

# SOCIO - TECHNICAL CONSTRUCTION OF THE BEEF MEAT ORIGIN IN FRANCE

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## Abstract

meats in general and in particular beef meat set the operators who want to have beef meat origin labelling a problem. These difficulties reveal real gaps between the actors in the sector (breeder and butchers) as well as between their production methods (how they breed animals, slaughter and process the carcasses). Two different situations, in Camargue and Corsica, are looking for the construction of the specificity step by step during the processing of the animal: from the live animal to the steak. The *Taureau de Camargue* and the *manzu* of Corsica are two potentially typical meats but today only *Taureau de Camargue* has a PDO (Protected Designation of Origin) whereas the *manzu* is disqualified and is outside of the market. This unequal valorisation reveals the local actor capacity to be or not involved in a collective project. It is underlined that the technical systems (codes of practices, specifications product, slaughterhouses, carcasses classification grids) could co-ordinate the different breeders, their technicians, slaughterers and butchers know how, by assuring the breeding origin from the animal alive to the cut of meat.

Keywords : beef meat, quality of food, origin labelled product

## Introduction

These last years the sector of the beef have been confronted with several serious crises. These successive crises (in 1996 and 2000) lead the consumers to be concerned with the conditions of production of food they ate and particularly beef. The crises due to the BSE in beef supply chain rise this awareness of quality products.

Besides, this food crisis prompted the stepped up quality control and certification procedures at the end of the 1980. Nowadays, European regulations and protection of origin must be understood as means to organise agri-food supply chains and as a management tool of regional development and environmental stakes. More and more producers choose labelling products as an useful instrument to qualify their production and differentiate their products.

The qualification of the origin of the beef becomes a stake to restore the consumer confidence. Nevertheless, the activation of the local resources and the qualification of the origin of beef require that all the actors of the supply chain (breeders, butchers, traders) undertakes collectively in a project of marking of the origin of their meat. Resources which were disqualified become products valued in a collective project. What is the role of the technical systems in the qualification of the origin of beef and define a framework for collective action?

### 1. Differentiation difficulties of the beef meat origin

For many years, the rules concerning meat labelling were not clear. This lack of beef meat labelled joined in a lack of articulation between operators of the supply chain (Quilichini, 1998) is due to the nature of the product. Meats in general and particularly beef meat set to operators who want to undertake in an origin certification a strong problem. Organisation in

charge of this certification meet with the same difficulties in the instruction of the files. In France, it exists only one organisation in charge of the origin labelled products : INAO (National Institute of Designation of Origin) « other Products Committee » for the Protected Designation of Origin (PDO) and INAO « fourth committee » for the Protected Geographical Indications (PGI). Only the *Taureau de Camargue* is a PDO product and, for the meantime, no other beef meat file succeeded.

Thus, the carving of the carcass break the link between the animal and the piece ready to be cut (called PAT). It is therefore difficult to go back from a cut of meat PAT to the animal and therefore to qualify the origin of the animal.

On the other hand, there is a great diversity in the know-how concerning breeding that is not found in the know-how of slaughtering and the cut up of meat. Indeed, beef meat processing (slaughtering, carving, boning, etc.) is very standardized in comparison with the breeding methods. This opposition between the way of breeding an animal and its processing set a problem. If beef meat, whatever it is, is processed in the same way, it reduce the diversity due to the different breeding methods (fattening, age for slaughter, breed type, etc.).

These disconnections observed in production allowed, from a scientific point of view, the rupture between the concerned disciplinary fields: the livestock science (animal domestication and breeding), meat technology and organisations economy. One did not feel the need to make the link between the production methods, the processing of meat products and the relations between the actors of the supply chain.

