

Consanguinity and affinity. The domestication of animals, humans and plants in development actions

DOI
<http://DX.DOI.ORG/10.11606/1678-9857.RA.2021.184486>

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ABSTRACT

The following article focuses on the different ways of familiarization between peasants and edible species. Development politics pointed towards food production keep vegetal and animal propagation under control, while encouraging the replication of human relationships. The consanguinity flux that links humans and edible species then gets segmented in genre-codified lines, which involve sex opposition. Thus, the kind of partnership requested by the development programs (cooperatives, associations) puts a halt to the “consanguinization” of affines, fostering political and economic relationships, expressed in alliance bonding, instead. The ethnographic research that supports this article was carried out among peasants, and NGO and government agents that have stimulated local food-production in the last decades of the 20th century, in northeastern Misiones, in Argentina.

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INTRODUCTION

Our work brings into play a classic dichotomy of the discipline: the opposition between consanguinity and affinity, strongly rooted in the nature-culture dualism (Viveiros de Castro, 2008). We use it here to describe the effects on humans, animals and plants derived from the introduction of selected seeds and hens, within the framework of development actions aimed at modernizing food production of small producers in the province of Misiones (northeastern Argentina).

The data presented here come from ethnographic fieldwork carried out over the last ten years in several rural localities of the pioneer front of the northeastern province, shaped by the processes of domestic occupation of unexploited lands, carried out after the conclusion of the directed settlement or colonization.

Following an open model of agricultural settlement or agrarian frontier, the non-indigenous peasant population that we analyzed moved throughout three decades, giving rise to new colonies or rural settlements. Various forms of close unions gave cohesion to the group of domestic groups involved in the settlement, constituting a kinship.

The nucleus of families on which our ethnography is centered establishes a first location in 1986. The families that compose it come from older agricultural colonies in Misiones and the southern states of Brazil. Access to the land, of fiscal and then private origin, was by direct occupation or through informal mechanisms, parallel to the market and the State, such as the purchase of improvements.¹

The fifty plots that make up this initial location are mostly small units (60% are made up of plots of 5 to 10 hectares of total area), dedicated to subsistence crops (90% of the plots produce corn, cassava and beans). Tobacco cultivation is present in 40% of the units. Self-production of food is the basis for the social reproduction of these farmers, whose link with the market is based on tobacco contract farming and, only in the most capitalized cases, also includes yerba mate.

As the households develop, the children expand the settlement by occupying plots of land in the vicinity. The alliance operates as a principle of cohabitation, but the importance of marriage lies not in instituting new relationships but in stabilizing existing ties. Marriage between sibling pairs and the reestablishment of alliances with the consanguineous relatives of the related constitute recurrent figures (Schiavoni, 2005).

Marriage practices show a preferential aptitude of the occupants of the pioneer front to combine with each other, rather than to enter into alliances with outsiders. Unlike in other peasant contexts, the alliance is not the object of calculation and strategy (Bourdieu, 2002; Woortmann, 1995).

¹ | Informal marketing of agricultural plots that takes into account the work on the land (clearing, sowing, construction) carried out by the owner.

Consanguinity and affinity are deployed as complementary principles, resulting in a multicentric grouping, in which people are linked by ties derived from the overlapping of consanguinity and alliance, reducing the clarity of the unilineal connection and favoring the indistinction of in-laws.

Also the propagation of food plants and animals, for self-consumption (production "for consumption") is carried out through combinations that stabilize the diverse, duplicating the proximate ("what is in the house"). Home domestication multiplies specimens by proximity, from a germplasm that circulates in the network of mutual knowledge, giving rise to a self-generating agriculture or endo-agriculture of family foods. Thus, when we inquire about the ways of obtaining cassava seedlings, farmers invariably answer: "it is what is at home"; "it is a branch, it is kept", "there is always", "you already have it".

The homemade or creole character of ethnovarieties or landraces emanates from this form of unplanned propagation, without strict correspondence to a given set of phenotypic traits. They are "made seeds"; "known"; "come from the grandparents, from the previous generation"; "can be saved".

The criticisms directed at the classificatory logic of totemism, on account of the abstract character it assigns to the relations between humans and the natural entities that serve as their eponyms, opened up the possibility of an alternative treatment of these links. Hiatt (1969), for example, states that natural species and human beings can be associated by virtue of their origin from the same landscape or place, being linked by a bond that would not be logical but of contiguity.

In the present case, humans and non-humans share a non-selective propagation format, based on physical proximity, without engendering stabilized groups that perpetuate themselves in the same way.

A general bond of this type organizes the multiplication of humans, and of vegetables and food animals, in the small-scale agriculture of the localities of the agrarian frontier that we describe here. Indeed, just as ethnovariety arises from the associations that occur in the surrounding space, so too the choice of spouse takes place within the network of mutual knowledge, between neighboring families, united by pre-existing ties.

The concordance between the classifications of humans and those of nature responds, according to Chaumeil and Chaumeil (1992), to the existence of a general taxonomy of the living, based on the identification of different thresholds of otherness: consanguineous, related and foreign.

In the case we are analyzing, developmental actions segment the first threshold or analogical flow of association by contiguity, creating otherness by instituting modes of multiplication based on selection.

The promiscuity of the family *rozado*, in which the varieties grow in association, is ordered by means of distancing actions: separation of fields with and segregation

of the hens provided by the development project.

The technical objects put into circulation by the agencies correspond to the classic notion of domestication, i.e., the imposition of a human design on an inert nature. Improved seeds and chickens, as well as the forms of sociability attached to them (women's groups, cooperatives and unions), interrupt the link of continuity that characterizes the propagation of humans and plants in local society. Unmediated exchange, based on proximity, now exists in friction with the new relationship schemes, which give increasing visibility to the links on which reproduction depends.

