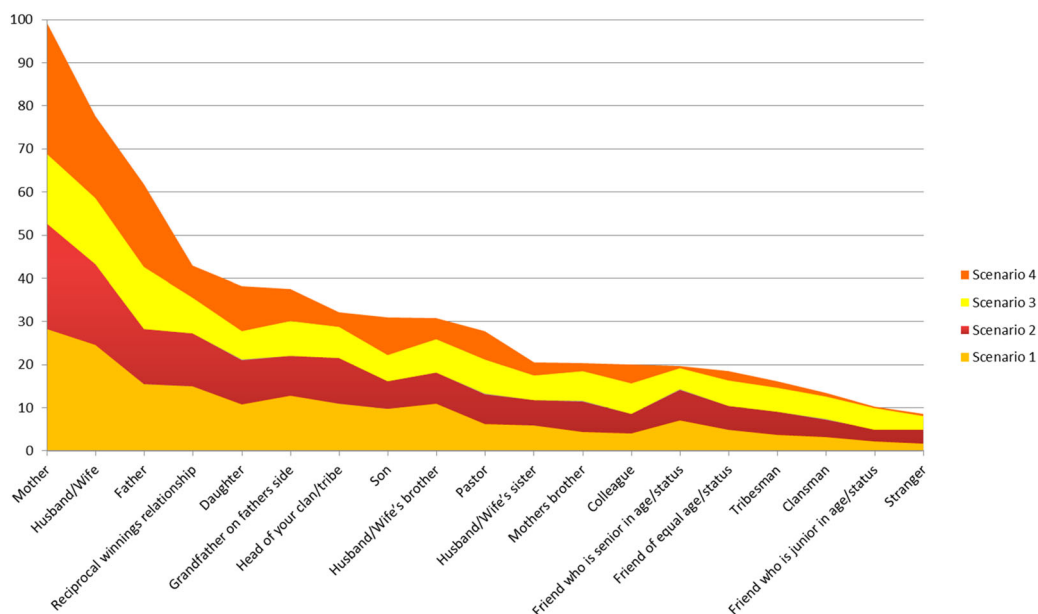
Every skelim gem spawns up to eighty numbers in total and at least half an hour of commentary; fifteen participants add up to 1200 individual figures; each figure elicits personal reflections and is

complicated by the problematic of limited denominations. Dwelling on each facet in a journal article is impossible and even covering more than a couple of trends for specific recipients are impractical. I concentrate on overall patterns and later look briefly at one detailed case that holds particular interest for my research: the gambling friend. To transform this mass of data into something visually useful I had to telescope out, but graphs using the mean value across all participants (Table 2 and Figure 2) hid many individual variations between participants. Mean values also obscure the way one participant distributed to one person in the presence of specific others, which was, after all, the point of having different scenarios.

Another visualization problem stemmed from the optically clunky nature of the results: the amount participants kept (K109 on average) dwarfs the distinction between father (K16) and gambling friend (K11), let alone between a mother’s brother who receives K4 and a stranger who receives K2. Even excluding ego graphs remain exponential to the eye, masking all but the most obvious distinctions (see Figure 2). This was a problem because for both those making the distributions and the

**Table 2.** Mean distribution of winnings in Kina over four scenarios, along with the mean across all scenarios.

	Individuals (1)	Small groups (2)	Ambush (3)	Free play (4)	Mean
Kept for self	91	102	116	125	109
Mother	28	25	16	30	25
Spouse	25	19	15	19	19
Father	15	13	15	19	16
Gambling friend	15	12	8	7	11
Daughter	11	10	7	10	10
Father’s father	13	9	8	8	9
Head of clan/tribe	11	11	7	3	8
Son	10	6	6	9	8
Spouse’s brother	11	7	8	5	8
Pastor	6	7	8	7	7
Spouse’s sister	6	6	6	3	5
Mothers brother	4	7	7	2	5
Colleague	4	5	7	4	5
Senior friend	7	7	5	1	5
Equal friend	5	6	6	2	5
Tribesman	4	5	6	2	4
Clansman	3	4	5	1	3
Junior friend	2	3	5	0	3
Stranger	2	3	4	1	2



**Figure 2.** An abortive graph containing average distributions to participants across scenarios.

people receiving there can be as much significance in the difference between a K2 note and a K5 note as there is between a K50 and a K100 (especially so in company). The nature of denomination itself obfuscates because denominations proceed numerically in a manner that looks exponential if plotted onto a graph: 1, 2, 5, 10, 20, 50, and 100.

The solution was to present the tables raw, turning them into a visually intuitive ‘heat map.’ I color the tile containing a particular value according to the highest denomination in Papua New Guinea Kina that could be included in it. Any allocation over K100 is therefore purple-red, between K50 and K99 is bright red, K20 to K49 is red-orange, K10-K19 orange, K5-K9 yellow, K1-K4 pale yellow, and giving nothing is colored pale blue.<sup>5</sup> I call this way of conceiving the boundaries ‘*five and change*,’ by which I mean that every value from the point one denomination comes into play up until the one above it can be used fall under the designation of that denomination (*five and change*). For example K8 is considered *five and change*, K14 is *ten and change*, and K30 is *twenty and change*. The resulting visualizations illuminate the fine-grained distinctions that people made when they only gave over a small amount. It also conforms to the way that participants overwhelmingly gave in rounded denominations when they could.<sup>6</sup>

Table 2 is a summary using mean values. The gradual and even shading of the table from bottom to top demonstrates that participants discriminated between people with their money, effectively ranking them consistently across scenarios. Participants allocated most money to themselves, followed by mothers, spouses and fathers. Children are less favored, and daughters do better than sons.

As your eyes move left to right through the first three scenarios, from *individuals* through to *small groups* and then to *ambush*, more of the mid-table area is colored bright yellow. The number of people receiving *five and change* (K5-9) increases, encompassing people of greater and of lesser status. The self, mother, spouse, and particularly the father are less susceptible to this trend whereas others (the gambling friend, the daughter, son, father’s father, and the head of one’s clan/tribe) are vulnerable to having their allocation reduced in order to equalize the field. The explicit reasoning was that one’s immediate family helps the winner all the time, not just sometimes. The father receives more during public distributions because there is an expectation that fathers should have their roles acknowledged in situations where one is distributing to kin, but when one is distributing to groups of

outsiders on behalf of the clan a ‘father will be happy to have his money used in the family’s distribution to others.’

