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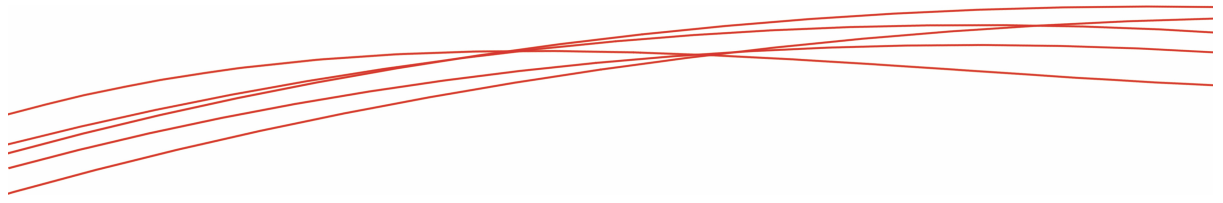
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**Economic Circuits in Madagascar
'Agencing' the Circulation of Goods, Accounts and Money**

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Partners //



P a c t e

UNITÉ MIXTE DE RECHERCHE CNRS

Abstract

The everyday life of markets is constantly challenged by disruptions, uncertainties, unexpected outcome, which are most often diffuse and invisible. While the literature in markets has addressed the issue of uncertainty as a fundamental element underlying any commitment to action (Beckert, 1996, 2003), it has been more attentive to the various strategies of reducing uncertainty - i.e. the framing of interactions by rules or devices - than to the way people cope with ineluctable and unforeseen events in the daily making of markets. In this paper, we defend the idea that the day-to-day management of transactions leads to the emergence of what will call an *economic circuit*. We define an economic circuit as a socio-technical and spatialized chain which organizes on a regular and continuous basis the circulation of goods and payments between (or at least familiar) partnerships (Zelizer, 2004). Exchanges are circular, assembling heterogeneous medias and transfers (Slater, 2013), and relying on financial arrangements, particularly delayed payment, as a crucial mode of transaction continuity. To illustrate the concept and its range, this paper draws upon the case of the small-scale trading networks in Madagascar. The analysis focuses on the creative adjustments and constant reconstructions taking place in the course of transactions, which endow the circuit with (temporal) elasticity and resiliency towards unforeseen events and uncertainties.

Introduction

From the seminal proposal introduced in “The laws of markets” (Callon, 1998), much literature devoted to the sociology of markets has moved its focus to the ‘engineering’ of markets, highlighting the huge enterprise of formatting and framing the ‘process of ‘economization’ (Caliskan & Callon, 2010). Scholars have endeavoured to explore and describe the growing complexity of knowledge and technologies involved in the design of markets generated by the “market technosciences” in our so-called “market societies” (Araujo, Finch, & Kjellberg, 2010; Azimont, 2010; Cochoy, 2008; Kjellberg & Helgesson, 2006; MacKenzie, Muniesa, & Siu, 2007). The subject of this paper is somewhat removed from this area and concentrates on one of the vast ranges of economic activity designated by the controversial term “informal economy” (Elyachar, 2005), where technological design by the public and macro-actors is much less prevalent, if not absent. It aims to explore the interesting properties of the socio-technical *agencements* operating in small-scale trading networks, focusing on these not

so much as “exotic” markets but rather emphasizing the dimensions that might be considered as invisible or unthought-of in other markets.

As a basic starting point, we consider these economic circuits as a form of market. Whatever their peculiarities, these markets can be addressed using the same theoretical apparatus as western markets when analyzing the various sorts of material and cognitive mediations framing the transactions taking place. Obviously, their specific characteristics require that we move away from the usual focal points. To gain an understanding of market engineering classically requires delving into various types of specialized and expert knowledge - R&D, marketing and economics, consumer representatives - or technologies (algorithms, business plans, packaging, mobile phones, etc.). In contrast, our study of the micro-economic circuits of Madagascar will home in on the mundane and cobbled arrangements connecting various micro-entrepreneurs in the whole chain of production. Instead of moving through controversial algorithms (Lepinay, 2011; Muniesa, 2004), automated processes of calculation (MacKenzie & Millo, 2001) or sophisticated consumer analyses (Araujo, 2007), our attention will focus on small notebooks, scribbled invoices and interchangeable moneys. Nevertheless, these specific aspects do not radically change the nature of the economization process: here, as elsewhere, most market design is conducted by extremely different groups of actors according to different processes of qualification and valuation of goods (Callon, Méadel, & Rabeharisoa, 2002; Vatin, 2009); and here, as elsewhere, people ‘calculate’, while instruments and technologies form part of the calculative agencies. The hypothesis put forward in this paper is that the modalities specific to these economic circuits are of another order: they have less to do with the lack of formal institutions, the apparently limited ‘investment in forms’ (Thévenot, 1984, 2002) or the sub-technologization of the calculative agencies than with the way people engage in uncertain transactions and deal with the risk of indeterminate economic exchanges. Their commitment rests on a subtle “equilibrium of cooperation” (Quéré, 2006) between instruments, humans, commodities and moneys in which the temporal dimension is central.

In the following presentation, we shall explore the material and economic life of small-scale Malagasy producers, circulating between a small number of specific economic circuits connecting the periurban villages to the urban markets in Tamatave: the fish processing circuit, the car battery repair network and the everyday sale of foods. In the first part (section 1) we shall identify the forms and characteristics of economic exchange uncertainty. Characterizing the forms of uncertainty in market exchanges can also yield some clues to, or even a first description of, the market *agencements* of which they are part. Based on this description, we shall then explore the ongoing circulation of people, goods, accounts and money, homing in on the key stages of hand-to-hand transfers. As economic circuits extend along a chain of participants (section 2), an

ethnography of the *agencement* suggests we should follow the two-way transfer flow (goods/money): “shadowing” people, goods and money on the move (Czarniawska-Joerges, 2007) will allow us to consider the market *agencements* not only in their spatial dimension but also in their temporal setting (section 3). We shall see that this temporal dimension appears to be central to the price-setting process and the sharing of risks among participants.

Methodology

This study stems from a research programme on innovative products and services aimed at improving the livelihood and business opportunities of small-scale producers and micro-entrepreneurs in emerging countries (Cholez & Trompette, 2013; Cholez, Trompette, Vinck, & Reverdy, 2012). The innovations of greatest interest to us are ‘market technologies’ such as digital market places and mobile applications, which ‘equip’ small producers and build so-called ‘inclusive markets’ (Maurer, 2012; Maurer, Nelms, & Rea, 2013). In order to tackle the issue of ‘*re-agencing*’ markets, our study traces the socio-technical *agencements* of small production and trading micro-networks: what are the existing ‘agencies’ associated with the local economic rationalities (Lave, 1988) and the relational configurations of these informal commercial circuits (Zelizer, 2004)? Which tinkered instruments are used to support the classification, qualification and valuation of goods (Azimont, 2010; Callon & Law, 2003; Vatin, 2009)? What are the ‘indigenous’ forms and repertoires (Dufy & Weber, 2007) shaping the entrepreneurs’ calculation methods?

Based on fieldwork inquiries carried out in Madagascar in 2009 and 2011, the analysis will principally focus on two small-scale economic circuits stretching between Toamasina city (Tamatave), situated on the east coast of Madagascar, and coastal villages from five to one hundred kilometres away from the city. The small-scale fishing supply chain links up fishermen from the coastal villages with urban market places. The second circuit follows a parallel but less visible market, involving the provision, repair and recharging of second-hand car batteries, used in the countryside as a makeshift do-it-yourself way to access electricity (to recharge mobile phones, listen to music or watch TV). From all the data collected, 17 interviews more specifically concern these two small-scale economic circuits; 26 interviews relate more broadly to the material and economic life of Malagasy rural households where multiple activities (craftwork, minor local commerce like cheap eateries, corner shops, intermittent salaried work, etc.) are generally combined; and 14 refer to the consultation of political institutions or public representatives (national or local elected representatives, governmental agents, traditional and religious leaders, representatives of local producers’ associations), local project partners in the fight against poverty (government officials, NGOs) and representatives of the microfinance sector. All the interviews and observations performed, to which a series of videos and photos was associated, were

recorded, translated and transcribed before being coded using an analysis grid compiled using qualitative data processing software (Nvivo).