In the constitution of an order, pragmatism identifies two modes of neutralization of fragmentation, inspired by the treatment of nature: the political mode and the analogical mode (Boltanski, 2009). In the first case, ideal types are defined, based on general qualifications, which duplicate the existing ones on the basis of essences that the appearance of things tends to betray. In the second, we start from singularities and seek to insert them into a network, considering the resemblances derived from sensitive properties (color, smell, shape, position). Unlike the political approach, the analogical mode does not contemplate a rise of generality, enunciative in an external principle of cohesion, so that the associated entities maintain their diversity².

The endoagriculture of family food, as well as the network of local kinship ties, stabilizes diversity, proceeding in an analogical manner. The coherence of the group stems from associations of place, the fruit of proximity, without correspondence to an explicit criterion.

The home mode of propagation constitutes a non-verbal level of emergence of the group's fundamental relationships. The associations are neither enunciated nor described on the basis of a set of attributes, but act by resembling the proximity. The technical objects of development, in turn, derive their homogeneity from techno-scientific inscriptions, which stabilize the diverse on the basis of an external principle or qualification. This mode of treatment duplicates the existing, suppressing interactions with local environmental dynamics. The uprooted control of offspring becomes a characteristic feature of agrarian modernization actions, perceptible in the statement of a farmer interviewed when she qualifies the benefits of development, pointing out that: "the projects give you race".

Plant standardization was imposed early in the region. The yerba mate plantations at the beginning of the 20th century admitted a single species, *Ilex paraguariensis*, multiplied from seedlings from registered nurseries, currently supplied by the germplasm bank of the National Institute of Agricultural Technology (Instituto Nacional de Tecnología Agropecuaria).

Similarly, the sanitary requirements of commercial citrus production led to the use of certified grafts, generated by technosciences, which displaced home-grafted hybrids, whose effectiveness was based on familiarity. As one grower said: "[in home

2 | Racine (1989) and also Descola (2012) recover the interest in analogy, not only as a heuristic procedure, but also as a mode of constitution of the real. Unlike structuralism, which emphasizes contrasts and the primacy of relations, the analogical mode emphasizes similarities, the principle of identification and the connections contained in the terms themselves.

grafting] you graft plants that are in production, that you know will produce. On the other hand, with those plants from the greenhouse, you don't know the plant".

These practices, of long standing in cash crops, represent a recent dynamic in food production in Misiones, so our article is oriented to capture this transition. The two forms of stabilization that we have been remarking are kept in friction, and the resulting process constitutes a precipitate of both. Indeed, the propagation of plants and humans, on the basis of proximity and similarity, contrasts with the reproduction of abstract equivalents, qualified according to an external principle, such as 'selected seeds', 'rural women' or 'cooperative members'. Our reasoning, however, does not aim at establishing a dichotomy between these two forms of action, but rather aims at detecting the broader matrix of relationships, which encompasses the institutional (external and segmented), transforming it into the homemade (continuous and implicit), according to a process of individuation by familiarization.

Indeed, refamiliarization subverts the segmentation operation promoted by development, putting into circulation the techno-scientific inputs through the mother-daughter bond, within the framework of collectives founded on a filial encompassing. In the same way, the seed marketing cooperative is perpetuated as a household, through marital alliances between the families linked to the NGO. That is to say, it is not a question of a ready-made kinship that lends its format to the institutionality of development, but rather that this becomes one more dimension of family dynamics, which, in turn, experience a loss of fluidity, expressed in the consolidation of lines of descent that segment the multicentric format of local society.

1. ANALOGY AND GENEALOGY THE ROLE OF TECHNICAL OBJECTS IN THE CONSTITUTION OF AGGREGATES

The notion of house implies a less deterministic view of kinship. By including the historical dimension and the role of objects in the conformation of aggregates, it allows us to understand the relations between the material and moral senses that, according to Benveniste (1994), coexist in the etymology of the word house.

Reviewing the scope of the institution of house, Lévi-Strauss establishes a contrast between Melanesian and African societies, with respect to the structure and recruitment of groups: "Analogical in one case [Melanesia], the structure would be genealogical in the other [Africa]; and recruitment would be here by descent and there by filiation (Lévi-Strauss, 1984: 201). The notion of home includes hybrid formulas: a mixture of cognatism and agnatism. These are societies that face the problem of the integration of an agnatic lineage and a cognate kinship, so that they have to establish mechanisms to put at a distance a part of the kinship, which would otherwise extend indefinitely throughout the generations, suffocating the agnated.

And Lévi-Strauss continues: "Instead of putting consanguinity on one side and

alliance and exchange on the other, as happens in most societies in which anthropological theory was forged, New Guinea shifts the line of demarcation: it distinguishes two categories of kin: those with whom one exchanges and those with whom one shares. Instead of the distinction between consanguinity and affinity serving to delimit the domain of exchange, it is the faculty of exchange that serves to distinguish kinship into consanguinity and alliance" (Lévi-Strauss, 1984: 206-207).

The analyses of Wagner (1977) on the daribi, and those of Feil (1978) on the engá, are cited by Lévi-Strauss to exemplify this device of foreignization of proximals, effected by exchange. According to Wagner's formula, while consanguinity fuses, exchange has the power to segment. Among the engá, the conversion of agnate to non-agnate takes place through the establishment of an exchange counterpart link - called "straightening the path" (Feil, 1978) - which activates complementary ties to those of descent, such as matrilineal and affinal relations.

In our field of study, alliance relationships do not segregate the locality because most marriages are between close relatives. The two most frequent alliance figures are double marriages, between pairs of siblings (not always of the same sex), and the re-chaining of alliances with in-laws (in the same generation or in successive generations).

The domestic expansion of settlement driven by the search for land, in a context of limited state management, intertwines matrilineal preferences and new locations.