Conversely, strangers seem immune to being considered worthy of an equal share even during *ambush*, while the tribesman, clansman, and junior friend receive a bump up towards the expanding *five and change* bracket. Increasing the number of people at a given distribution also increases the uniformity or equality of that distribution. The same is true to a lesser extent with *ten and change*. Unequal distribution comes back with a vengeance during *free play*, when participants skewed payments towards immediate kin and avoided distant family and friends. In Goroka K5 and K10 are politick, acceptable denominations to allocate across a range of people. These particular denominations are used to facilitate (ideals of) sharing or equal allocation when the distribution is made visible or publicized. Interestingly, participants did not keep significantly more money for themselves during *free play* either, though this plays out differently when one looks across the genders.

Table 3 displays the frequency of different denomination-sized gifts as a percentage of all distributions within each scenario, regardless of who they went to. This table exhibits the sharp increase in the number of times a person is not given any money at all during *free play*, 58% of the distributions. The obvious (and perhaps universal) concomitant to this observation is that, given a choice, people prefer not to give any money to some people. Or, as one participant put it, ‘if there is a chance to lose them, I will lose them’.

Tables 4–7 can be compared side by side to get a sense of significant differences between them, and making it possible to pick out variations among participants. To look for color contrasts is also to concentrate on the denominations through which distributions occur. Table 8 below cannot be compared like for like because it reorganizes the heat map for scenario two to coincide with the order and groupings that participants experienced. Table 8 clarifies the importance of giving equally to certain kinds of people when they are met together, and when it is acceptable to override that imperative and distribute disproportionately. In the following section the majority of observations will spring from the scrutinization of variations in the ‘heat maps’ and discussions had with participants while they made their decisions, rather than from the tables and chart showing mean distribution values.

**Table 3.** Frequencies of the allocation of different sized monies as a percentage of observations for each scenario.

	Individuals	Small groups	Ambush	Free play
K0	13	11	12	58
K1-4	21	24	10	3
K5-9	23	27	43	5
K10-19	15	17	20	7
K20-49	19	14	8	18
K50-99	5	4	4	5
K100 and up	3	3	2	3

**Table 4.** *Individuals* (scenario one).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Mean
Kept for self	135	161	45	40	77	98	160	105	26	27	107	106	106	39	138	91
Mother	10	0	20	20	25	50	20	n/a	90	50	10	20	20	40	20	28
Spouse	20	0	50	50	40	n/a	n/a	20	n/a	20	20	20	5	0	50	25
Father	10	n/a	10	20	10	20	10	n/a	0	50	10	20	20	10	10	15
Gambling friend	5	50	20	20	10	10	20	4	25	5	20	5	10	20	0	15
Daughter	10	0	20	10	20	n/a	n/a	9	n/a	10	10	20	2	15	4	11
Father's father	50	20	20	10	5	10	5	5	10	20	8	5	5	10	9	13
Head of clan/tribe	5	n/a	5	20	10	8	5	3	20	5	5	5	6	50	5	11
Son	10	0	20	10	20	n/a	n/a	5	n/a	10	0	10	2	20	n/a	10
Spouse's brother	2	2	9	10	5	n/a	n/a	50	5	20	0	0	20	20	0	11
Pastor	2	n/a	n/a	1	n/a	5	n/a	10	20	n/a	n/a	n/a	n/a	n/a	0	6
Spouse's sister	5	10	5	9	5	n/a	n/a	1	5	5	20	0	10	0	1	6
Mothers brother	1	0	5	10	5	5	0	5	5	5	0	10	5	5	5	4
Colleague	2	n/a	1	5	5	3	20	1	2	5	0	1	2	10	0	4
Senior Friend	2	0	15	4	5	20	3	5	3	0	20	10	10	5	5	7
Equal friend	5	0	2	0	5	4	2	2	20	2	5	5	20	0	0	5
Tribesman	2	5	4	5	0	5	n/a	10	2	10	2	5	2	0	0	4
Clansman	1	2	5	2	2	5	5	10	4	2	2	5	3	0	0	3
Junior friend	1	0	2	2	0	2	0	2	0	4	10	2	1	5	2	2
Stranger	0	n/a	n/a	2	n/a	4	n/a	2	2	n/a	n/a	n/a	n/a	n/a	0	2
	M	M	M	M	M	M	M	M	M	M	F	F	F	F	F	

**Patterns of distribution**

The patterns of distribution that occurred during the skelim gem indicate a clear sphere of ‘demand-sharing’ based on proximity among a more distant sphere of kin and among some novel relationships (Peterson 1993). Skelim gem participants’ primary concern was their appearance in the eyes of the people they met who were not close kin. Watching participants I noticed that they did not imagine that the people they met demanded money from them, but instead anticipated a future moment when those people learnt that the participant had won money and had kept this fact from them, and the shame that they would feel as a result. Thus ‘demand sharing’ in this case was not a response to real-time demand, but a pre-emptive gesture toward equality in response to the expected dissemination of the knowledge that you had wealth. Indeed much of the general findings drawn from the tables and our conversations were framed within the commonly voiced competing ideals of equality and hierarchy that were described above, set against the demands of specific kin and personal consumption.

At the same time that they are warding off future accusations of miserliness, participants sought out immediate kin for high distribution, and men of ambition aimed at both a broader field of kin obligations and heavily invested in novel money-centric relationships (A. Strathern 1971). During