The distress due to the BSE crisis (Bovine Spongiform Encephalopathy) made the consumers realise « the existence of breeding methods they did not suspect » (Sans and de Fontguyon, 1999). This recent awareness prevailed on consumers to change their priorities concerning beef meat. The perception of the meat (tenderness, taste, etc.) change into food safety guaranteed by the traceability system. Requirements concerning labelled product and the obligations for transparency within the supply chain had to be changed completely. It allowed to question the previous ruptures between breeders and butcher.

Nevertheless, the obligations concerning consumers information are essentially based on the traceability of the animal and the definition of animals categories not very explicit (for example heifer for meat). From an legal point of view (European regulation 1760/2000 on beef meat labelling system abrogating the regulation 820/97), these obligations establish an identification and registration system of the bovine concerning the labelling of meat and meat processed products.

Among these food products, beef meat is an exception concerning labelling. With this regulation it is possible to use names of the places in the denomination of meats whatever the European country. This legal framework due to the BSE crisis allows the beef meat to derogate from the European regulation 2081/92 on the geographical denominations and assigns a source.

Concerning the French inter profession organisation, two brands « Bœuf de Tradition Bouchère » (BTB for traditional butchery) and « Bœuf Verte Prairie » (BVP for supermarkets), guarantee the French origin of the animals, the type « meat breed », traditional food of the animals and the tenderness of the pieces of meat to be roasted.

Does this information concerning the traceability (by the definition of the source of the animal) leave the other information concerning the beef meat origin out ? This does not mean to certify the meat only from where it comes from (guaranteed by the conformity certificates, the French *Label Rouge*), but also by its origin (guaranteed by PDO and the PGI). In this case, the local know how and the *terroir* is typical enough and does not allow to make a similar product outside of the specified area. But this ask the question of the labelling basis on which the actors of the certification steps can justify and support their request (Casabianca and *al.*, 1999). The influence of the food and the genetic type on the biological results of the animal

(characteristics of the meat) provides part of these bases. However, if the actual characterisation methods allow to identify them, they do not explain their specificity. « they cannot clarify everything and encourage reproduction and the relocation of the typical products» (Béranger, 1999).

These bases have to be found in the connection between the specified production methods (choice of the genotype, feeding, reproduction, etc.) and their successive inscription during the processing of beef meat. We are more interested in the links between the breeding methods (that gives the animal a potential specificity) and the *transmission of the origin* in the butchery methods (in order to reveal this potential).

We will study two different situations, Camargue and Corsica, where the transportation of the origin from the animal to the cut of meat is different. The Corsican *manzu* and the *Taureau de Camargue* are two products recognised by the local society and the size of the animal is the same. Nevertheless, their enhancement is very unequal. A synchronic study of these two similar situations allows to show the role played by the technical systems (slaughtering, code of practice) in the beef meat origin labelling and the harmonisation of all the breeders, slaughterers and butchers' know how.

## 2. Products, production methods and comparable processing

### 21 products culturally acknowledged

In Corsica, there are two types of breeding and therefore two types of marketed products. The first is found in the plains where irrigation creates fodder crop intensification and provides Charolais calves, Limousine and Gascon breed meat. The other, located in the mountains where the fodder crop production is less important gives a young bull called *manzu*. Aged from 9 to 11 months (between the calf and the grazer) and weighs between 80 and 170 kg of carcass. Cattle is very heterogeneous because of the crossings between the local breeds and the continental breeds, and the difficulty to manage the reproduction period. The meat is mostly red because the animal, after a milking period, eats grass. Here you have a product with a strong taste, socially recognised as a local common good and registered by the National Art Culinary Committee (CNAC, 1996). But, in fact most of the butchers and meat traders of Corsica prefer the carcass of animals breed in the plains (or the Continent) with a meat output is higher than the *manzi*.

Therefore, this typical and renowned calf is found on the illegal markets especially for the people from Maghreb living in Corsica.