The relative fluidity of land supply, as a result of the aggravated frontier situation of the Northeastern fraction of the provincial territory, brings into play a format of social reproduction in which the father is not necessarily the one who provides the plot of land. Groups of brothers and brothers-in-law, and sometimes sons-in-law and fathers-in-law, move to less populated areas in the vicinity in order to obtain farms, through the informal mechanisms already mentioned (direct occupation or sale-purchase of improvements). The endogamous figures of the alliance feed back into the horizontal domestic coalitions of unplanned agricultural occupation.

Thus, in one of the population appendices of our initial site, we recorded the case of two sisters, Sonia and Adriana.

Sonia met her husband at a party at a dressage party at Km. 304, a neighboring colony, and before that they had seen each other on the bus. They had been dating for a short time and settled in the new settlement: "My family used to come to visit me. It was ugly here. There was nothing here. I didn't even notice and my sister was already with Rosi [her husband's brother who lives in the same place]. We came one day and found that they had accompanied each other". Subsequently, an aunt of theirs, accompanied herself with her spouses' older brother, who remained in the previous location (fieldwork, 2015).

In another case, the family inhabits the original settlement. This is a well-known

tobacco planter who has five male children. The father supported the agricultural installation of the eldest son, in an area adjacent to the father's farm, and the other sons gained access to the plots through links between neighbors (information on vacant plots and access conditions). Camila, the wife of one of the younger sons, originally from a neighboring colony, is the sister of the wife of one of her husband's older brothers. She relates the duplication of alliances in jocular terms: "My sister arranged a marriage for me" (fieldwork 2015).

Likewise, families who were located nearby in the successive places where the group inhabited constitute a source of supply of spouses, so that former neighbors are re-united through an alliance. The mother of a young farmer recalls: "My son and his wife met at the neighbor's mother's wake. Or rather: they got to know each other again. Because we were already neighbors of her family in the neighborhood where we lived before" (fieldwork, 2013).

Marital combinations, knotted within the network of mutual knowledge founded in the place, model the totality of the unions, configuring a continuous plot that includes most of the families. The alliances concluded outside this group have an exceptional character; the fluidity of the links qualifies the local transactions.

Inquiring about the existence of a written document related to the loan of a plot of land, one of the farmers states: "There is no contract because we are brother-in-law". Similarly, sons-in-law and fathers-in-law frequently operate as partners to migrate and occupy new land. In other words, the alliance ties agreed upon in the place are consanguinized and consanguinity is experienced as continuity. The brother-in-law is similar to a brother, the father-in-law to a father and the daughter-in-law to a daughter.

Plants and food animals maintain such ties with each other and with humans. Development transforms this network, segmenting the continuity of kin and initiating a process of alignment, which directs the fluidity of the network in a certain way. The critiques and reformulations of the notion of house (Godelier, 2013;³ Carsten and Hugh-Jones, 1995;⁴) place the discussion beyond, or closer to, Lévi-Strauss. However, the fact of including the participation of material elements - valuable objects, architectural constructions, bodily substances -, in the constitution of kinship remains a significant contribution to our study problem. In this sense, the appropriation of the technical objects of development becomes a source of exclusivity of some domestic groups of the pioneer front of Misiones, which perpetuate themselves by controlling economic advantages through blood ties.

Arguing that the son and the father are not sufficiently other, Aristotle proposed to exclude from political law the problems corresponding to the internal order of the family: "The relatives (...) are not completely other. (...) Apparently double, they are but one because they are in collusion" (Boltanski, 2000: 263-264).

The counterpart or partner relationship promoted by the development collectives

3 | In his critique of the notion of house, Godelier develops an argument opposite to the one we argue here and attacks especially Lévi-Strauss's assertion that the old ties of blood are altered to give way to economic and political determinations. He states that: "In no 'primitive' society did kinship relations suffice to constitute the framework of society. The framework of a society consists of the combination, each time different, of two sets of social relations: on the one hand, kinship relations; on the other hand, politico-religious relations" (Godelier, 2013: 208-209).

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segments the proximity of those close to them. However, the participants do not become sufficiently other, since the political totalization is hybridized by familiarization. Thus, a member's attempt to form a women's organization on her own was discouraged by the mothers sponsoring the groups based on filial grouping. The rebellious daughter was warned: "If we formed a separate group, she could not be part of the group".

The endoagriculture of food contains within itself a recipe for social reproduction. Its self-generating character and implicit endogamy is evident in the material record of duplication of the living: propagation by offspring and seeds. The intervention of humans consists in accompanying these processes. These are forms of relationship between plants and humans in which the aim is to favor the conditions of the domesticated entity without directly manipulating it (Haudricourt, 1962). A continuity of this type is mentioned by Lévi-Strauss (1971) regarding the origin of cultivated plants in Amerindian myths, when he affirms that they involve contingent terms of the domestic constellation, avoiding the main opposition between givers and takers of wives.

The preferential aptitude towards internal combination is also expressed in the fusion between sire and sired, a frequent operation in allimentitious vegetables, documented in several ethnographies, sometimes as a maternity bond (Racine, 1986; Hatt, 1951), and sometimes as a bond between different parts of a plant (between the root and the stem or between the grain and the ear).⁵ The relationship between the stem and the shoot of a cultivated plant embodies maternal filiation in Indonesia, while the undomesticated trees of the jungle testify about agnatic bonds (Fox, 1977). In this sense, cassava constitutes in South American ethnography a privileged figure of the reduplication of ties (Taylor, 2000). It is the expression of ties established with a minimal degree of differentiation, characterized by the indistinguishability of terms and relationships.

Recent Amerindian ethnographies reveal a relationship of identification between humans and plants, within the framework of animist ontologies. Considered as living subjects, cultivated plants maintain a filial bond with women. Maizza's (2014) work on the jarawara shows that the growth of plants depends on care similar to that given to children, through the gaze. Krahô women establish a companionship with the sweet potatoes that provide them with their offspring (Morim de Lima, 2017). Likewise, the multi-centered character of human kinship is embodied in the circular shape of the sweet potato plantation. The analogy between plants and humans is also deepened by Cabral de Oliveira's (2008) analyses of the wajãpi, among whom the intense search for plant diversity is correlated with an openness towards the other, among humans.