**Table 5.** *Small groups* (scenario two).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Mean
Kept for self	115	130	46	55	113	153	107	58	33	89 <sup>B</sup>	100	140	95	114	177	102
Mother	20	3	20	20	20	50	25	n/a	70	50	20	7	20	17	1	24
Spouse	20	0	50	20	10	n/a	n/a	45	60	0	20	7	5	5	1	19
Father	10	n/a	20	20	5	4	5	n/a	10	20	20	20	20	10	3	13
Gambling friend	5	50	10	20	10	8	42	3	5	10	0	0	10	10	3	12
Daughter	10	3	10	10	20	n/a	n/a	20	n/a	10	5	20	2	13	1	10
Father's father	10	0	30	10	5	7	2	10 <sup>A</sup>	5	20	10	20	5	5	1	9
Head of clan/tribe	5	n/a	10	20	5	5	25	5	20	10	10	7	10	17	0	11
Son	10	0	10	10	5	n/a	n/a	3	n/a	5	5	7	2	17	3	6
Spouse's brother	3	0	10	20	10	n/a	n/a	6	8	0	20	0	10	5	1	7
Pastor	0	n/a	n/a	1	n/a	4	n/a	20	10	n/a	n/a	n/a	n/a	n/a	0	7
Spouse's sister	3	0	5	5	10	n/a	n/a	20	3	5	10	0	10	2	5	6
Mothers brother	3	0	5	10	5	8	0	20	4	20	10	7	10	5	1	7
Colleague	2	n/a	5	5	5	7	20	5	3	5	0	0	5	2	0	5
Senior friend	2	50	5	5	5	5	5	5	3	5	0	5	5	5	1	7
Equal friend	2	0	2	5	5	7	5	10	4	5	10	5	20	5	0	6
Tribesman	0	10	5	5	5	5	10	10	5	2	0	0	10	13	0	5
Clansman	2	0	5	5	2	8	2	4	3	2	10	7	7	5	0	4
Junior friend	5	3	2	2	10	5	2	3	3	2	0	0	4	2	0	3
Stranger	2	n/a	n/a	2	n/a	78	n/a	5	3	n/a	n/a	n/a	n/a	n/a	0	3
	M	M	M	M	M	M	M	M	M	M	F	F	F	F	F	

<sup>A</sup>Substituted grandchild for father's father. <sup>B</sup>Kept some money to give to others later.

these latter gifts sharing was not motivated by the logical extension of the anticipated need to demonstrate a commitment to equality so much as the capacity to exceed it and show respect in a manner that exalted both recipient and more importantly donor.

Participants also explained that in group circumstances their distribution stands as a metonym for their kin as a whole, conferring collective prestige (see also A. Strathern 1971, Foster 1995). According to one female participant a family unit will accept much smaller amounts relative to leaders and affines because they are 'one' during the moment of distribution, and 'wish their name to travel with the outsiders.' Their own collective equality is demonstrated by their happiness to give to a respected outsider. Skelim gem participants were seen deciding whether to give heavily to close relatives and abrogate responsibility or to stand for them and give to others, the latter usually done by older men and women, the former by the young.

As each scenario began participants earmarked one or two large denominations (usually a K50 and perhaps another K20). Men often earmarked monies to spend on beer, while women frequently said they would buy foodstuffs/cleaning products for the house, or bank the money (see M. Strathern 1975, Lave 1988). Moneys such as these have a ready home: a specially made concealed pocket called a *stil poket* ('steal pocket') (Pickles 2013a). Here we are observing attempts to carve out what Parry and Bloch call separate 'transactional orders' through a

**Table 6.** *Ambush* (scenario three).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Mean
Kept for self	110	250	57	100	94	92	90	171	93	250	55	80	70	80	150	116
Mother	6 <sup>A</sup>	0	20	10	20	50	8 <sup>B</sup>	n/a	25	0	20	10 <sup>D</sup>	13 <sup>E</sup>	40 <sup>F</sup>	6 <sup>G</sup>	16
Spouse	20	0	50	10	20	n/a	8	20 <sup>C</sup>	10	0	50	10	6	6	6	15
Father	6	n/a	20	10	10	20	8	n/a	25	0	20	10	13	40	6	15
Gambling friend	6	0	20	10	20	7	8	5	10	0	10	10	6	6	6	8
Daughter	10	0	20	10	3	n/a	8	3	n/a	0	2	10	11	6	6	7
Father's father	6	0	10	10	10	10	8	2	5	0	20	10	11	6	6	8
Head of clan/tribe	6	n/a	10	10	10	7	8	3	5	0	5	10	16	6	6	7
Son	10	0	10	10	3	n/a	8	5	n/a	0	2	10	11	6	6	6
Spouse's brother	6	0	5	10	5	n/a	8	5	10	0	10	10	26	6	6	8
Pastor	6	n/a	n/a	5	n/a	10	n/a	5	20	n/a	n/a	n/a	n/a	n/a	0	8
Mother's brother	6	0	5	10	5	7	8	10	5	0	20	10	6	6	6	7
Colleague	6	n/a	2	5	5	7	30	1	10	0	4	10	6	6	6	7
Senior friend	6	0	3	5	6	7	8	2	4	0	5	10	6	6	6	5
Equal friend	6	0	3	5	20	7	8	2	5	0	5	10	6	6	6	6
Tribesman	6	0	3	5	5	5	8	5	4	0	5	10	16	6	6	6
Clansman	6	0	5	5	5	7	8	5	4	0	5	10	6	6	6	5
Spouse's sister	6	0	5	5	5	n/a	8	2	10	0	10	10	6	6	6	6
Junior friend	6	0	2	5	4	7	8	2	3	0	2	10	11	6	6	5
Stranger	6	n/a	n/a	5	n/a	7	n/a	2	2	n/a	n/a	n/a	n/a	n/a	0	4
	M	M	M	M	M	M	M	M	M	M	F	F	F	F	F	

<sup>A</sup>Put K100 in the middle. <sup>B</sup>Put K20 in the middle for the stated purpose of buying cigarettes and small things for each person. Spent K100 on food for everyone. Put K10 aside for people who have heard rumors to come. <sup>C</sup>Tells others he only won K80. Substitutes grandchild for father's father. <sup>D</sup>K100 was designated for the purpose of buying alcohol for the remaining people. <sup>E</sup>K106 was designated for the purpose of buying alcohol for everyone. <sup>F</sup>Put K90 in the middle to be spent on alcohol. <sup>G</sup>K65 was designated for the purpose of buying alcohol for the remaining people. The earmarking of certain denominations for collective use is elaborated upon below.

common medium using the tropic points of denomination (1989, pp. 24–25). Those large denominations have an integrity that is worth guarding because they are less vulnerable to dwindling away on the stuff of everyday existence and the explicit or implicit demands of others than a collection of small monies. A participant felt compelled to give their big note away on only a couple of occasions, always when they met an important family member late on, after having been too generous already. Faced with this situation participants gave the K50 away in its entirety because it would have been unseemly to ask for change.