The day-to-day building of market agencements and the ongoing transaction process

In this paper we bring together different theoretical approaches, all of which are related to a pragmatic perspective. The research carried out by Callon and other scholars on markets as socio-technical assemblages (*agencements*) will be combined with the complementary theoretical branch of situated action theory for its perspective on the dynamics of commitment in uncertain conditions (Dodier & Motlow, 1995; Quéré, 2006).

A pragmatic approach to socio-technical market agencements

Conceptualizing the action in and of markets through the notion of “*agencement*” allows us to follow the ethnography of the lengthier chain of sometimes diffuse and invisible “agencies” mediating the process of qualification and valuation of goods exchanged and the regulation of transactions. This *agencement* can be described through the distribution of cognitive operations between persons and things (Hardie & MacKenzie, 2007), a conception borrowed from the distributed cognition approach and redeployed in the field of economic sociology (Callon, Millo, & Muniesa, 2007; Cochoy, 2008). Following on directly from ANT (and its treatment of micro and macro issues), different *agencements* might form an “arrangement”, in which various agencies of different or even asymmetrical status (producers and consumers, for example) are assembled. Although the notion of *agencement* retains a certain operating flexibility, including changes in scale, it remains nonetheless fundamentally attached to the technical, classificatory and calculable market infrastructures from which stem the reduction of uncertainties and the provisory stabilization of transactions.

From the seminal study of the “strawberry market” (Garcia-Parpet, 2007), the study of the engineering of markets has moved on to an increasingly expert and multi-sited ethnography (Marcus, 1995), to the extent that it now embraces the techno-economic knowledge sophistication and specialization configuring the spaces of calculativeness. The small-scale autonomous organization of local producers and retailers in Madagascar takes us radically away from this ‘hyper-technization’ of calculative agencies while shedding light on other fundamental aspects of market *agencements*, and notably the centrality of “*agencing*”- that is to say the process of articulating entities. According to Quéré (2006), it can be said that any ‘*agencement*’ is a mode of ordering items “in a polarized whole where they function together and are articulated in such a

way that the action becomes the product of this arrangement” (p.123)¹. In this "functioning together", the spatial and temporal dimensions are crucial: the different scales of articulation of things and agents, the fluidity of coordination, but also the time-setting of payment and possible deferred payments are central in the daily routines of these economic circuits. Shadowing the modes in which the spatiality and the time-setting of transactions are deployed will be essential to our understanding of market device agency.

The daily re-framing of market agencements

This focus on the process of *agencing*, in a context where the pre-formatting of agencies is much less technologized and the functioning of the market less framed by legal institutions, leads us to focus on the creative adjustments and constant reconstructions taking place in the course of transactions. From a pragmatic perspective, market design can be seen as an ‘ongoing experiment’ (Callon, 2009; MacKenzie et al., 2007), which reveals entities and overflowing throughout the building of assemblages: artefacts incorporate scripts of use, provide ‘grasps’ (i.e. affordance) (Bessy & Chateauraynaud, 1993), structure interdependencies, ‘enrol’ and configure the user (Akrich, 1995), and assemble distributed cognition (notably as calculative agency). In short, these assemblages lead to association and alignment that are systematically challenged by “reality tests” (Overdeest, 2011). In turn, these reality tests call for operations of reframing to take into account the overflowing arising in the course of action. Although Callon & Muniesa’s research mainly refers to the expertise of economic science and, beyond that, to its performativity in relation to market governance, it can be extended to what we call the “daily making of market *agencements*”.

In this paper, we focus on the way the *agencements* supporting economic exchanges are “disrupted daily” by unforeseen events and uncertainties in the course of transactions and all along the supply chain. These disruptions call for reframing operations in order to return to an *equilibrium of cooperation* (Quéré, 2006)², and confirm the reliance of agents engaged in the economic circuits. This means that the reliability of any *agencement* is always built as and when actions and related contingencies occur and

¹Original quote in French: « On peut dire que tout agencement est la disposition convenable d’éléments « dans un tout polarisé où ils marchent ensemble et s’articulent de telle sorte que l’action soit à proprement parler le produit de cet agencement » (p.123).

²“An equilibrium of cooperation is achieved in an agencement when the co-functioning of associated components is seamless, particularly when agents have appropriately tuned their behaviour in the course of their interactions with the environmental elements and detected the limits beyond which either the behaviour of things and people becomes once more indeterminate or their abilities (bodily among others) and habits are stretched beyond their possibilities”
Original quote in French: « Un équilibre de coopération est atteint, dans un agencement, quand le co-fonctionnement des composantes associées se fait sans heurts, en particulier quand les agents ont trouvé le bon réglage de leurs conduites dans leurs interactions avec les éléments de l’environnement et ont repéré les limites au-delà desquelles soit le comportement des choses et des personnes entre de nouveau dans l’indétermination, soit les capacités (corporelles entre autres) et les habitudes sont sollicitées au-delà de ce qu’elles peuvent assurer. » (p.121).

thus requires regular adjustments. What happens if the quality of the product is poor or if there are problems with the supply? What are the subjects of conflict? How do people negotiate prices according to the variations of the final market? These breakdowns in the normal operation of economic circuits concern the process of *agencing*.

The ethnography of economic circuits

Following the processes of agencing requires looking at the properties of communication, transportation and money infrastructures. The economic activities we observed refer to what we call “economic circuits”: they concern small-scale processing units generally based on the association of a few regular partners: e.g. the fishermen, the carrier (transportation) and the gatherer/fishmonger, in the case of the fish processing circuit; the possibly clandestine retailer and their network of suppliers, and the repairmen/recharging shop and their rural clientele, in the case of the second-hand car battery business. The concept of “circuit” does not only designate and outline our object of research; combined with the idea of *agencement*, its heuristic scope is also relative to the issue of “circulation” and “flow” of entities. Observing local markets in emerging countries where there is a distinct lack of infrastructures brings the issues of transportation, transfer and connection back to the centre stage.

The “technological unconscious” of our western markets, as referred to by Nigel Thrift (Thrift, 2004), presents a contrast to these informal economies. On these markets, computing and new technologies are now supporting the instantaneity of transfers and the possibility of translocation. In his historical perspective on the knowledge of *position and juxtapositions* in Euro-American societies, Nigel Thrift sheds light on the unthought-of technological infrastructure of “addressing”, “tracking” and coordinating (timetables, diaries, barcodes), in other words the material infrastructure of the supply chain. In a similar vein, François Vatin (Vatin, 1996) also reminds us of the importance of spatial organization and communication in the organization of markets in his study of the 18th century milk processing economy in France, just like in the small-scale units of Southern Senegal. Circuits, in our conception, refer to creative circulation agencing modalities. These circuits supply goods or equipment and contribute to the fluidity of the market. Inventing local solutions to logistical failures is at the core of everyday trading practices and we shall be attentive to the way goods and payments are localized, tracked and transferred.

Uncertainties in Malagasy economic circuits

Uncertainty is a fundamental element underlying any commitment to action, particularly in market activities (Beckert, 1996, 2003). People shape *agencements*, reach agreements

and check exchanges in order to lessen uncertainty, although it cannot be entirely eradicated. To act means to do things with incomplete information, to give oneself up to the circumstances as they appear along with their unforeseen consequences (Quéré, 2006). Malagasy economic daily life is governed by a range of common uncertainties. Micro-entrepreneurs and traders have to deal with many unforeseen events threatening their transactions

An irregular supply in an economic context of volatile monetary income

The markets studied here concern very poor people in the Malagasy economy. They fit into economic practice patterns based on the exploiting of fluctuating opportunities and depending on volatile monetary incomes. Most of the micro-entrepreneurs we met combined several small economic activities (crafts, small grocery, snack bar, repair shops, cell and phone recharges, etc.), developing these according to short-term priorities. In rural villages, participation in economic circuits remains secondary to the agricultural economy, which is based on self-sufficiency. According to one craftsman, “We can leave everything when it is time for rice.” Two resulting consequences can be highlighted: the supply chain and its disruptions play a determining role in market orientation (product availability, global volumes and hence prices), and cash shortages are common.