In the case we are analyzing, the analogy between humans and plants and food animals is based on the mode of propagation, based on non-selective links

5 | Thus, in the Trobriand, the taro root from which secondary plants sprout is called the mother, while the shoots are considered major and minor children, according to the order of appearance.

that reveal a tolerance towards the fluctuation of the existing ones, which do not crystallize in lines of descent, nor are they perpetuated according to certain criteria.

The term criollo refers to this stabilization format and also encompasses specimens sired against the planned domestication processes. Thus, even when tobacco companies prohibit the conservation of seeds, farmers save them and multiply plants, generating varieties that they call criollas. The practice is described by a local farmer in the following terms: "One of the demands of tobacco [cultivation] is the seed. They no longer want you to use K and 9D, which they call criollo. People continue to use it because it yields more in kilos".

The hybrids delivered annually by the companies are designed to meet the changing requirements of the market, so that seed conservation by producers goes against the institutionalized logic of the crop. The tobacco planters' association warns of this risk:

The Tobacco Technical Commission of the Province carried out several controls with the aim of detecting plantations coming from non-recommended seeds (...) These off-type seed varieties, commonly called K and 9D or homemade, have an extraordinary yield in the field, which at first sight would result in a great benefit for the producer. But mainly due to their prominent veins and stems the amount of tobacco usable by buyers decreases considerably (Asociación de Planadores de Tabaco de Misiones, 1999).

In relation to this, one of the farmers in our study locality relates:

We are planting criollo tobacco, that is, Burley [tobacco] with seeds made by us. That gives you more weight. Dad argued with me because he wants me to make only the Burley that the company gives you. But my uncles told me to stick with the criollo. The companies want only the leaf and not the stalk, and it is better for us to use the stalk because that is what weighs (fieldwork, 2015).

This re-familiarization of institutional domestication, shown here in relation to an industrial crop, will be the subject of the last sections of this article, in which similar processes, carried out in connection with food species, will be described.

CLONES AND LIGNÉES: DIVERSITY STABILIZATION STRATEGIES

Haudricourt (1964) establishes a contrast, which he later helps to relativize, between clan organization and multiplication by offspring on the one hand, and seed agriculture, with lines of descent (lignéés), on the other. In the first case, continuity is given by the repetition of the same individual, while in the second case, filiation follows meanders that recover various aspects: in each season different individuals

are obtained, the climate or soil favors some at the expense of others, hybridizations with wild relatives of the cultivated plant can occur, etc.

By incorporating seed agriculture (annual cereals such as maize or rice), tuber growers reduce diversity, by hoeing the plants and replanting selected seedlings. In turn, the diversity that is nonetheless exhibited by scion agriculture has its origin in the "feral" spaces of fallow land. The extraction of tubers is never complete and the shoots that remain flourish and produce new varieties. This generative capacity of wild spaces has its correlate in social reproduction: just as the origin of a new clone can be traced back to a plant from the wild, the origin of a new clan can be traced back to a foreigner who joins it.

In other words, the fixed biological base of scion farming is expanded by specimens from feral areas. In turn, the selection made by the farmers themselves limits the diversity of individuals of the multiple descendants or lignées of seed agriculture. The stabilization of diversity simultaneously contemplates the production of foreigners and the alignment of the similar, combining the subtractive logic of the selector with the additive logic of the collector.

The privilege accorded to seeds by the State exploits the greater capacity for centralization of this mode of reproduction (Meillassoux, 1978), as well as the wider margin of maneuver it grants to humans in the design of the living.

However, the ethnographic record documents a variety of forms of manipulation, which are not exhausted in the contrast between the replicability of offspring and the diversity of seed agriculture.

Lévi-Strauss emphasizes the extreme purity of seeds in in-indigenous societies, where the terror of circulation prevails: a transplanted seed can carry with it the spirit of the plant that will disappear from its place of origin, affirms in Guatemala about corn. Thus: "It is possible to exchange women and at the same time and at the same time refuse to exchange seeds" (Lévi-Strauss, 1963: 146).

In Melanesia, the author adds, the minimal exogamy of lines of descent and villages is compensated by an exacerbated endoagriculture of offspring. Thus, in Dobu, New Guinea, husband and wife come from different lines and each contributes his yams which he cultivates in separate gardens.

In the Amazon region, Empeaire points out that reproduction by cuttings, by guaranteeing continuity of individuals, facilitates the establishment of a chain of filiation. The cassava with a name are those multiplied in this way, which produce identical plants. In fact: "multiplication by seed⁶, by not allowing the control of the offspring, deactivates the chain of filiation of the cassava. Hence the denomination of cassava without father, without mother, without name or also found cassava or seed" (Empeaire, 2010: 85).

Rival (2001), regarding the makushi of Guyana, emphasizes the creative capacity of reproduction by scions (they maintain 76 varieties of bitter cassava; *Manihot*

6 | The species *Manihot esculenta*, in spite of being multiplied by cuttings, did not lose its capacity to produce flowers and seeds. Sexed reproduction is of the allogamous or cross-fertilization type.

esculenta Crantz ssp. esculenta, Euphorbiaceae), while propagation by seeds is seen as less malleable.

In our study area, the Swiss naturalist Bertoni, who studied the crops of Misiones and Paraguay at the end of the 19th century, warned about the risks involved in the reproduction of cassava from seeds, given that there is no complete separation between the groups of toxic and tame varieties (Bertoni, 1900: 210). In his treatise on cassava, he advised: "Prudence must be greater if the plants have been obtained from seed; even if this comes from an absolutely tame and innocuous variety, it is very easy to produce wild plants mixed with the tame ones" (Bertoni, 1900: 217-18). Reproduction by cuttings, on the other hand, orders indifferentiation and makes it possible to control the offspring.