### Threshold denominations

Table 7 is notably pale blue, dramatizing the shift from evenly spread low denomination *five and change* distribution in the *ambush* scenario to most people giving away nothing to whole classes

**Table 7.** *Free play* (scenario four).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Mean
Kept for self	177	250	60	75	65	70	152	22	150	90	90	150	150	130	250	125
Mother	5	0	20	20	20	70	20	n/a	100	50	20	20	50	30	0	30
Spouse	20	0	50	50	45	0	0	50	0	20	50	0	0	0	0	19
Father	5	n/a	20	20	20	40	5	n/a	0	50	20	20	20	30	0	19
Gambling friend	5	0	30	20	20	10	20	5	0	0	0	0	0	0	0	7
Daughter	20	0	20	5	20	0	0	20	0	10	10	20	10	20	0	10
Father's father	0	0	20	20	10	20	5	10*	0	20	10	0	0	0	0	8
Head of clan/tribe	0	n/a	10	20	0	10	5	3	0	0	0	0	0	0	0	3
Son	10	0	20	5	20	0	0	5	0	10	10	20	10	20	0	9
Spouse's brother	5	0	0	10	0	0	0	20	0	0	20	20	0	0	0	5
Pastor	0	n/a	n/a	0	n/a	20	n/a	20	0	n/a	n/a	n/a	n/a	n/a	0	7
Spouse's sister	2	0	0	5	0	0	0	20	0	0	20	0	0	0	0	3
Mother's brother	0	0	0	0	0	0	0	20	0	0	0	0	10	0	0	2
Colleague	0	n/a	0	0	10	0	20	10	0	0	0	0	0	20	0	4
Senior friend	0	0	0	0	0	0	2	5	0	0	0	0	0	0	0	0
Equal friend	0	0	0	0	20	10	0	2	0	0	0	0	0	0	0	2
Tribesman	0	0	0	0	0	0	20	2	0	0	0	0	0	0	0	1
Clansman	0	0	0	0	0	0	10	3	0	0	0	0	0	0	0	1
Junior friend	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0
Stranger	0	n/a	n/a	0	n/a	0	n/a	3	0	n/a	n/a	n/a	n/a	n/a	0	1
	M	M	M	M	M	M	M	M	M	M	F	F	F	F	F	

\*Grandchild substituted for father's father. This participant also decided to give some money to his brother (K20), and his father's brother (K5).

of people in *free play*. This is because, for example, one K20 and one K10 given to a mother's brother in *free play* masks the thirteen times that other participants chose not to give him anything, leaving only a mean score of K2, suggesting that participants during *free play* were distributing to the mass of people in a way consonant with everyday give and take when, contrariwise, they almost always hid from them.

Anything below K5 (i.e. *two and change*) is considered small money, not enough to buy anything important. (At the time of fieldwork) on market tables on every street corner candies and tobacco rolled in newspaper were sold for ten or twenty toea, betel nut for up to K1, pre-rolled cigarettes for K1-1.20, and K3 worth of mobile phone credit was sold for K4. Nothing was sold for as much as K5. K2 and change was therefore the kind of money that moves between people routinely on the street, day in and day out, as one sits down for a game of cards, or passes relatives, language-mates and neighbors. It was accompanied by phrases like 'buy yourself a betel nut or credit for your phone' or, as one participant demonstrated, 'at least buy yourself something.' Participants under different scenarios chose whether to use up their money on the back and forth of daily 'demand sharing', or to give people something significant and memorable, or lastly to give them nothing. Meeting people on the street in public, Gorokans often chose to give people they

**Table 8.** Small groups in the order and groupings cards were presented to participants.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
115	130	46	55	113	153	107	58	33	89	100	140	95	114	177
Cl 2	Cm 0	M 20	GF 20	Cm 2	Fd > 5	T 10	Cm 4	FF 5	GF 10	GF 0	SPB 0	Fd = 20	D 13	F 3
D 10	SPZ 0	SPB 10	D 10	H 5	M 50	Cl 20	GF 3	Fd = 4	Cm 2	Fd < 0	Fd < 0	SPZ 10	T 13	S 3
Fd = 2	Fd = 0	SPZ 5	H 20	S 5	T 5	Fd < 2	Fd > 5	MB 4	Fd < 2	T 0	Cm 7	H 10	M 17	GF 3
GF 5	GF 50	S 10	St 2	GF 10	P 3.5	MB 0	SPB 6	F 10	S 5	MB 10	M 7	Cl 5	H 17	M 1
Fd > 2	M 3	MB 5	T 5	Cl 5	F 3.5	H 25	Fd < 3	P 10	M 50	SP 20	H 7	M 20	S 17	D 1
FF 10	D 3	Cl 5	Fd < 2	SP 10	MB 8	M 25	H 5	T 5	H 10	SPZ 10	T 0	Fd < 4	MB 5	SP 1
Cm 2	Fd < 3	SP 50	MB 10	Fd = 5	Cm 8	Cm 2	SP 45	M 70	MB 20	Cl 0	SPZ 0	S 2	FF 5	SPB 1
SP 20	T 10	FF 30	Fd = 2	FF 5	St 8	GF 42	Fd = 10	GF 5	SPB 0	D 5	Cl 0	Cl 7	Cm 5	H 0
M 20	Fd > 50	H 10	SPZ 5	MB 5	GF 8	FF 2	FF 10	SPZ 3	SP 0	F 20	GF 0	SPB 10	SP 5	Fd < 0
Fd < 5	MB 0	Fd = 2	Cl 5	F 5	Cl 7	Fd = 5	St 5	Cl 3	FF 20	Cm 10	Fd > 5	SP 5	F 10	T 0
St 2	FF 0	D 10	F 20	Fd > 5	Fd = 7	F 5	Cl 5	St 3	F 20	FF 10	Fd = 5	D 2	Fd = 5	Cm 0
F 10	S 0	Fd < 2	M 20	T 5	FF 7	F > 5	S 3	SPB 8	T 2	H 10	D 20	GF 10	GF 10	St 0
H 5	SP 0	Cm 5	P 1	Fd < 10	H 5	n/a	MB 20	Cm 3	Fd = 5	Fd > 0	F 20	FF 5	Fd > 5	Fd > 1
MB 3	SPB 0	GF 10	SP 20	M 20	Fd < 5	n/a	T 10	Fd > 3	Cl 5	M 20	FF 20	Fd > 5	SPB 5	FF 1
SPZ 3	n/a	F 20	S 10	SPB 10	n/a	n/a	P 20	Fd < 3	Fd > 5	SPB 20	S 7	MB 10	SPZ 2	MB 1
SPB 3	n/a	T 5	FF 10	SPZ 10	n/a	n/a	SPZ 20	SP 60	SPZ 5	Fd = 10	SP 7	T 10	Cl 2	SPZ 5
P 0	n/a	Fd > 5	Fd > 5	D 20	n/a	n/a	D 20	H 20	D 10	S 5	MB 7	F 20	Fd < 2	Cl 0
S 10	n/a	n/a	SPB 20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	P 0
T 0	n/a	n/a	Cm 5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Fd = 0
M	M	M	M	M	M	M	M	M	M	F	F	F	F	F