The sale of second-hand batteries or mobile phones depends on the (sometimes) clandestine arrival of goods from western markets. The fishermen specialize in sea fishing or freshwater fishing but the type of fish or shrimp they bring up in their baskets or nets often varies³. In the villages, the production of goods fluctuates in relation to climatic events but also depending on time spent farming and fulfilling self-consumption needs (rice and manioc but also market gardening, home breeding and the manufacture of charcoal). Production is generally intermittent, organized on a short-term basis and pulled by limited or specific monetary needs: meeting everyday spending needs, covering schooling expenses⁴ and participating in a family event, etc., are some of the obligations pushing short-term production and sale on the urban markets according to schedules and volumes dictated by payment levels and times.

³ The fishermen working the Pangalan Canal, where we performed our observations, use home-made methods (canoes dug out of wood, hand-made nets and creels), affording them only a limited catch from their immediate environment.

⁴“Schooling expenses” are paid by families to cover operating costs (teacher’s salary, educational materials, etc.) in primary and secondary schools in a context where the State cannot afford to do this.



Picture 1: A fish gatherer weighing fish products provided by a fisherman

The quantities and varieties circulating are therefore relatively limited and fluctuating just like the opportunities to make money. This is especially the case in rural villages where there are no banks and where non-monetary forms of exchange and circulation (such as renting fields in exchange for half of the crops produced) are common.

Unreliability and high cost of the supply chain

Many experts have mentioned the uncertainties associated with the weakness of primary infrastructures (Hart & Prahalad 2002). Small quantities are not only the result of the production rate but also adapted to the unreliability of the devices used in the supply chain.

In the fish circuit, the volumes sent by the fishermen are done so on a just-in-time basis: there is no stock. Fish are caught in the morning and sold the same day or, at the latest, the next morning because of the lack of any reliable means of conservation. The fish are transported by car, motorcycle or boat and are placed in cool boxes to prevent them from going off, although this is not always possible. The quantity of cool boxes that can be transported is limited either by vehicle capacity or by the driver's decision to take passengers and freight. In the battery circuit, the quality of battery recharging depends on the national electric grid not blacking out. Hence disruptions are considered normal as is the lack of reliability of devices and products. People are used to living with many objects that are out of order.



Picture 2: The cool boxes

Yet, logistical costs can vary significantly depending on how optimized the loaded capacity is: everything that circulates (products, money, ice for cool boxes, etc.) has a fixed transportation cost that is paid by the fishmonger or by the market intermediary (fish gatherer). The cost of transportation⁵ for a full cool box is the same as for a passenger (50 000 fmg – 3.44 euro); for an empty box (for the return trip with the blocks of ice), it is half the price; and the tax for money transfer is around 2.5%⁶. This leads to substantial threshold effects, depending on the filling level of the cool box or the basket⁷, or the amount of cash money transferred. Indeed, this constraint can lead to negotiations with the drivers so that the maximum weight allowed by the cool box (40 kg) can be slightly exceeded.

Limited direct exchanges between partners in the context of a weak legal framework

These uncertainties with respect to products, availability, quality and logistics can be exacerbated by the low frequency of direct social interactions, which could afford an opportunity to smooth out any disturbance. Of course, none of these markets or small-scale trading networks is legally regulated: the products circulating are not subject to any standards. Regarding second-hand circuits, like the battery circuit, products can be distinguished according to their origin (European batteries are considered better than Chinese batteries), but this distinction is based on tacit knowledge. They are thus characterized by the fact that they escape any sort of institutional arrangement: agreements are set up by mutual consent and there is no contract or other proof to fall back on in case of a dispute.

Monetary transactions always involve cash and are usually settled on a “case by case” basis. For these markets, we did not observe any “advance” or fixed price payment system. Yet, the main partners in the transaction, who are often located at a distance from each other, do not always meet. In the small-scale fish network, the fish gatherers and fishermen only communicate by phone or via books or written notes. In the battery

⁵The prices that follow were recorded during the fieldwork carried out in 2011.

⁶The transportation of cash money may also be based on a fixed fee: e.g. transport on the Pangalan canal: 5000 fmg for an amount not exceeding 500 000 fmg or 1000 fmg for an amount exceeding 500 000 fmg.

In 2011, the transportation costs were as follows:

- for a basket: 7 500 fmg (xxx euro)
- for a full cool box: 50 000 fmg (3.44 euro)
- for an empty cool box: 25 000 fmg (1.72 euro)
- for a block of ice: 5 000 fmg (0.34 euro). A cool box usually contains 4 blocks of ice.

⁷An approximate calculation of the cost/price per kilo for transporting the famous Malagasy shrimp between the Pangalan Canal and Tamatave gives the following result: the sale price per kilo is about 20 000 fmg (1.37 euro); a fisherman usually sends around five kilos and cool boxes can contain up to 40 kilos of freight (fish and ice). Depending on fish availability, the cost of transportation can be equal to at least 12.5% of the product value, reaching 25% on a bad day.

circuit, often the person who picks up the charged battery is different from the person having dropped it off (for very remote villages, the battery might even be picked up by taxi). The regulations between partners concerned by the transaction are thus mainly mediated by a range of often different middlemen.

The ups and downs of life in rural and urban areas, the variety, quality and availability of products, together with the indirect and delayed interactions between partners, are all factors that can potentially lead to many disruptions. These disruptions are an integral part of the daily life of the economic circuits of the Malagasy “informal” economy. Most of these disruptions are unpredictable; they are simply part of the ineluctable uncertainty that people have to cope with. However, as we shall see in the next section, although the actors of these “informal” economic circuits cannot really avoid most of the disruptions, they can manage to reduce their consequences. This leads to the question of how they set up the equilibrium of cooperation they need to engage in, given this context of uncertainty? In this next section, we shall describe how we think the process of *agencing* should be read.

Economic circuits: configuring the chains of cooperation and coordination

The process of agencing helps actors to cope with uncertainties: it involves the actors configuring chains of action and devising the means of being able to organize cooperation. The ‘conventional foundations’ (Dodier & Motlow, 1995) they invent are the focus of this second section. Although these do not resolve the issue of uncertainty, which is regulated through routines and situational adjustments, they do support anticipation, action programmes and regularity while minimizing communication requirements. We can identify two essential forms of conventional foundation (rooted in individuals or external elements such as equipment and material devices) structuring the *agencements*: the first supports compulsory “alliance” networks; the second stabilizes the chains of coordination and circulation that are “regulated” to support the continuity of flows.

Trading and kinship: two sides of the same relationship

One of the first most visible forms of the configuration of agencies is the combination between business association and links of affinity that we shall designate by the term “kinship”. Kinship can refer to a genuine extended family relationship⁸, but can also refer to the various types of closeness felt between privileged partners. Although this kinship may partly reduce uncertainty thanks to the knowledge of potential partners it

⁸ Insofar as the unit of reference is not limited to the family nucleus but encompasses a broader family circle, which sometimes even includes part of the village or its surroundings (“everybody is more or less a relative”).

normally provides (Hardin, 2006), it is the mutual ties between the actors, strengthened over the course of their business relations, which seem essential within Madagascar's informal economic circuits. Whether or not it pre-exists engagement in the economic circuit, a closeness or kinship regime authorizes a system of expectations and obligations, which stabilizes the alliances within these networks.

The relationship between kinship and trade can be essential when an activity is launched, as it is rare for relatives not to provide resources: to help buy a license on the market or a first boat for fishing, to set up a stock of goods to open a grocery store, to obtain the capital required to launch a small trade or business activity, etc. A son, a sister or other relative may contribute with a family loan or by making a direct purchase (which is not necessarily reimbursed). This initial link, where credit and kinship are combined, may be compared to a relationship based on mutual assistance but also, and to a much greater extent, it involves the partners mutually engaging in their future exchanges. The account given by Mrs. Françoise, who is a gatherer⁹ and retailer of freshwater fish on one of the Tamatave markets, highlights the setting up of this regime of closeness as part of a business association.

Mrs. Françoise started her fishmonger's activity 6 years earlier (in 2005) when she decided to leave her job as a cleaner. Her first initiative involved setting up a partnership with the fishermen in a coastal village (Andevoranto) to guarantee her supply.

Translator: "To begin with, she tried to identify the families or people she knew in Andevoranto (...). She went out there, she looked for a partner in Andevoranto, she found one, she negotiated a payment system, and then she went to see her cousin about a stall and a license."

In her correspondence¹⁰, she calls her Andevoranto business partners (a couple who fish and gather) "my dad and mum Salam." Translator: "Because she considers them like her mum and dad. They are not part of her family, but they are people she knows and whom she considers to be part of her family."