This last mode of propagation, however, was considered negative by the envoy of the Ministry of Agriculture of the Argentine nation who, a few years later, toured the territory of Misiones. He pointed out: "I know of no cases of reproduction by seed, which is the best way to obtain new varieties; varieties that it would be convenient to form - pursuing the objective of higher starch yields for industry" (Yssouribehere, 1904: 140).

In the endoagriculture of Gabon (West Africa), described by Delêtre et al. (2011), propagation by scions is at the basis of clonal and human group control strategies. As cassava is an eminently female crop, the diffusion of varieties is linked to marital exchanges and descent rules, giving rise to two main modes of germplasm circulation.

In affinal transmission, characteristic of patrilineal and virilocal groups in the North, the moults are provided exclusively by the mother-in-law, preventing women from contributing foreign clones. In turn, vertical transmission, frequent in groups with less controlled marriages, whether matrilineal or patrilineal descent, also incorporates clones contributed by wives.

While the first form of transmission involves only three cassava varieties, the second brings into play some sixty kinds. The authors add that the great diversity of cassava varieties observed in Amerindian societies is likely to be associated with the diffusion of cognate structures, in which clones are transmitted both from mother to daughter and from mother-in-law to daughter-in-law (Delêtre et al., 2011: 18253).

The narrow repertoire of varieties that make up the endoagriculture of the food crops we study here is not the result of restriction in the transmission of seeds, but of a mode of propagation that entails a disinterest in the control of offspring for the purpose of obtaining stable types.

Access to seedlings and seeds takes place without the mediation of money, within the framework of networks of mutual knowledge. This format, of long standing in family agriculture in Misiones, is documented in the memories of the colonists, immigrant farmers from overseas, who settled in the province at the beginning of the 20th century.⁷

7 | A settler of Swiss origin gives an account of obtaining seeds at the time of his arrival in Misiones, in 1937. He says: "I visited a German-speaking neighbor about 6 km away to buy various seeds (...) Towards evening I returned home with seeds of all kinds without having paid a penny for them. This good farmer took it for granted that he had to help a beginner (Gallero, 2008: 89). Also, in another case, the daughter of an immigrant refers: "Mom planted vegetables (...) she had brought the seeds from Switzerland and [here] Mrs. Scheifler gave us onions, garlic and some cabbages that make clones (...) We also planted corn, cassava, beans and tobacco. We got the branches and seeds from the German-Brazilian families (Gallero, 2008: 167).

In our study locality, each household has up to three kinds of cassava and as many kinds of corn, beans, pumpkin and sweet potato. The plants for self-consumption are identified by lax designations that underestimate the differences and refer to general attributes common to several types, such as color, size or shape.

Inquiring about the cassava she grows, one of the farmers in our study locality answered in these terms: "We plant the yellow one, the pink peeled one and the commercial one". When asked if the commercial cassava is the cassava for starch, she replies: "No, the white commercial cassava, which cooks all year round, the one with green leaves".

Another farmer says: "My son brought me a branch in the truck. Pink cassava that cooks quickly, they call it 'pronta mesa'. The black one I have takes a long time".

In another case, the story about the varieties cultivated includes the following enumeration: "I have two kinds, one that is close to the tobacco rozado, which is already two years old. It does not cook well. The other is the pink husk, with a wide leaf. That one cooks all year round. The seedlings were given to me by my uncle, from Fortaleza".

A recent study (Stampella, 2015) mentions the use of four varieties of cassava in the rural population of Misiones ("pomberita", "horquetuda", "blanca", "común").

The aforementioned naturalist Bertoni, at the end of the 19th century, had catalogued twenty-two kinds of manioc in Paraguay and recognized eight in Misiones twenty-two kinds of manioc in Paraguay and recognized eight in Misiones, noting that three were the most that the most widespread classes were three: 'concepción', karapé and mandiyu. The Guaraní names of two of these varieties allude to the color of the roots and the stature of the plant, also showing the stature of the plant, also evidencing the indigenous origin. With respect to the variety 'concepción', Bertoni reports that it was introduced from Brazil by the wife of a cattle rancher in the department of Concepción (Paraguay) at the beginning of the 20th century. This cassava, he points out, is "one of the worst in existence (...) it is displacing the good ones, with the only advantage of being very productive in poor soils, and with little work, which is convenient for those who plant it to supply the cities". And he continues: "At the end of the last century, it was unknown in Paraguay; on the other hand, it was well known in Brazil, where the fazendeiros cultivated it on a large scale to feed the slaves (...) there they call it "Mata hambre", because it is only good for that purpose (Bertoni, 1927: 104).

In the mid-1960s, Martínez Crovetto (1968) recorded six varieties of manioc cultivated by the Guaraní groups of Misiones, identified by height, color, shape of the tubers or place of origin (karapé, morotí or white, puku or long, pombero, konché, yerutí). A few decades later, Pochettino (2007) identifies only two kinds of cassava in the missionary communities of the Cuñapirú valley (black and white).

In the small farmers' fairs of Misiones, we observed seven varieties of cassava, without the identification of classes being a decisive attribute at the time of commercialization.⁸

8 | I didn't know cassava had class. It's cassava, no more!" was the exclamation we heard at a fair in the city of Posadas, during our research on the varieties marketed in the city of Posadas

The great diversity exhibited by cultivated plants in traditional societies is tributary to characteristic forms of sociability and knowledge processes (Carneiro da Cunha, 2012). The complexity of these practices is gradually being replaced by schemes more akin to the logic of the State and technosciences.