Note: Cl = Colleague, D = Daughter, Fd = Friend of equal status, RWR = Reciprocal winnings relationship, Fd > = Senior friend, FF = Father's father, Cm = Clansman, SP = Spouse, M = Mother, Fd < = Junior friend, St = Stranger, F = Father, H = Head of clan/tribe, MB = Mother's brother, SPZ = Spouse's sister, SPB = Spouse's brother, P = Pastor, S = Son, T = Tribesman.

knew inconsequential denominations that nevertheless signify their bond. The same occurred when participants confronted a small group and wanted to give more money to one of those people in particular but could not allow the others to feel overlooked. If they could avoid the drain of everyday life, as they could during *free play*, then they did, but the threshold denomination K5 was respected as too much to give between associates in daily interaction. I recall a couple of occasions where all I had to pass along was a K5 and having it refused as unnecessary, or being ushered to a nearby market stall to buy something so that my intended recipient could receive some of the change instead.

Under *ambush* conditions, participants chose to give away consequential denominations: *five and change* or *ten and change*. They distributed as evenly as they could, given the constraints of denomination imposed on them. Some distinguished two groups, one receiving more and one less. Key people received money separately, but often recipients were divided not on kin lines but on the basis of consumption: whether they drank or whether they ate pork. Then they bought beer or food for everyone, or gave a large note to someone to buy beer and get change. This equalized the gifting by turning divisible money into indivisible units which must be consumed: a beer and a full belly. By converting money into comestibles the need for absolute numerical unitization and therefore comparison of relationships was avoided, a strategy which is inherent to large feasts (Pickles 2014) and the opposite of the differentiation strategies made available by money in conjunction with pockets. It is telling that *ambush* produced the most uniform distribution pattern. Expansive and exaggerated distribution preferences instituting 'transactional orders' of keeping vs. giving were undercut when participants couldn't hide money.

People really struggled with a lack of change, illustrating the importance of small denominations in everyday life, as an example will illustrate. In preparation for a distribution event like a mortuary feast, a mixture of K5 notes and K2 notes are acquired from the bank (Pickles 2017). These are stuffed into envelopes until they are bloated. This makes money look visually impressive without revealing how much is given over. The practice responds to the difficulties presented by lack of

change, especially in rural settings where revealing a large note or asking for change is an invitation to jealousy. This does not mean however that K5 is an inconsequential denomination; it is useful because it bridges the consequential and the inconsequential, allowing participants to distribute ‘at least enough to buy something,’ as one married man put it, and still keep a good amount for themselves.

### **Gender and age in distribution priorities**

Given perfect secrecy during *free play*, of course people don’t give out all that much money. Notice though that it was women who kept significantly more of their money, concentrating what money they gave out to their mothers, fathers, sons, and daughters and, with one exception, skipping over their husband completely. The one wife who did give money to her husband did so because ‘my husband gives me money to look after the house and therefore when I win, I must make him happy.’ Homemaker wives are often derided for gambling, especially if they lose the money their husband gave them for the house; one wife among the participants chose not to give money to her husband lest he know she had been gambling. Not incidentally, many wives feel the need to gamble with their household money because their wage-earning husband does not give them enough (Strathern 1975, Wardlow 2006).

Men were more inclined to give *twenty and change* both to their immediate family and to their gambling friend (who received nothing from any woman). Consequently men kept less for themselves during *free play* than in other scenarios. Husbands gave a large denomination (usually K50) to their wives, citing her role as ‘mother of the house.’ During these hypothetical scenarios it was easy to be generous, but allocating money to one’s wife was a responsibility which does not require direct reciprocation, and that fact makes it all the harder for husbands to remember to give them money in practice.

Table 8 demonstrates that even in mixed company outside of the home it is expected that a man gives more money to his wife than to others. However, this is not so during *ambush*. At home they needed to represent their family to outsiders and distribute to the large group as a whole and not show favor to their wives. Participants reported feeling acute pressure to distribute fairly and accentuate people’s equality, hence respondents’ tendency to substitute money for more divisible goods like food. All said there is more pressure on men to appear to be a fair distributor than there is on women, who, they say, ‘must look first to their house.’

Mothers always received more than fathers because they ‘do more work raising children.’ A mother, because her origin lies outside of one’s own clan, must be compensated for the transfer of the mother’s reproductive capacities to the clan (M. Strathern 1988). The father’s father is also important as a quasi-replacement for the self (Stasch 2009) and usually distinguished from others by a larger donation. These distinctions follow the more-or-less ‘cognatic’ organization of Highland peoples (Glasse 1969). Participants gave money to their close relatives quickly so that the obligation to give to more distant people as they see them does not hit them too hard. We may surmise therefore that equality in distribution is primarily a matter for public display, a public good, against which people distribute secretly lest they be shamed for not abiding by the rule.

### **Prioritizing close kin**

If confronted by a small group, participants felt that same pressure to divide equally, but certain kinds of relationships command larger sums as a mark of their difference in small groups that they do not during larger scale distributions. Mothers, fathers, and wives may be prioritized, though children often lose out, because giving to the former is a matter of repaying respect to ones progenitors, while to prioritize the latter is to be self-interested. Sons therefore do better during *free play*. In fact compare *free play* (a deliberately unreal fantasy scenario) to other scenarios and it is clear that in an ideal world participants *did not* give money to people unless they had either a specific obligation

to them (mothers, fathers, and children for women, and for men mothers, fathers, and wives), or unless they were making a tactical investment. That is to say that the give and take of everyday life can be a big drag on people's efforts to use money effectively when they have it, and should be avoided if possible. While the ideal of public sharing was positively valorized, it was often impractical, punitive, and an impediment to people's desires.