This account highlights the way the ties of kinship and the business association are progressively wound together. The kinship may be real (a cousin who already has a license to sell on the market, which she extends to allow Mrs. Françoise to open her stall) but not necessarily: the fishermen from Andevoranto with whom she sets up a partnership are "acquaintances". But as her story unfolds, we can see how her

⁹ The term "gatherer" designates all sorts of market intermediaries who buy foodstuffs (e.g. fish) in the villages in order to sell these on. In the rural areas there are rural gatherers (or producer-gatherers or fishermen-gatherers when they have their own production or fishing activity), who gather the goods in their village and sell them to "urban gatherers". In the urban areas, the gatherer-fishmongers, who buy the goods either from rural gatherers or directly from producers, sell these goods themselves on the urban markets. In this article, we use the term fishermen-gatherers to refer to the partners located upstream of the circuit (in coastal villages or rural areas) and gatherer-fishmongers to refer to those who sell on the urban markets.

¹⁰ Which we read with her.

relationship with the couple evolves: while they are partners when she sets up her business, they become “*like her mum and dad*” in her daily dealings with them. The relationship of kinship thus seems to be activated according to a rhetorical or almost performative register.

Underlying Mrs. Françoise’ story we can hear the essential challenge she faces, i.e. how to stabilize her source of supply in a context of supply uncertainty (§1). In some small-scale supply chains like the fish circuit, more greatly exposed to competition between market intermediaries, it is not unheard of for gatherers (urban or rural) to financially invest in the fishermen they work with (by buying fishing nets, cool boxes, or even canoes) in order to ensure their loyalty. Hence, the relations of kinship with their suppliers are described as a means of supporting privileged exchanges and arrangements and limiting competition, as shown by the following series of excerpts from interviews with gatherers or fishermen:

Translator: “In fact, these gatherers, they have family ties with the entire village on the canal (...), they have families who do them favours, that’s why it’s much more difficult for somebody else who’s not from here.” (Interview with a fish gatherer from Tamatave).

Researcher: “So who are the suppliers here? His brother who’s a fisherman and also his son-in-law who lives in the village too.” (Interview with a Tamatave fishmonger).

Translator: “They have historical ties with the village, they have friends, they have family.” (Interview with a fish gatherer from Tamatave).

The setting up of alliance networks is not limited to the essential stages of primary supply. Throughout the coordination chain there are business alliances based on the convention of kinship. The carriers who ensure the circulation of products and money between villages and towns are not interchangeable ‘nobodies’ but privileged and regular partners who it would be difficult to betray. This prevents us from adopting an overly functionalist reading of the situation (Quéré, 2006). As once carrier explains, referring to a possible cause of dispute with a gatherer, it would be problematic to exploit the competition by changing intermediaries: for example if a member of the family of the gatherer [a fisherman from the village supplying the fish] partners with another carrier and “puts the ice elsewhere” (i.e. entrusts it to a competitor). Each gatherer strives to build up a privileged relationship with “their” carrier, so as to guarantee the transport of their perishable foodstuffs. The gatherer may be faced with the competition of other gatherers, or even simple travellers, who are more profitable for the carriers than cool boxes filled with fish. Thus, negotiations focus less on prices than on the volumes transported in relation to the room available. Translator: “All the drivers are friends of the gatherers (...). It is the gatherer who decides to choose a

specific cooperative as a partner in order to benefit from a close relationship based on trust and prevent the fish from going off.” (Interview with a carrier).

The network of allies also plays an essential role in the battery circuit, although this seems to be less risky from a logistical point of view¹¹ than the fresh produce circuits. The supply of second-hand batteries relies on two completely informal but highly organized chains: the illegal trade in second-hand cars imported from neighbouring countries and also the purchase of old batteries from local drivers and transport companies at low prices. ‘Working the import trade’ requires being ‘in the know’ with well identified trading partners so that the traders can have regular access to a good stock of batteries¹². The network of drivers and transport companies represents a smaller, complementary source of supply, with drivers either taking the old battery directly to the repair workshop or giving it to door-to-door salesmen who work as middlemen. Whatever the case, the retail entrepreneur needs to be connected with an organized network of intermediaries to gain access to these products.

The end users themselves may be friends and family as in the case of Mr. Ernest, a retired truck driver¹³, who today has a small battery recharging business¹⁴, which is widely “supported” by his extended family and friends. Translator: “His customers, in fact, are people who know him, members of his family or friends.” (Interview with a second-hand car battery recharger, Tamatave).

The kinship framework allows a system of mutual assistance, expectations and obligations and is part of the business relationship: it is difficult to refuse to provide someone close with financial help or credit (even when the money may not be paid back). With someone close it is important to find some kind of “arrangement”, allowing them to benefit from small advantages or deferred payment for example. Mr. Ernest’s customers do not always pay him immediately and enjoy considerable flexibility in terms of dropping off and picking up their batteries (sometimes a battery might be picked up one month later “when they can pay”).

These shifts in cooperation agreements might characterize a form of “relational work”, in the sense of V. Zelizer, in other words work aiming to establish, qualify and model social links by earmarking goods, moneys or transactions. However, the ultimate goal here is not so much to mark out the borders between close ties and trade relations but, on the contrary, to make these disappear. Kinship and trade appear here as two sides of the same relationship: the normative borders are dissolved and the composition, or even

¹¹ No risk of a break in the cold chain or products going rotten and hence a less demanding logistical timeframe, etc.

¹² About eight times per year for a supply of 10 to 30 batteries per trader.

¹³ He can only charge two at a time.

¹⁴ Set up by his son (who bought second-hand recharging equipment) with the aim of having a regular source of cash income (“for buying tobacco”).

the confusion, between the regimes contributes to the development of flows of exchange and trust in a long-term cycle.

Stabilized personal and material devices to support coordination

The second form of conventional foundation we can identify is linked to the material logistics ensuring the circulation of goods between coastal villages and urban centres. Although highly diverse, the circuits are based on coordination mechanisms that combine learning, know-how, various forms of writing (or accounts), equipment, etc., and which appear to be relatively specific to each circuit depending on their characteristic uncertainties and interdependencies. The sociology of these local forms of coordination should focus more specifically on the modes of integration, articulation and combination of resources, where certain devices may play an essential operational role.

Indeed, to cope with these uncertainties, the freight between coastal villages and the urban centre of Tamatave rests upon a very well organized system that connects producers and retailers with the help of the key agencies distributed between human intermediaries (the repairmen, the gatherers and the carriers) and material devices to support negotiations. The description of the two circuits (battery and fish) will once again help us to tackle the principle *agencement* mechanism.

- Coordination chains to articulate spaces and commodities

Shadowing these two economic circuits, and particularly the movements of products, commodities, logistical support and money, enabled us to highlight the long and complex chains of coordination that articulate rural and urban areas throughout the business cycle. In the small-scale battery network, a form of actor spatial specialization emerges with each actor performing operations enabling the lengthy and renewable use of the products. The urban centre of Tamatave is strategic for at least two reasons. First, its port and geographic location make it a major logistical hub facilitating the arrival of batteries on the local second-hand market, either clandestinely via import networks¹⁵, or via the local vehicle repair activity. The city attracts resources from what we might refer to as nomad territories. Second, because of its size and regional coverage, the city attracts skills and large operators from different markets, notably for the repair and re-

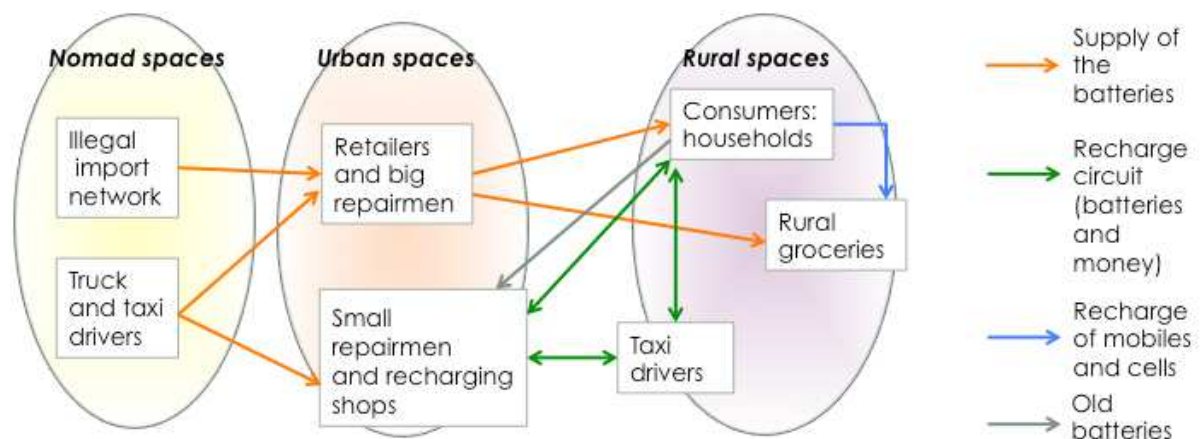
¹⁵The batteries are hidden in second-hand cars and in tyres on the inside of imported containers.

circulation, or even recycling¹⁶, of second-hand faulty batteries. Finally, as the city is connected to the national grid, it supplies the resource needed for regular battery recharging for urban and rural dwellers alike.