Thus, the catalog of technologies for small producers of the Argentine governmental agricultural agency (SAGyPA-Proinder, 2004) points out as a difficulty the fact that "traditionally, small producers save their own seed from one year to the next and grow cassava by planting their own material or by exchanging it with neighboring producers". The catalog then proposes the introduction of clones for family consumption from the germplasm bank of INTA (National Institute of Agricultural Technology) in the province of Formosa.⁹

In turn, the INTA of Misiones province (INTA, 2008) identifies the cassava cultivars in the region, distinguishing between those for consumption and others for industrial use. Among the eight belonging to the first category, two indigenous varieties are included. Those destined for industry are superimposed on those for consumption, with two for exclusive industrial use. Finally, the Biofábrica S.A., a company with state participation, which researches and markets propagating material in Misiones, offers seven varieties suitable for both industry and fresh sale.

Operations to protect the diversity of food species in our study area resulted in actions aimed at promoting exchange among farmers through native seed fairs. The paradoxical effect of this measure was "the persistent loss of varieties" (INDES, 2008). According to a technician involved in these actions: "With the seed fairs, what we saw was that varieties were being lost due to the exchange among families. There were 16 varieties of rice. In the last seed fair, there were only two varieties, and it went down to two".

The generalization of seed exchange is posed in contrast to the control of diversity effected by scientific agriculture and breeding, in which the restriction of circulation and the planning of crosses play a key role. In his book on domestication, Digard (2009) recounts the emergence of co-knowledge about plants and animals in Europe at the end of the 18th century and refers that Bakewell, the inventor of capitalist livestock breeding, defended the thesis of inbreeding: crossing the best specimens, not only within the same breed, but also within the same line of descent and even within the same family.

The word "hybrid", which literally means "cross", became associated with the idea of modern agriculture by virtue of the changes in corn breeding techniques that took place at the beginning of the 20th century. However, the basic device brought into play by maize engineering is self-fertilization or purification (Matchett, 2005). Modern breeding "involves managing a contradictory process: taking the racial purification of certain plants [inbreeding] to the limit and simultaneously conserving their combining capacity to allow hybridization" (Arellano Hernández, 1999: 93).¹⁰

9 | The recommended varieties are Corrientes 74, Rocha, Caoba, Concepción, Blanca Caá Guazú, Cerro Azul EE25/1, Verde Olivo, among others, with the Corrientes 74 clone standing out.

10 | The commercial product or top cross is a double cross of single hybrids sired by two inbred lines (Arellano Hernández, 1999).

That is, geneticists and farmers manipulate plants, but, while home selection draws a line with movement, traced from exchanges between families and interaction with environmental dynamics, genetic lines are connectors without history that link beings whose continuity has been established beforehand (Ingold, 2013). Scientific genealogy does not follow a trajectory but reconstructs a plan. The geneticist's abstract line is the ghost of the furrow, through which both engineers and farmers control the crosses.¹¹

11 | Scientific self-fertilizations are controlled mechanically: six rows of the pure line that will have female function and two rows of the pure line with male function are sown. At flowering, the male flowers of the female line are removed and the male flowers of the male line are left. The male line is self-fertilized and, in the plants of the female line, a hybrid is formed (Arellano Hernández, 1999).

3. THE SEEDS OF THE GENDER

At the end of the 1980s, the NGO operating in our study area promoted the supply of commercial seeds for vegetable gardens to families in the area. The distribution of inputs, whose access was mediated by money, became decisive in the constitution of women's groups, articulating the domestic and public spaces¹².

12 | Food production on a family scale became institutionalized in Misiones in 1995, with the spread of farmers' fairs. The items that are marketed do not coincide with those of self-consumption, but are garden production, carried out with hybrid seeds and in greenhouses

A study on the circulation of seeds among small producers in Misiones states that vegetable garden seeds are of a commercial type, while the species conserved are those of corn, beans and squash, in addition to cassava branches and sweet potato seedlings (Vidal, 2010: 79).

13 | Small farmers in the state of Rio de Janeiro, studied by Carneiro (2008), consider vegetable garden production as an "outside product" (using hybrid seeds and pesticides), as opposed to "rozado products" from sementes da terra (yam, sweet potato and cassava tubers).

In other words, the "garden seeds" maintain an external relationship with self-consumption.¹³ As a member and promoter of these groups points out: "We wanted to get people out of beans and peas.¹⁴ We wanted to teach them, because self-consumption was being lost. We tried to have the vegetable garden near the house, so that it would no longer be done in the rozado [main productive space].

The administration of these seeds was at the origin of the cooperation among women, through the constitution of a credit fund. According to the account of the NGO technician: "[the activity] started by buying seeds, they held raffles, raised funds, bought the seeds as a group and gave them to the members. Those who have money today can pay for the seeds, and those who don't can register and then pay back little by little, as they can".

14 | Ambrossetti (1892) describes this regional food, characteristic of the bush worker, as follows: "Revirado: Brazilian dish used when traveling. It can be made of any fried or boiled meat that is put in a bag filled with fariña [manioc flour]" (1892:100).

Thus, in the locality we studied, women of different generations, linked by ties of consanguinity and affinity (mothers and daughters; mothers-in-law and daughters-in-law) joined together to carry out the vegetable gardens. The concept of nourishment was central to these groups, eclipsing the contrast between the sexes and consanguinating the bonds of affinity. Each new association was placed in the position of "daughter" with respect to a sponsoring "mother". At the departmental level, the mother group spawned eight subgroups, bringing together a total of approximately 120 women. The distribution of seeds nurtured the creation of the associations, consolidating the sire-sparrow ties.

As mentioned at the beginning of this article, one of the participants challenged this filial grouping and formed a new organization on her own. Censured by the

sponsoring mothers, she formed a "particular group", without any affiliation with the parent company. She thus initiated her own line, through which she joined broader institutional groups (the Rural Women's Civil Association and the Housewives' Union of the Argentine Republic).