This overview of distribution dynamics serves to show that the need to demonstrate equality and show respect for hierarchy was not uniformly expressed, and that performative adherence to group values gains precedence slowly as group size builds, without any clear threshold. Whether one equated oneself with the recipient, chose to equate recipients, or equated non recipients while showing respect to a recipient were all inflected through denomination. When it came to outsiders, people generally gave money to people they were not related to for one of two reasons. The first is to prevent them telling others that the participant is not a good person and does not value equality (especially if the outsider found out they had won money). Secondly participants hoped that their generosity would travel with them, and that the recipient will likely give the donor some money at another unexpected juncture (Pickles 2014). This was the major dynamic in play when it came to the highly-valued gambling friend, which I now spend some time exploring separately for the way it throws the imperative towards demonstrating equality into contrastive relief.

### Gambling friends

Unlike consanguinal and affinal relationships, which may be avoided if they are not felt to be sufficiently supportive but could be subsequently reactivated, gambling relationships are entirely constructed by give and take. Their point of activation is gambling itself, and so they are more ephemeral. The gambling friend received more money than nearly all consanguinal, affinal, or other relationships (see also Burkins 1984, p. 221). Inasmuch as gifts measure importance, the gambling friend stands out as overemphasized (Mauss 1990, Gregory 1982). Money which might remain hidden found its way easily into the hands of fellow gamblers. It is a peculiar relationship because it is symptomatic of contingent and shifting ties that follow a logic bound up with denominational divisions.

During *free play* female participants gave their gambling friend nothing at all, as did the youngest, least independent man. Politically active men on the other hand tended to prioritize this relationship by giving their gambling friend a K50 or a K20 in most scenarios. Most strikingly, during *free play* they tended to filter out all but their immediate family *and* their gambling friend; friendships based on camaraderie rather than money suffered particularly badly. The gambling friend is emblematic of a measured and ideally balanced form of reciprocity between equals that is focused on big denominations, big gifts, and excess of all kinds (Pickles 2013b). In this K20 emerges as another threshold denomination, it is emblematic of a significant amount. K20 is what you give to someone with the phrase 'go buy yourself lunch,' knowing full well that K20 is a lot more than the average lunch costs. Nobody (who is not elite) gives a K20 to an associate without the recipient being pricked to consider the giver's intentions.

A 'bigshot' player who has only won K100 will not usually give K20 to another 'bigshot' gambler (cf. Martin 2013). This is considered below the threshold of significance, and would make one appear small fry. The two 'bigshots' should transact in K100's, enough to play a round on the slot machines (Pickles 2013b). This relationship is often seen as a form of insurance: one participant said if the partner 'has more luck than me, he will increase what he gives to me,' going on to explain that if you are more fortunate than the partner, then it is a pleasurable thing to give and a marker of friendship and status. Fortune is recognized as fickle, so this is also a strategy of evening out ones comings and goings while strengthening relationships between friends. The money given is by no means free or disinterested, it is considered to be like an unofficial loan, or like the classic Maussian gift (1922), invoking bad feelings if it is not returned if and when the recipient wins later. That is why a

participant would tell a gambling friend where they got their money while keeping the source secret from others. Performed equality is not the issue here, but rather competitive gifting (cf. Gregory 1997, pp. 46–47).

Winnings have a time limit before the money ceases to be winnings and subsides into other monetary forms. After meeting others and having given money away already the win ceases to be fresh, so participants avoided giving to their gambling friend or telling them that they won, or they told their gambling friend that they won but unfortunately didn't see them. As one young female participant put it, 'if I brought the money home and they didn't come to see me, then it is finished now, I won't give them.'

Distributing to a gambling friend is only necessary if your windfall comes from gambling. If you are losing there is no need to pay, and if you give up gambling, you don't need to balance your books. The gambling friend is one version of many different relationship possibilities, all based on money. Other examples include fellow coffee or betel nut buyers, a marketer, a government official; anyone you know who has access to sudden windfalls and who shares them with you. The need to give to this person is a product of the way the money was sourced, and the source of money must be factored into the volume and value of a gift, as well as sourcing the relationship's inception.

When participants met *individuals* (so as to distribute at their own discretion with only the diminishing pile of winnings and rumor to worry about), their gambling friend received double what they did when participants could indulge in *free play*. If by chance they met, men especially took the chance to invest in the kind of money-centric relationships they think are important, but only if they thought they had enough money in absolute and in denominative terms to do the relationship justice. Said one participant, 'the price of a slot machine game is K50, so you must at least give them enough for a game.' When adult men meet *small groups* that include a gambling friend, they go out of their way to give more to them even in others company, whereas younger men and especially women tended to either give the same amount to everyone or give less to a gambling friend than a relative. Adult men stressed that gambling friends must be made to feel above others because of their previous gifts, and doing so in the presence of others will also let him know that the money was attained by gambling but obscuring that fact from others. Those others will only know that the two have an important relationship, making another case of close kin being equal to the donor by *not* receiving a gift. As such the donor-recipient become linked in others eyes and will figure more prominently in others thinking of them. Reciprocation as a contingent creative act of relationship-making outside of kinship and affinal ties is of course familiar to scholars of Highland New Guinea, and that it should be gendered male is also predictable. Politically active people desire transactions with others like them, and hence political elites are cemented through gambling. K50 and K100 denominations are these days synonymous with elites in part because they are cumbersome denominations to use in places like villages, and also because the kinds of transactions that can be made with them and therefore the people they are given to also reflect elite interests. The elite equality produced through them is deliberately exclusionary, producing hierarchy.

## Conclusions

Some results of the *skelim gem* may be highly generalizable distributive necessities that follow from the materiality of denominations, the metric system that currently governs where denominations fall on the spectrum of PNG money, and the standard formula used by states to control the relative amounts of denominations in circulation (Sargent and Velde 2002). There are also specific observations regarding denomination as a resource used to (1) rank the importance of distributing to different kinds of people, (2) mark the importance of gambling friends, to (3) express and acknowledge the public gaze, (4) create threshold denominations and use them as a marker of significance, (5) earmark large denominations and employ strategies to keep them; (6) highlight the importance of physical presence as a prompt to 'demand sharing,' (7) use small denominations as an enabler to

flexible decision-making, and (8) gender denominations and their use. These situated calculations reveal a malleable mathematical logic of communication measured in transactions that occur these days through fungible denominations.

‘Demand sharing,’ or transfers driven by proximity and projected knowledge are a better characterization among some relationships uncovered in the *skelim gem*, while interested gifting or investment are present but clearly marked off as the domain of political machination (see also Deville 2012). When either situation arose in public, both were capable of eclipsing people’s desire for personal consumption or to benefit their immediate kin.