The *Taureau de Camargue* was the first PDO beef meat and remains up to this day the only one recognised by the INAO. As well as the Corsican *manzu*, the meat of the *Taureau de Camargue* is renowned, inside and outside the Camargue (CNAC, 1994). In the same way, **the bad conformation of the animals do not allow a profitable processing for the butcher valorisation if it is only based on the meat output.** So, The main actors of the supply chain (breeders, slaughterers and butchers) must involve together to define a code of practice about breeding and meat processing methods in order to reveal the *typicity* of the animal. So different from the Corsican *manzu*, the *Taureaux de Camargue* meat is sold today with a similar price to other meats, despite the worse *conformation* of its carcass.

The comparison shows that the Corsican as well as the Camargue productions profit by an important renown. However, on the one hand *manzu* has not got a commercial existence, and on the other hand *Taureau de Camargue* meat is amazingly valorised in the classical distribution circuits (supermarkets, traditional butcher shops or in restaurants).

### 22. Extensive production methods

The lack of the markets dedicated to the *manzu* does not involve the mountain breeders in an orientation strategy of their production. On the contrary, the breeders let the natural regulation mechanisms play without the intention of planning the breeding methods. So, at the end of the production cycle, cattle cannot be homogenous (the selection is not managed, staggering of calving periods during the year do not allow all the calves to have the same fodder crop resources, etc...). Consequently, this strategy requires to adjust the production to the markets. With this end in view, the *manzu* breeders pick over the animals in a heterogeneous calf population. **This work on the adaptation between the type of the product and type of customers leans on a picking over operation of the animal at the end of the production cycle.** We can imagine that between the activity of a breeder that manages his herd and the breeder who does a final picking over among his rambling calves will not be the same. It is breeder's status that is in stake. Mountain breeders, even though they let play the natural regulations, nevertheless have to know these mechanisms perfectly, because no zootechnical reply will bring pertinent solutions.

*Taureau de Camargue* breeders do not raise their animals for meat production, but for bullfights and especially for « cockade games ». This breeding activity only aims at making the future bull reach a sufficient mass of meat so as it can run. If physically, this can help the bull to fight in arena, it does not replace the temper that it gets during the numerous bullfight training. Breeding methods are not linked to the productive activity, this means the use of bulls. They provide animals ready to run and become secondary in the «herdsman » activity. However, they try to match the physiological rhythms of the bulls with mobilisable resources. In fact, stockbreeders refer to breeding as a pluri-yearly sequence during the production level has to be assured.

The Corsican and the Camargue breeders do not try to maximize the zootechnical performances, but to find balances between the available resources and the animals with a biologic rhythm. This makes it difficult to qualify and codify the breeders methods.

### 2. 3. *Meat processing knowledge does not allow to qualify pieces of meats from the cut up*

In Corsica there is no professional butchers knowledge (following a training in a butchers school). It is more a handed knowledge down in a family. In fact the meat processing methods are steady enough. Most of the Corsican butchers work on both pork meats, lambs and veal. Often, they learned to cut up on pork carcasses. In fact we have different cut up knowledge from one species to another. It happens that butchers cut up veal carcass in the same way as they cut up pork carcass and take out similar pieces. Therefore, we cannot say that specific knowledge exists on veal carcass cut up.

In Camargue, the study of a half carcass processing of a *Taureau de Camargue* in the slaughterhouse in Tarascon (near Marseille) allowed to understand the transmission of the origin was not based on the ways that each operator worked on the meat. It was rather based on the compatibility of different types of actors and objects.

For the slaughterer/cutter working in a slaughterhouse, the constraints linked to boning and cutting up are of no use, and allow the operator to express his own know how, without conforming to outside regulations. Besides there are no rules that stipulates the cutting up methods in the technical regulation of the *Taureau de Camargue* PDO.