Complementarity between the sexes characterized the beginnings of the new association: "[To raise funds] We organized cockfights, the women organized cockfights with the men, here!"¹⁵ Gradually, however, female exclusivity became hegemonic. A census of women's needs conducted by government agencies in 2007 emphasized the gendered nature of the association. Referring to the event of delivery of household appliances, surveyed by that register, the president relates: "The men accompanied the women because they were going to make fun of the women. We made a round and the men stayed behind. When they saw that it was true, that they were handing out a refrigerator for one, the cookware for the other, the men cried along with the women!".

Subsequently, the egg production activity for sale, set up by the organization through a link with a development program, became gender-exclusive. The State subsidized the provision of 100 genetically modified hens (laying hens), with specialized feed and veterinary assistance and veterinary assistance, as well as financing the facilities to segregate the birds. Thus, fourteen laying hen houses were built in the colony.

The involuntary combinations, emanating from proximity, mark the undifferentiated character of domestic propagation. In contrast, segregation and distancing reveal an intention to control and perpetuate a specific identity. Farmers carry out this operation in relation to an activity unrelated to food: the breeding of fighting cocks. One farmer relates, "The mothers [of the roosters] also have to be fighters, if I see that the hen fights when she is loose, I already lock her up for mother" (fieldwork, 2014).

Unlike the common or Creole hen, which is used for family self-consumption, the genetically modified specimens of the development project do not hatch. The eggs must be incubated and it is necessary to replace the mothers, thus losing the self-generating attribute of domestic breeding.

The life cycle of the hens in the program is planned and is described by the state technician in the following terms: "[the improved hens] do not need roosters to lay eggs and do not have chicks. Only females in the hen house. They lay one egg per day for 18 months and then they are discarded".

Through this activity, the organization's leaders encouraged the consolidation of a gender-based line of affiliation, establishing an identification between the way animals reproduce and the organization of humans. In this way, local men were only able to join the enterprise through women, either as husbands or as the children of a female member.

15 | Cockfighting is a male activity; the reproduction of the specimens is rigorously controlled in contrast to the liberality that dominates the mating of the common or Creole hens.

However, once the institutional support ended, this identification faded and the activity was re-familiarized, losing its gender connotation. The program's laying hens had a fate similar to that of the Creole hens, since, according to the participants: "We set them off in the yard, with a rooster, to have chicks."

4. CREOLE PURIFICATION

The second example of segmentation and re-familiarization that we present concerns development actions carried out by the same NGO that in 1980 had promoted the provision of vegetable garden seeds and the formation of women's groups. Thus, in 2002, an experience in the rescue and improvement of creole corn was launched in our study locality.

As mentioned above, the specimens that make up the endoagriculture of the foodstuffs are the product of spontaneous crosses, partially stabilized by the farmers themselves. The term *criollo* is used to describe this state of affairs.

Applied to maize, this qualifier has little discriminatory power, since the characteristic of this plant is incessant crossbreeding (Arellano Hernández, 1999: 105).

In our study locality, the intervention of the NGO became necessary because "very few producers maintained a certain line or breeds of corn with which they made an empirical selection every year" (INDES, 2008). The action was aimed at "purifying farmers' seeds", labeling varieties and controlling offspring through the systematization of matings.

As the technician comments: "Maize crosses very easily. We had to take the farmers' varieties and improve them genetically, purify them".

The recovery of varieties meant exacerbating inbreeding. Each seed farmer specialized in a single class, avoiding the contaminating proximity of durum corn, a short-cycle commercial hybrid, which was spread by the tobacco companies.

Various distancing strategies were implemented in order to maintain purity, such as planting corn planted by neighbors after flowering, planting different varieties in distant fields, and using the bush as a protective barrier. Flour corn (*catete* corn, for example) was no longer cultivated so that it would not cross with the forage varieties, the main target of the NGO's rescue of native seeds.

The techno-scientific work that was added to "go from grain to seed" brought about a rupture with respect to the usual practices.¹⁶ The selection of the ears, which was previously done with the ears in the shed, the technicians taught them to do in the plant itself. They also incorporated grain, chala and marlo measurements and yield estimation began to be done in kilograms.¹⁷ Thus, eight varieties were identified and catalogued (Blanco duro, Leales 25, Caiano, Azteca or marlo sabugo fino, Matto Grosso, Central Mex, Dente cão and Chala roja).

The breeding undertaken by the NGO produced several segmentations.

16 | Agricultural engineer Julián Cámara Hernández, consulting professor at the Faculty of Agronomy of the University of Buenos Aires, collaborated in the research.

17 | Maize is a domestic crop that is estimated in "manos de maíz" (hands of corn). A mano comprises 50 ears in northeastern Brazil and 64 ears in Rio Grande do Sul (a mano consists of 16 bundles and each bundle has 4 ears). In northeastern Misiones a hand is considered to comprise 64 ears and weighs approximately 12 kg.

18 | The native corn population in the province is divided into two main groups: floury corn, used for human consumption and conserved by the Mbya Guaraní communities, and the *dentados*, used by small producers for animal feed. Cámara Hernández and Miente Alzogaray (2011) identify fifteen native maize breeds in the province of Misiones, differentiated from each other by plant, panicle, ear, kernel, and reproductive period length attributes. They are the following: "Amarillo Ancho", "Amarillo Angosto", "Blanco Ancho", "Blanco Angosto", "Variegado", "Overo", "Rosado", "Colorado", "Pororo or Chico", "Pororo ó Grande", "Pipoca Amarillo", "Pipoca Colorado", "Azul", "Tupí í White" and "Tupí í Yellow".

Among vegetables, the selection involved exclusively forage corn.¹⁸ And, among humans, the project differentiated a line of seed breeders, i.e. farmers dedicated to seed production. Starting in 2006, the term "seed grower" became common in the area.