‘Demand sharing,’ ‘gift exchange,’ equality, and hierarchy take forms that are signified in denominations that are made visible in plain sight. Money and denomination are not passive in this, and through figures like the gambling friend they come to represent their own break-away kinds of relationship. It has been shown that denomination can be used by different actors either as a crutch to prevent themselves from having to make distributions that they do not want to make, or as a means of impressing how scrupulous they are in observing the equality imperative during distribution. It is not possible to conclude that denomination determines action in a uniform manner among Gorokan participants, rather denomination is a tropic point that shapes whether people can or cannot express themselves adequately in their distribution activities. The *skelim gem* prompted people to act out the types of dilemma that preoccupy people during these decisions and give an indication of the relative priorities people have vis-à-vis the interests of immediate kin, the expression of equality, and the desire to embrace politically motivated gifting. The discussions likewise stand as testament to the resilience of these categories in contemporary Highland Papua New Guinea.

## Notes

1. For a full discussion on the utility of conceptualising transactions in terms of their component transfers, see Pickles (in press).
2. The Jacaranda Dictionary (Mihalic 1971):  
‘*Skelim*, (E: scale him)  
(1) to weigh something or someone  
(2) to balance something . . .  
(3) to portion out something  
(4) to judge’
3. The denominations are deliberately top heavy so as to ensure the participant would face conundrums.
4. When participants gave ‘money’ to a group to share or ‘bought’ them food/beer, they did it by putting an amount of money aside. In the tables below I divided those moneys equally among the people concerned.
5. I did not include K2 or K1 denominations in the heat map.
6. People are ordered on the Y axis according to the mean amount of money they were given, highest at the top.

## Acknowledgements

All errors are my own. Thanks to Taylor Nelms, Ursula Dalinghaus, the anonymous reviewers of JCE, and to C.N-C.

## Disclosure statement

No potential conflict of interest was reported by the author.

## Funding

This research has been supported by an ESRC1+3 studentship [grant number ES/G012814/1], by a Junior Research Fellowship at Trinity College, University of Cambridge, and by a Postdoctoral Fellowship from the British Academy [grant number pf160081]. The original fieldwork was also supported by the Royal Anthropological Institute through an Emslie Horniman fieldwork grant.

## Notes on contributor

**Anthony J. Pickles**, after a PhD in social anthropology from the University of St Andrews, Anthony Pickles was a Junior Research Fellow at Trinity College Cambridge, and is currently a British Academy Postdoctoral Fellow at the University of Cambridge Department of Social Anthropology. Anthony's has more than two years of fieldwork experience in Highland Papua New Guinea, and has published on gambling, one-way transfers and pockets, among other things.

## References

- Akin, D. and Robbins, J., eds. **1999**. *Money and modernity: state and local currencies in Melanesia*. Pittsburgh: University of Pittsburgh Press.
- Bernard, H.R. **2006**. *Research methods in anthropology: qualitative and quantitative approaches*. Rowman: Altamira.
- Biersack, A., **1982**. The logic of misplaced concreteness: Paiela body counting and the nature of the primitive mind. *American Anthropologist*, 84 (4), 811–829.
- Borgatti, S.P., **1998**. Elicitation techniques for cultural domain analysis. In: J. Schensul and M. LeCompte, eds. *The ethnographer's toolkit*, Vol. 3. Walnut Creek: Altamira Press, 1–26.
- Burkins, D.E., **1984**. *Waiting for "company": development on the periphery of the periphery in the Southern Highlands Province, Papua New Guinea*. Thesis (PhD). Temple University.
- Chibnik, M., **1985**. The use of statistics in sociocultural anthropology. *Annual Review of Anthropology*, 14, 135–157.
- Collins, D., et al., **2009**. *Portfolios of the poor: how the world's poor live on \$2 a day*. Princeton: Princeton University Press.
- Desan, C., **2005**. The market as a matter of money: denaturalizing economic currency in American constitutional history. *Law & Social Inquiry*, 30 (1), 1–60.
- Deville, J., **2012**. Regenerating market attachments: consumer credit debt collection and the capture of affect. *Journal of Cultural Economy*, 5 (4), 423–439.
- Dodd, N., **2014**. *The social life of money*. Princeton: Princeton University Press.
- Ensminger, J., **2002**. Experimental economics: a powerful new method for theory testing in anthropology. In: J. Ensminger, ed. *Theory in economic anthropology*. Walnut Creek: Altamira Press, 59–78.
- Feil, D.K., **1987**. *The evolution of highland Papua New Guinea societies*. Cambridge: Cambridge University Press.
- Foster, R., **1995**. *Social reproduction and history in Melanesia: mortuary ritual, gift exchange, and custom in the Tanga Islands*. Cambridge, MA: Cambridge University Press.
- Foster, R., **2002**. *Materializing the nation: commodities, consumption, and media in Papua New Guinea*. Bloomington: Indiana University Press.
- Glasse, R.M., **1969**. *Huli of Papua: a cognatic descent system*. Paris: Mouton.
- Goddard, M., **2005**. *The Unseen City: anthropological perspectives on Port Moresby, Papua New Guinea*. Canberra: Pandanus Books.
- Gregory, C., **1982**. *Gifts and commodities*. London: Academic Press Limited.
- Gregory, C., **1997**. *Savage money: the anthropology and politics of commodity exchange*. Amsterdam: Harwood Academic Publishers.
- Guyer, J.I., **2004**. *Marginal gains: monetary transactions in Atlantic Africa*. Chicago: University of Chicago Press.
- Hann, C., **2006**. The gift and reciprocity: perspectives from economic anthropology. In: S.C. Kolm and J.M. Ythier, eds. *Handbook of the economics of giving, altruism and reciprocity*, Vol 1. Amsterdam: Elsevier, 207–223.
- Henrich, J., **2000**. Does culture matter in economic behavior? Ultimatum game bargaining among the Machiguenga of the Peruvian Amazon. *American Economic Review*, 90 (4), 973–979.
- Holbraad, M., **2017**. Money and the morality of commensuration. *Social Analysis*, 61 (4), 81–97.
- Kameda, T., et al., **2002**. Social sharing and risk reduction: exploring a computational algorithm for the psychology of windfall gains. *Evolution and Human Behavior*, 23 (1), 11–33.
- Larøi, F., et al., **2014**. Culture and hallucinations: overview and future directions. *Schizophrenia Bulletin*, 40 (Supplement 4), S213–S220.
- Lave, J., **1988**. *Cognition in practice: mind, mathematics and culture in everyday life*. Cambridge: Cambridge University Press.
- Leroy, J.D., **1979**. The ceremonial Pig Kill of the South Kewa. *Oceania: A Journal Devoted To the Study of the Native Peoples of Australia, New Guinea, and the Islands of the Pacific*, 49 (3), 179–209.
- Martin, K., **2013**. *The death of the big men and the rise of the big shots: custom and conflict in east New Britain*. New York: Berghahn Books.
- Mauss, M., **1990**. *The gift: the form and reason for exchange in archaic societies; translated by W.D. Halls; foreword by Mary Douglas*. London: Routledge.
- Mihalic, F., **1971**. *The Jacaranda dictionary and grammar of Melanesian Pidgin*. Milton, Australia: Jacaranda Press.
- Mimica, J., **1988**. *Intimations of infinity: the mythopoeia of the Iqwaye counting system and number*. Oxford: Berg.