Picture 3: Empty battery boxes as an advertising medium

More remote villages that are not connected to the grid also provide a certain number of electrical resources. Grocers invest in generator sets and offer a phone and cell recharging service. Such services are used both by households without electricity and households with a battery who do not have the time or money to send their batteries to be recharged in Tamatave. It should be pointed out that vehicle battery transport very quickly becomes essential above distances greater than 10 km. Some households take their battery into town, making the trip coincide with other reasons, but are rarely able to bring it straight back with them owing to battery recharging times (usually one day). A special arrangement has to be set up with taxi drivers, who transport the batteries with or without their owners. The diagram below represents these forms of spatial specialization and their articulation (Fujimura 1987; Strauss 1988).



¹⁶Some repairmen may even go as far as to rebuild a battery from spare parts. They even use the empty battery boxes as advertising in front of their workshops, as shown in photo n° ... During our fieldwork, we saw flower market artists recovering batteries that could not be fixed and transforming these into garden boxes.

Diagram 1: Circulations and specializations in the battery circuit

Because the fish processing network is more intensive and regular (daily supply and sale), it relies on an even more elaborate system of transport and coordination between the coastal fishermen, the urban retailers in Tamatave and intermediaries such as the “gatherers” (rural and urban) and the carriers. Here, it is not so much the actors’ specialization in terms of the product life cycle that is surprising but the way so many flows (fish, logistical systems, money, fuel, etc.) are managed by the chain of actors.

In the morning, and depending on the distance and transport conditions, the Tamatave urban gatherers send out cool boxes or baskets filled with blocks of ice to bring back the fish from the fishing villages via the carriers with whom they are “linked”. In the villages themselves, the day’s catch is bought from the fishermen by the rural gatherers (sometimes fishermen themselves), who fill the cool boxes or baskets with fresh fish. The baskets or boxes are taken to road transport areas where the carriers are waiting for them. Thus, the carriers form a central channel and a point of convergence for the multiple rural supply circuits. These circuits then diverge once more at the bus station or port as the goods are sent on to the retailers and urban markets. Depending on the location of the villages, the transport may involve various steps by road or river (boat), along with the intermediate or final steps where transport may be by scooter or on foot.

The alliance bringing together the fishermen, carriers and gatherers does not just involve managing the flow of fish. The villagers sometimes use the empty baskets (with ice) to fetch everyday groceries from the urban centres. The actors’ interdependence, the various networks and the swapping of services play a joint role in ensuring the permanent fluidity of these circuits.

- The main role of human and material agencies

In both circuits, we can observe the central role of a certain number of human and material agencies that support flows and transactions.

The retailer-repairmen are essential in the small-scale battery network as they make it possible for a small number of constantly reshaped products to go (back) into circulation on the market. The clandestine supply transactions are based on stable rules known to all the participants in the trade (where they take place, the way the price is set and who gets what), while the re-sale agent’s expertise when evaluating the state of the merchandise, the nature and the cost of the repair operation, its re-sale potential and its wholesale value is an essential resource. The professionalism of the retail micro-entrepreneur can also be seen in the exchange with the customer at the end of the chain. Reputation plays a big role in building relations of trust at the re-sale stage, as in the battery repair and recharging stages.

However, professionalism is not the only important factor. There are material ways in which the reliability of exchanges can be assessed, lending stability to market arrangements. In the electric workshops, the sale prices and recharge prices are clearly displayed. The circulation of the batteries to be recharged is rendered secure by a ticket system stating the date, the power of the battery and the name of the client¹⁷. Every time a battery is dropped off or picked up its state is systematically checked in the presence of the customer using more or less sophisticated instruments depending on the size of the workshop: from a simple electric wire to check the charge level of the battery to measuring tools for acidity and voltage.



Posting up the different prices of recharges according to the battery size



Ticket given to the client when leaving a battery for recharging

Pictures 4 & 5: Writings in recharging workshops

We have already mentioned the role of the gatherers and carriers in the transport of goods for the small-scale fish sector. This transport is a central link in the circuit (see diagram 2), which is also one of the most well-structured in the chain insofar as the carriers are genuine professional organizations with salaried drivers. Their regularity provides the exchange system with a form of security. Translator: “Trust, it’s to do with the organization with the boat (...), in fact, the log book and all that (...), with all this organization, there is trust even if it isn’t their family, there is trust because it’s well organized.” (Interview with a Tamatave gatherer). This is confirmed by another gatherer. Translator: “There’s an organization in the boat, there are commission supervisors, the riverboat pilot and his crews, who pick up the fish from the people in the village (...). So the owners from the village ask the boat crews to take these baskets with their names on them to the gatherer and it’s only later that the gatherer sends back the money via the same person.” (Interview with a Tamatave gatherer).

¹⁷ Sales are accompanied by a 3 to 6-month guarantee.

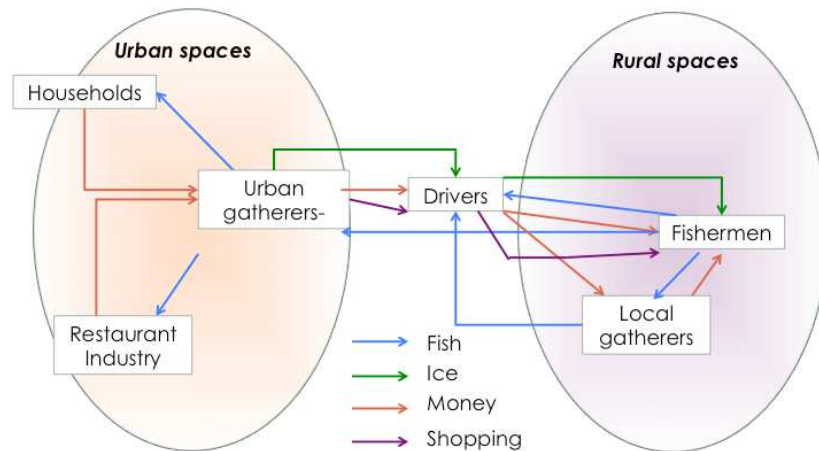


Diagram 2: The central role of the carriers in the transport of various goods

As the baskets and cool boxes are passed from hand to hand between the main partners of the fish circuit (retailers/gatherers/fishermen), without their owners being present, they are “equipped” (Vinck, 2006): small notebooks are attached to the basket or inside the cool box, wrapped up in plastic to prevent them from becoming damp. The books contain written information such as the different types of fish sent, the weight of each species and the price paid by the gatherer. On its journey back to the village, the empty basket or cool box carries the same notebook, inside which the cash to pay for the fish has been inserted.

The basket, notebook and inscriptions thus form essential communication channels between the fishermen and the retailers. It is expensive to communicate via mobile phone: it is not insignificant to see the partners (rural fishermen-gatherers/urban gatherer-fishmongers) using this device to exchange what they consider to be the essential information: have you got any fish and was it transported today?



Pictures 6 & 7: The basket of fish and the notebook

It can be said that all the coordination is based on routinized interactions along the chain of actors and is supported by key devices such as the basket or the cool box and the notebook, which circulates both ways, either with the fish or with money inside it.