The majority of those who became seed growers were men. Women belonging to the development groups accompanied the activity by providing their support¹⁹. The group was grouped around an agro-livestock and forestry cooperative²⁰, linked to the NGO and chaired by the husband of one of the sponsors of the women's groups. In hybridization with the development actions, this grouping was consolidated as a house, with the daughters of other families linked to the organization being annexed, since two of the couple's sons married daughters of members of the women's groups. The eldest son succeeded his father in the management of the cooperative, while his wife became the administrator of the seed project. In turn, the younger brother and his wife were left in charge of the cooperative's product sales outlet (seeds and feed).²¹

By defining lines or landraces, the NGO's breeding program turned kinship into a public issue, making matri-monies visible and strategic²². Through the alliance, seed farmers contributed to establishing the exclusivity of a line or house, agglutinated around the cooperative.

The segmentation of the fluidity of mating between maize, and its necessary planning, was correlated with the importance of affinity relationships in the segregation of humans.

As described in the previous example, the family appropriation of the institutional collective was challenged by farmers excluded from the line of seed growers, who formed an alternative grouping, considering that "the cooperative is limited"; "it belongs to H.'s relatives"; "it is only for those who are already members".

Mostly occupants of private land, the marginalized producers had experienced an internal division on the occasion of the regularization of tenure. A fraction of the occupants had carried out friendly agreements with the owner, while the rest formed a fighting organization, achieving - with state support - the expropriation of the property and the concession of a valuable asset: a 27-hectare yerba mate plantation, existing on the land (Schiavoni, 2008; 2017). It was this second group that formed a new cooperative, excluding those occupants who had entered into agreements with the owner, thus also avoiding recruitment based on kinship, since the children of the leaders of the opposing groups had been linked to each other by an alliance.

The dispute that arose over the new cooperative was re-familiarized, posing itself in terms of a conflict between in-laws. One of the cons-in-law threatened to "return the daughter" to the opposing cons-in-law, reproaching him for having associated with "outsiders", forgetting his relatives. The accused justified the exogamy by affirming that "saint of the house does not work miracles".

19 | Of the 27 seed growers participating in the improvement project carried out by the NGO, only two are women.

20 | The cooperative was originally a yerba mate association and provided the structure for the commercialization of the seeds, since it involved the same families. It has 86 active members.

21 | The commercialization of seeds implied registration with INASE [National Seed Institute], raising the problem of ownership. The technicians argued that "the criollo seeds do not belong to the cooperative, they are not ours, they belong to everyone" and managed the category of seed identifiers, which allows them to market up to 80,000 kg per year. The purified seeds are marketed outside the local community and the main buyer is the State.

22 | The economic relevance that the kinship is acquiring in the locality is perceptible in the casual comments made by the neighbors. Thus, we have heard statements such as: "Mr. K. is a seed grower. K. is a seed grower. Since his son-in-law is in an NGO, he joined the program. In another case: "The cooperative is a closed door. They buy the sable bean seeds from Negro because his sister works there".

The extreme seriousness of the incident, according to local accounts, lay in the fact that he "made the family public".

This change in the register of the domestic, which makes visible that which functions to be kept hidden, is what Strathern (2009) calls trans-formed kinship: "kinship ceases to be taken as given. Kinship relations become the stuff of transactions, and people engage in expanding them in the only way possible - by producing 'more' kinship" (Strathern, 2009: 386).

Tobacco associations in the area offer additional evidence of kinship transformation. The intense factionalism that characterized the life of these organizations made the marital alliance between the sons of two leaders appear as a guarantee of loyalty. Thus, the president of the main association - after ten years in office and having been expelled by a former tail-borer - founded an alternative grouping and welcomed the marriage of his son to the daughter of the vice-president of the new association. In the locality, the fact was commented favorably, with the statement: "It's all in the family". However, in a subsequent election, the in-laws competed on opposing lists, and the loser (the girl's father) expelled the son-in-law from his land.

Thus, in a general context of activation of undifferentiated ties, affinity becomes a way through which the family becomes a public matter and becomes the object of selection strategies.

CONCLUSIONS

Our work deals with the relationships between humans and food plants and animals, in the context of development actions aimed at modernizing non-indigenous small-scale agriculture in Northeastern Argentina.

Unlike the abstract homologies proposed by totemism, in the case we analyze, the interspecies association is rooted in a specific mode of propagation, common to humans, animals and plants.

Thus, our data do not contain native utterances expressing direct parallels between humans and plants or animals, but rather the analogy rests in an action format. We have focused attention on the material record of propagation forms in order to document a mode of interspecies relatedness, which we conceptualize as a general bond of contiguity, associating without recourse to a verbally expressed design and directing combinations.

In this way, the links of proximity and similarity that operate in the multiplication of Creole varieties of family food are also activated in the processes of kinship that are at the basis of the marriage practices of the families that make up the rural communities of the agricultural frontier of Misiones.

Aimed at purifying the specimens arising from the unplanned mixtures of

home domestication, the development actions we examined attempted to replace analogical contiguity, which generates fluctuating types, with an action format aimed at replicating stabilized varieties of plants, animals and humans.

Operating through contract-like exchanges, the institutional agency of development revealed relationships as explicit connections. The mark of otherness was provided by the alliance.

Recourse to the notion of household allowed us to approach kinship in a less deterministic way, contemplating the effects of the technical objects of development on family dynamics, through simultaneous processes of foreignization of proximals and alignment of similarities. In the same way that farmers were obliged to distance their flocks in order to purify a corn that had been paired by spontaneous mating, the institutionalization of development segmented the consanguinization of ties, constitutive of the local human fabric, by cutting partners and counterparts.

The operation, however, did not become hegemonic, and the technical collectives remained in friction with the previous arrangements, within the framework of a broader process of individuation by familiarization.

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FUNDING: Conicet and Universidad Nacional de Misiones.

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Received on August 31, 2017. Accepted on September 2, 2020.