- Nelms, T.C. and Maurer, B., 2014. Materiality, symbol, and complexity in the anthropology of money. In: E. Bijleveld and H. Aarts, eds. *The psychological science of money*. New York: Springer, 37–70.
- Oosterbeek, H., Sloof, R., and Van De Kuilen, G., 2004. Cultural differences in ultimatum game experiments: Evidence from a meta-analysis. *Experimental Economics*, 7 (2), 171–188.
- Oram, N.D., 1976. *Colonial Town to Melanesian City: Port Moresby 1884–1974*. Canberra: Australia National University Press.
- Parry, J. and Bloch, M., 1989. *Money and the morality of exchange*. Cambridge: Cambridge University Press.
- Peterson, N., 1993. Demand sharing: reciprocity and the pressure for generosity among foragers. *American Anthropologist*, 95 (4), 860–874.
- Pickles, A.J., 2009. Part and whole numbers: an ‘enumerative’ reinterpretation of the Cambridge anthropological Expedition to Torres Straits and its subjects. *Oceania; A Journal Devoted To the Study of the Native Peoples of Australia, New Guinea, and the Islands of the Pacific*, 79 (3), 293–315.
- Pickles, A.J., 2013a. Pocket calculator: a humdrum ‘obviator’ in Papua New Guinea? *Journal of the Royal Anthropological Institute*, 19 (3), 510–526.
- Pickles, A.J., 2013b. ‘One-man one-man’: how slot-machines facilitate Papua New Guineans’ shifting relations to each other. In: R. Cassidy, C. Loussouarn and A. Pisac, eds. *Qualitative research in gambling: exploring the production and consumption of risk*. Oxford: Routledge, 171–184.
- Pickles, A.J., 2014. Gambling futures: playing the imminent in highland Papua New Guinea. In: W. Rollason, ed. *Pacific futures: projects, politics and interests*. New York: Berghahn, 96–113.
- Pickles, A.J., 2017. To Excel at bridewealth, or ceremonies of Office. *Anthropology Today*, 33 (1), 19–22.
- Pickles, A.J., 2019. *Money games: gambling in a Papua New Guinea Town*. New York & Oxford: Berghahn.
- Pickles, A.J., In Press. *Transfers: a deductive approach to Gifts, Gambles, and economy at large [and comments and reply]*. *Current Anthropology*.
- Rappaport, R.A., 1984 (1968). *Pigs for the ancestors: ritual in the ecology of a New Guinea people*. New Haven: Yale University Press.
- Read, K.E., 1959. Leadership and consensus in a New Guinea society. *American Anthropologist*, 61 (3), 425–436.
- Rew, A., 1974. *Social images and process in Urban New Guinea: A study of Port Moresby*. St Paul: West Publishing Company.
- Sargent, T.J. and Velde, F.R., 2002. *The big problem of small change*. Princeton: Princeton University Press.
- Sexton, L., 1986. *Mothers of money, daughters of coffee: the Wok Meri movement*. Ann Arbor: UMI Research Press.
- Shell, M., 1995. *Art and money*. Chicago: University of Chicago Press.
- Smith, V.L., 1982. Microeconomic systems as an experimental science. *The American Economic Review*, 72 (5), 923–955.
- Stafford, C., 2008. Linguistic and cultural variables in the psychology of numeracy. *Journal of the Royal Anthropological Institute*, 14 (1), S128–S141.
- Stafford, C., 2009. Numbers and the natural history of imagining the self in Taiwan and China. *Ethnos*, 74 (1), 110–126.
- Stasch, R., 2009. *Society of others: kinship and mourning in a West Papuan place*. Berkeley: University of California Press.
- Stewart, P.J., and Strathern, A., 2002. Transformations of monetary symbols in the Highlands of Papua New Guinea. *L Homme*, 2, 137–156.
- Strathern, A., 1969. Finance and production: two strategies in New Guinea Highlands exchange systems. *Oceania; A Journal Devoted To the Study of the Native Peoples of Australia, New Guinea, and the Islands of the Pacific*, 40 (1), 42–67.
- Strathern, A., 1971. *The rope of Moka: big-men and ceremonial exchange in Mount Hagen, New Guinea*. Cambridge: Cambridge University Press.
- Strathern, M., 1975. *No money on our skins: Hagen migrants in Port Moresby*. Port Moresby: New Guinea Research Unit, Australian National University.
- Strathern, M., 1988. *The gender of the gift: problems with women and problems with society in Melanesia*. Berkeley: University of California Press.
- Strathern, M., 1991. Partners and consumers: making relations visible. *New Literary History*, 22 (3), 292–311.
- Tracer, D.P., 2003. Selfishness and fairness in economic and evolutionary perspective: an experimental economic study in Papua New Guinea. *Current Anthropology*, 44 (3), 432–438.
- Verran, H., 2001. *Science and an African logic*. Chicago: University of Chicago Press.
- Wardlow, H., 2006. *Wayward women: sexuality and agency in a New Guinea society*. Berkeley: University of California Press.
- Wassman, J. and Dasen, P.R., 1994. Yupno number system and counting. *Journal of Cross-Cultural Psychology*, 25, 78–94.
- Zelizer, V., 1997. *The social meaning of money*. Princeton: Princeton University Press.