Agencing, timeframes and price-setting

To move beyond the conventional foundations and devices to an understanding of the “agencing” process itself, it is necessary to home in once more on the former while they are active rather than “at rest”, i.e. being used in action situations and negotiated, modified and “transformed”, as the conditions of exchange are constantly readjusted. This shift in perspective will lead us to focus on the temporal succession of the chain of transactions making up the circuit. We shall then see that this temporality forms a dimension that is seemingly interlinked and inseparable from the *valuation* and hence price-setting operations.

Financial micro-arrangements and entanglement in the exchange circuits

“In the city, endless transactions are based on verbal pledges: goods are exchanged for work, small loans of cash, foodstuffs or objects are swapped for other loans or days of work, each actor keeping a mental note of what they receive or give,” says Laurence Fontaine about urban financial micro-circuits in pre-industrial Europe (Fontaine, 2008). Madagascar’s precarious day-to-day economy reflects fairly similar mechanisms. There is an almost constant lack of cash, and people “make do”, coping with the structural reality by setting up various arrangements. If we were to explore further the payment conditions in the small-scale trade sector, notably the food trade (grocer’s shops), in Madagascar’s periurban or rural world, we would see that multiple types of informal micro-credit are omnipresent. When invited to talk about the sayings and proverbs relating to the use of money, a group of villagers made some interesting comments. Translator: “In fact, tsikalakalam-bola means this: when you’re a grocer, I buy rice, from you for example, and the next day I come back to buy fuel from you. And when I buy fuel, I don’t go and get money but I ask you to let me owe you. And the next day, when I still haven’t paid you back, you came to my house to lend a sum of money that is more than what I owed you. And the next day, your son came to see me to lend me ten thousand francs! And then the next day it’s your husband! So you see how the money overlaps at the end of the day! (Focus group on the theme of money in a village 20 km from Tamatave).

Indeed, it is not unheard of for some loans never to be paid back or for the balance of things exchanged never to be entirely re-established¹⁸. It is preferable to write off a debt rather than ask the borrower for reimbursement, as this would reflect a lack of

¹⁸The following explanation is given to us about this proverb : “*Because there is a wish to settle all the accounts when in fact the son lent money, the other guy reimbursed him, at the end of the day nobody knows who gave what to who and so it’s perhaps better... to forget rather than fall out with your kin.*”

“greatness” and lead to conflict. Translator: “Somebody might owe me money. It is always difficult to go up to such people and ask them face-to-face to give it back. Thus, to avoid shame or to avoid wasting time, but above all to keep relations friendly and sociable, I prefer to forget what they owe me.” (Focus group on the theme of money in a village 20 km from Tamatave).

In relations between suppliers and intermediaries, deferred payment, rather than real credit, is not only a tolerated practice but sometimes instituted. It is less a question of debt or borrowing than offering payment facilities: the supplier waits for the foodstuffs to be sold before being paid.

Let us follow Mr. Félicien, a maker and seller of fresh pasta, who lives in a village 10 km from Tamatave. He produces 10 kg a day and distributes his products to individual customers from surrounding villages as well as to small eateries located along the road, close to Tamatave. The eateries are supplied regularly (every day or two days), and the small-scale producer therefore has a network of relatively stable retailers who regularly order from him. But his production is limited by his transport capacities: *“I can’t meet requirements because I use my bike to make deliveries to my customers (...) I don’t go to Tamatave because the bike is damaged, I can’t fulfil the orders.”* Arrangements might be set up at multiple levels: covering the cost of an order (cost of a phone call) by calling his customers if they do not do so themselves; then, by deferring payment of the goods to the after-sale of soups: *“Because there are people who don’t have the money straight away but you have to wait awhile longer.”* Translator: *“Are they all like that?”* Mr. Félicien: *“No, not all of them, just a few (...)”* Translator: *“When that’s the case, do they bring the money to you or do you have to go and get it from them?”* Mr. Félicien: *“No, I have to go and get it myself (...) I take the pasta to them (...) They still don’t pay.”* Translator: *“And it’s always you that goes back there?”* Mr. Félicien: *“Yes, to get my money; at the end of the afternoon (...) about 5 pm.”* The limits of these arrangements are constantly pushed back in the course of the transactions: the same producer might let his customer know if his tolerance is being stretched too far. Bad payers are given specific treatment. Translator: *“He stops supplying them as punishment.”*¹⁹ The partnership may or may not be continued following this attempt to bring back balance to the transactions.

We have already mentioned the flexibility of the battery rechargers regarding when the charged devices are picked up. It is not unheard of for the batteries to be “dropped off” at the recharger’s and stored until some money has come in. In one small battery recharging workshop, a regular customer drops off a battery and the recharger simply asks him, *“Will you be the one coming to pick it up?”* They do not talk about the price

¹⁹This pasta maker said that 2 out of 10 of his customers are bad payers.

(“he already knows the price”), or the day when he can come and pick it up: *“it varies a lot”*, says the recharger, *“because sometimes they don’t have any money. Sometimes they don’t come back for a month.”*

The economic circuit is maintained as the transactions are constantly recomposed and reassembled inside the alliance network, which itself changes daily depending on events: while a trade association might involve relations of kinship, the economic circuits also include exchanges of services and moneys.

By following the upstream and downstream flows of fish baskets and cool boxes we can see that, along with the information about fish species and the trade accounts, the notebook may also contain a list of shopping for the village fishermen’s family or families, to be bought from the money made from the sale of the fish:

Translator: “And these people, the local gatherers and fishermen, send off small notebooks, and in them there’s a whole list of products they’re going to sell in Tamatave, along with orders if they’re going to be buying anything, without leaving their village, they do their shopping using the notebook. For example, after selling the fish, they ask the people who sold the fish to buy 1 kg of rice, a bag of rice or some other grocery. So instead of sending money for the price [the payment] of the fish, you buy me rice and you send the rest back in cash.”

Researcher: “So they do the fishermen’s shopping with money from the sale of the fish - their groceries and so when that’s the case, it’s the receivers working in the boat or the pilots and baggage handlers who pass on all these messages and they then follow up on their supplier’s requests, they do them a small favour for buying that.” (Interview with a fish gatherer, Pangalan canal).

While the flows of goods for sale and products for domestic consumption cross paths along the economic circuits linking the rural villages and periurban areas of the city, so too do the means of payment, the swapping of goods and services and alternative moneys. Everything is entangled within the circuit: the merchandise circulating is formed at once of the goods exchanged and the moneys used to make the exchange. These “assemblages of transactions” offer characteristics that are very similar to the “assemblages of communications” identified by D. Slater in Africa when he studied the combinations and connections in the use of different communication media (dispatch of written messages, telephone use, text messages, etc.), (Slater, 2013a, 2013b). They can be found in many places along the chain through the exchange of services, and they make it possible to optimize the human and material costs of transport. Used with excessive parsimony, the mobile phone appears to be one of the essential media for the daily making of this flow continuum. On the Pangalan canal, one fish gatherer describes these service exchanges between carriers and gatherers as follows:

Translator: “They use phones for several reasons : first, if the pilot does not have any petrol, he knows that the gatherers will be coming here in the morning so calls ahead of time and asks these guys to buy the fuel, because they have fuel to get here but for the remaining 9 km, they don’t have enough fuel. It’s here that they pick it up. So, that’s when the pilots use their phones to call the gatherers who are close to the stations.”

“They [the gatherers] pay for the fuel?”

“Yes, they pay for the fuel and the pilots reimburse them, because they come from Tamatave (by motorbike or scooter). And vice versa, when the gatherers don’t have any petrol, between them, for example, if yesterday evening one of them runs out of petrol and can’t get here, he phones his colleagues for them to come and pick up the fish from their usual customers: “I can’t get out to the village, please bring all the fish”. Between colleagues, they help each other, because they don’t live in the same places, but they help each other.”

Coping with all sorts of unexpected events and uncertainties, the economic circuits brim with creative activity involving adjustments and arrangements which, instead of highlighting any differentiation within the exchange circuits (domestic versus trade) or pinpointing the specialized nature of the transactions, reflect the multi-dimensional aspect of the various series of assembled transactions.

This creative playground nevertheless involves calculation and equivalence-making activities since monetary payment can be replaced by goods and services. These activities would be worth studying in greater detail. What variables are taken into account in the calculation formulae – cost of transporting goods, tax on monetary transfers, threshold effects²⁰, travel times, savings made on the purchase of foodstuffs in the city, or even partnership-related obligations, mutual assistance, etc. – and what are the equivalence-making formulae?

Calculation, valuation and price-setting in an exchange cycle (or within the framework of joint action)

The “reality tests” on the markets are not only reflected in the order of agencing of flows or financial arrangements, but also in the quality of goods/services and the prices. Small-scale production and trade micro-circuits are also affected by the ups and downs and disagreements of daily market life: here, like everywhere else, participants do not see eye to eye about the quality of goods, may not agree when assessing quantities, and be forced to negotiate price variations on the urban markets. What do people resort to in order to put their differences aside and reach an agreement? We can see various ways in

²⁰For example, it is quite possible that, depending on the amount of cash money transported and on the threshold effects (prices doubling above 500 000 fmg), it might be more advantageous to substitute goods such as a bag of rice and groceries for the village if their transport cost is smaller.

which the action time horizons, and especially the way agents project themselves into the future of transactions, play a role in regulating exchanges.

Quality on the second-hand car battery market is most often put to the test ex-post, when the battery is purchased or recharged. As we have seen, the charge level may be very approximately assessed, notably when the recharging workshop is very small and they only have an electric wire as a measuring instrument (the colour of the spark is the main indicator). Rarely technically competent, the end customers can only judge the quality of the battery ex-post by comparing the durability of the product after a repair or the battery life after it has been recharged. Translator: “Out of 10 [clients], roughly 1 comes back and says the battery hasn’t been fully charged. If people aren’t happy, they don’t complain the same day but when they come back to charge another battery. When they come back, they still pay 5 000 [5 000 fmg – recharging price] (...) but say, “last time it wasn’t fully charged, can you charge it better this time?” (Interview with a small second-hand car battery recharger, Tamatave).

This sequence provides a basic description of a mechanism that can be found in various forms inside economic circuits: disagreements about the terms of the exchange are solved by mutual consent but, above all, they always comprise two timeframes: the current or previous transaction (ex-post quality assessment), and the transaction(s) to come steering the action timeframe towards a joint future. “Repairing” the damage done is generally postponed to the following actions. Although, in the process, the business association is called into question, it is nevertheless ultimately strengthened.

Within the small-scale fish trade in which the transfers of goods and payments are daily, the normal adjustments to current transactions are part of the transaction cycle. Like the deferred payment, the deferred regulation maintains, if not renews, the course of exchanges. To grasp this temporal, dynamic and circular dimension of *agencing*, the adjustment sequences must be analyzed as an integral part of a cycle in which the transfer of goods or money at the same time as the regulation of exchanges (claims, repairs, negotiation) prove to be interlinked and inseparable.

Let us once more follow Mrs. Françoise after she has set up her partnership with the fishermen in Andevoranto. The transaction cycle is triggered by the dispatch of a down payment to enable the rural fisherman-gatherer to buy fish from the fishermen in the village (or to pay for the fisherman’s own catch). Translator: “And when the partnership has been set up, she starts to say, ‘I’m going to send you money to buy fish.’ And so she sends the money to the person who is the partner, a sum of 500 000 fmg, **which she used as a down payment**. That sum is going to be used to buy fish locally.” This down payment is to be constantly renewed through the sale of fish on the urban

markets. Every morning the fish bought by the rural fisherman-gatherer are listed in the notebook that travels with the goods.

(Madagascar, 11 March 2011) Fydélis, the translator, reads from the notebook, “For Mrs. Soize, here is the fish sent: S.S., that’s the name of the fish, 35 kg, that’s the quantity of fish and 13, that’s 13 000, it’s the price of the fish, that amounts to 455 000 francs. Below, it says TLM, that’s the Tilapia, 19 800 [the Tilapia is sub-divided into two categories]: small TL: 1.5 x 10 kg, that’s 15 000 fmg. And so on... So all of yesterday’s fish, that amounts to 647 300 fmg. That’s the price she got for the fish yesterday at the bus station at 2 pm.” Mrs. Françoise thus uses relatively precise accounting to follow the goods bought with her down payment, specifying the species and quantities she checks when she unpacks the catch and sells it in the urban market hall. The fish will be sold on the same day or on the morning of the following day. However, the sum corresponding to the purchase (here 647 300 fmg) is sent back early the next morning, in the cool box, in order to renew the down payment and allow that day’s fish to be bought. On the other hand, it is during the sale of the fish that all kinds of “tests” emerge requiring the partners to consult with each other and revise the terms of the exchange. To pass on her claims, Mrs. Françoise can use the phone but generally prefers to use the same small notebook, which actually turns out to be the central communication channel: the notebook attached to the cool box or basket does not only contain the goods accounts but also the claims and negotiations between the two parties. Reading the notebook provides access to several “adjustment” sequences between the partners.

Sequence 1a: fish not fresh enough

Mrs. Françoise recounts a situation where the fish sent is not fresh enough and therefore has to be sold at a lower price than the price at which it was bought by the gatherer. This might lead to a telephone call to the fishermen or to a message being left in the notebook: “Why is your fish not fresher?” In this situation, the resolution mode consists in suspending payment of the fish and readjusting the fisherman’s payment to bring it in line with the real price. Translator: “Once the fish has been sold, she sends the money back with an explanation, ‘I received this sum of money for the sale and here’s what I owe you for the fish.’”

Sequence 2a: ill-adjusted prices

The notebook describes a second situation in which the fishermen have not differentiated two species of fish – the Tilapia and the Saro – when the price of the Saro is lower than that of the Tilapia: 16 000 fmg compared with 20 000 fmg for the Tilapia. Mrs. Françoise writes a note for the fishermen: “Dear mum and dad Salam, the fish cannot be sold at the same price as the Tilapia, because the

price of the Saro has gone down in Tamatave, I made a loss because of this price.” The notebook does not contain the fishermen’s response but shows that for the following transaction, the Saro fish have been separated from the Tilapia, with a lower price given for the Saro.

Sequence 3a: the difficulty managing quantity increases

The fresh produce volumes fluctuate. When there is a big catch, the rural fisherman-gatherer may increase the quantities sent, leading to a difference in relation to the down payment (500 000 fmg). If the surplus is sold, the extra payment may be sent on the next day. However, the seller may experience difficulties depending on price variations on the market or cash availability. Translator: “The gatherer from back in the village sent too much fish so her money [Mrs. Françoise’ cash flow] doesn’t cover the price asked. She picks up all the fish sent, but her price capacity is lower, she can’t keep up with the fish delivered, she doesn’t have the money to pay straight away, so she tells the rural fisherman-gatherer, ‘You’ll have to wait because that’s much more than the agreed quantity, so I’ll sell them, but you’ll have to wait a bit, I won’t pay you straight away like usual.’”

These three sequences demonstrate the extent to which the partners’ mutual commitment in the transactions is “put to the test” because of this inescapable uncertainty. Mrs. Françoise cannot control the purchase made with her down payment and has to simply cope with what her partner decides to do in terms of quantity, quality and purchasing price, since the price requested by the rural fisherman-gatherer includes her own margin. Conversely, the fishermen have no means of controlling the sale of the fish and measuring the actual margins and/or losses made by Mrs. Françoise. However, over the course of the adjustments, Mrs. Françoise is regularly obliged to test her partners’ willingness to accept a re-allocation of her losses to the benefit of their lasting association.

In the case described above, only the seller’s losses at the end of the chain have an impact on the fishermen, especially when market prices have dropped. Other partnerships also involve a re-distribution of profit as exchange cycles are periodically interrupted. This is the case of the gatherer-fishmonger mentioned in what follows. He sells freshwater fish on the Tamatave market and claims to have a partnership with his “close family” of fishermen-gatherers from the surrounding villages. The following two sequences illustrate the way in which price variations on the market impact all of the partners, in terms of loss and profit, but according to cycles with different timeframes.

Sequence 1b: negotiating prices

First, the gatherer-fishmonger talks about the situation where he has to negotiate a drop in prices in line with the Tamatave market rates. Translator: “In fact, the price is always a set price. But sometimes, when the market back there is not great, that’s when he asks the fisherman to lower his price a little, because the price is exorbitant in relation to what he earns [market price], that’s when he’ll write a letter to the fish owner [fisherman], or phone him. So he mentioned two possibilities: either he phones or he sends a letter, depending on the Tamatave price conditions.” The price drop is thus re-allocated to the fisherman the next day. “So the next day, there is a price cut in the notebook.” Conversely, explains the gatherer-fishmonger, the fisherman might ask for a price increase, “and, in the same way, if the price is still low, he [the fisherman] also sends letters saying “we ask you to agree to this price, I’ve increased it a bit, because we are losing out so we’re asking you to accept this price that we’ve just put down on paper.”

Sequence 2b

Secondly, the gatherer-retailer makes a clear distinction between two accounting levels: the first concerns the renewal of cash flow for buying fish; the second concerns the setting up of a reserve fund based on net profits. Translator: “Everything noted in the notebook, that’s price and kg’s [quantities],” price assimilated to a cost price, “because back there, they have set expenses, they know ‘how much it costs.’” The money sent back to the fisherman the next day is based on this price: “it’s not yet the profit, it’s the investment capital, so that the [rural] gatherer can buy the fish.” Once the fish has been sold on the market, the gatherer-fishmonger sets up a reserve fund from the net profits: “for example, the price of crab [paid to the fisherman] is 9000 fmg. He [the gatherer-fishmonger] simply reimburses the 9000 fmg. But when he sells the fish on the market, if he sells it at 15 000, that’s a margin of 6000 and then he halves that 6000 margin, which makes 3000. But he doesn’t send that money back straight away, he keeps it.” This reserve fund allows him to maintain down payments in case of loss (drop in prices, poor-quality fish). However, this adjustment cycle is suspended every month when the fishermen and the gatherers go through the accounts and split the net profits equally. Translator: “At the end of each month, the fisherman comes to Tamatave to pick up, so for them, they work on a monthly basis. He [the gatherer-fishmonger] pays for the fish collected every day and pays out the profit once a month.”

As part of the material order of things as well as the timeframe, the agencing unfolds according to an iterative sequencing in which the calculation based on the current transaction immediately engages the future transaction. As they travel with the goods, the payments, but also the communications and regulations (claims, repairs and revised terms of the exchange) are themselves built into this transfer temporality. The deferred

payments, like the ex-post compensation for damage or the longer term adjustment of prices, weave an exchange cycle that transcends any one transaction. This temporal interplay/timeframe generates other forms of calculation: instead of an instantaneous calculation on an immediate transaction, the agent is attached to the future transaction if not to a more long term exchange cycle. This temporal dimension is thus a determining factor in the way in which the actors share out loss and profit, coping with the uncertainties and negotiating the trials and tribulations of market life.

Discussion

Markets in an “informal” economy are routinely disrupted by unforeseen events and uncertainties. On the one hand, the economic circuits are not covered by the formal regulations that frame and organize transactions on a legal or institutional basis. The rules of the game are not stabilized by institutional third-party guarantors. On the other hand, more than any other type of market, those in an informal economy have to cope with precarious conditions affecting their supply of resources (raw materials, financial support, efficient tools, etc. Putting to one side their apparent exoticism, the two small-scale economic circuits explored, the second-hand battery network and the fish network, reveal three key properties. In our opinion, these properties also exist on other markets, but to a less visible extent.

The first property is associated with the many adjustments operated by all the actors in the business cycle. The processes of qualification, valuation and supply of goods are performed by a multitude of agencies: kinship networks, regular transportation lines combined with different types of vehicle, key intermediaries, notebooks and cool boxes. They frame the economic exchanges and configure most of the regulations. But we need to go beyond their identification to understand the trigger behind the transactions and particularly people’s commitment over time. Confronted by many irreducible uncertainties, participants must permanently restore the equilibrium of cooperation they are engaged in. They work hard to re-articulate the *agencements* that support their coordination: from price information to negotiations in notebooks, from currencies to errands, from scriptural information channels to limited mobile phone exchanges, etc. Focusing not only on the *agencements* but also on the process of *agencing*, particularly the many re-framings called for by the everyday disruptions to economic life, brings us closer to an understanding of how market reliability is established and how people deal with the risk of indeterminate economic exchanges.

The second property concerns the role of the spatial and time dimensions in the process of *agencing*. Shadowing the permanent micro-arrangements in the course of the transactions and throughout the business cycle shows us that the equilibrium of cooperation between spatially distributed agencies is based on a long-term process. Re-framing, compensation for damages and recovery of outstanding debt are not

instantaneous but spread over the timeframe of an exchange cycle, alternating the advantages afforded. It can be said that the participants' commitment rests on a subtle usage of time: it is central to the way people bargain and negotiate over price elasticity and allocation of risks, and then manage to stabilize their business relationships. Our observations converge with the idea that a transaction is always a stage in an exchange cycle (which is different from a repeated exchange as reasoned by economists). Furthermore, in the context described, where transportation is key, the time taken to shift products, money and, above all, written communications, significantly contributes to people's calculation processes: it makes it possible to change set prices, it opens up new opportunities to solve disputes and fosters reciprocity in the long term. Finally, the importance of the spatial and time dimensions is particularly visible regarding the problem of trade flow continuity. Following our observation of these economic circuits, and notably the nature of the 'investment in forms' (the devices dedicated to transportation for example), the way logistic uncertainties are managed appears to be more essential than the issue of price calculation. Supply sources, transport and fluidity of circulation (especially for perishable goods) absorb resources and investments while the intermediaries ensuring this fluidity (baskets, carriers, repairmen) are central in both economic circuits (Trompette, 2007).

The last property concerns the 'assemblages of transactions' that sustain economic circuit fluidity. We described two kinds of assemblages: one sees kinship entangled within business networks; the other sees a mix of different moneys, currencies and commodities. As mentioned above, these combinations constitute a solution to the uncertainties surrounding the reliability of the *agencements* (participants and devices). People shape these combinations according to opportunities or disruptions. Here, our observations fit in with the recent debate about the "social life" of things (Appadurai 2003, Maurer 2012) and moneys (Zelizer, 2012). Academics in economic anthropology and sociology have for a long time considered economic relations and commodities as very distinct categories from gift relations (Weber 2000). With the works of Appadurai and Zelizer, the boundaries between these categories are able to shift: things and moneys can change status and be differently marked depending on the situation, fluctuating between economic activities and intimate relations. Very recently, research on mobile exchanges (Maurer 2012; Slater 2013a, 2013b), has shown how things can have a different status in short exchange cycles. "Airtime can be a commodity in one instance, an actualized, technologically-mediated relationship in another (through talk and text) and a method of payment, means of exchange and store of value in a third moment (when used as an alternative currency). It can continuously pass into and out of each of these moments – it is unstable, and reversible" (Maurer, p.591). As suggested by Zelizer, it is important to access the way people mingle these different kinds of

relations and goods²¹ to create different “relational packages”, assemblages of social ties, economic transactions (trade, gift, loan, compensations, etc.), media or devices and negotiated meanings. Not only is it important to understand how these packages are stabilized, but also how they are actualized in the course of actions

Conclusion

As unsophisticated as they may seem, the Malagasy economic circuits actually prove to be quite complex in the light of an in-depth study, particularly the process of *agencing* that supports their fluidity. Focusing on the everyday workings of these markets, on the way they “hold on” to their everyday resilience, so to speak, reveals a very different picture from the one usually drawn by development economists. The latter generally focus on dysfunctions and asymmetries between partners and their diagnosis is the basis for initiatives intended to perform the informal economies of developing countries. Given the recent turn in the developing economy (Stiglitz, 2002 ;Banerjee, Duflo, 2011, Sen, 1999), the issue of sustaining the entrepreneurial capabilities of the poor has led to the expansion of market engineering, both in its political and techno-scientific dimension, giving rise to very mixed results (Dolan et al. 2012; Donner and Escobari 2010; Kiiza and Pederson 2012). Exploring whether these new designs, which reflect a classic economic view of the market (focus on price-setting, solutions to conflicting interests and immediate transactions), are able to incorporate the time-related dimension framing the Malagasy markets, like other markets elsewhere in the worlds (Elyachar 2005), is an exciting challenge for future research.

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²¹“Instead of viewing economic activity and intimate relations as two separate spheres hostile to each other, I identify how people constantly mingle economic activity with intimacy. But they do not do so randomly: it matters greatly that the type of economic transaction matches the meaning of the particular intimate relation.” (Zelizer, p.152)

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