In fact, this first work on the cut up, generated a set of products for the meantime unqualified because coming from indefinable methods (personal know how) therefore non controllable and especially non negotiated between the different actors (slaughterers/cutters and supermarket butchers). Despite the lack of qualified objects, there is however a sort of organisation or a co-ordination of the technical functions on which leans the commercialisation of the products. *Slaughterers/cutters code of practice does not bring a*

*precise reply to the different types of meat to be cut up. It is mostly based on the orientation methods (or picking out) of products from a cut up than on the technical processing procedures of the meat pieces.*

Here we see the need to establish in a, not on how to process the meat but on the definition of the types of meat pieces. These code of practice (common to the large and medium size supermarkets and slaughterers/cutters) maintain a co-ordination that could not have been based on the unqualified previous objects. There is no real intention to respect the code of practice but only an adjustment at the end of the cutting up for the clients requirements (by a set of qualifying actions). These adjustments would not be necessary for ordinary beef meat because the pieces already correspond to commercial categories. At the same time it would not be allowed by lack of plasticity of the beef meat

In spite of the likeness of the two situations observed, the actors of the Corsican and Camargue beef meat supply chain valorise their product in different ways. **Therefore, this is not in the unitary qualification of how-how (to breed the animal and to process its meat) that the performance is measured on a labelling of origin.** For the Corsican *manzu* as well as the, these methods are not very qualified and are difficult to qualify. It is more in the construction of the co-ordination methods of the technical system (as noticed for the *Taureau de Camargue* meat processing) that it is possible to consider the labelling of origin of beef meat.

### **3. Unequal enhancements: disqualified resources to typical products**

#### *3.1. In Corsica: Lack of qualification system for animals*

With the lack of a slaughterhouse, approved by the veterinary Services in Northern Corsica, other calf slaughtering structures took over. Butchers and calf traders built special slaughters tolerated by Veterinary Services but forbidden in France since 1960. These calf traders have slaughtering premises, they have the exclusive rights to slaughter animals and cut up their carcasses. This right gives them an exclusive access of markets as a whole and especially the supermarkets of Corsica.

Specific resources used by the calf traders are so specific and unrivalled that they cannot be used in other alternative situations. They become specific resources and « their power is actualised in the routine of the action » (Crozier and Friedberg, 1977). They allow them to maintain strong vertical relations towards the breeders that have no other solution than to sell them their *manzu*. This activity although legal is contested by an important part of the breeders that refuse the calf traders legitimacy (Usunier and Verna, 1994). Traders maintain a sort of legal violence which is not acceptable for a great number of *manzu* breeders.

These particular organisation conditions between breeders and butchers - traders does not allow the enhancement of the specificity of the mountain calf. Indeed, the qualification system of the *manzu* does not depends mostly on its quality, because it is never judged individually but always included in lots and does not exist on its own (Trift, 1999). This type of transaction substitutes itself to classical qualification system and remain bound to actors concerned by the commercial relations.

In this context, how to pass from the qualification of the « Corsican producer of [veal] to the producer of Corsican [veal] » (Prost and *al.*, 1994). Especially when there is no correspondence between the constitution of a productive lot to manage the breeding activity and the commercial lots for sale. This particular management of the lots does not allow to adjust easily the *manzu* production for the Corsican butchers requirements (Trift, 1999). It prevents the construction of new references on the functioning of the breeding (reproduction, seasons, breed and food) and butchery activities (specific treatment of the carcass). It make the carving production more strict between breeder and butcher in drawing a low permeable

border between the breeding and processing methods. Besides, this lack of tests and proofs of the quality of the animal and its carcass allows butchers to maintain a strong uncertainty concerning the breeders.

In this context the opening of a slaughterhouse announced in 2004 will not necessarily commit the actors in collective action strategies. The effort for organisation undertaken could aim above all to satisfy particular strategies to reinforce a dominating position or to attenuate it.

Thus, it seems that most of the breeders will not have the real possibilities to appropriate this new tool. We are probably going towards a sort of confiscation of the slaughtering to the profit of some butchers-traders. This confiscation would hardly let opportunities to start procedures associating breeders and butchers; especially concerning the definition of the specificity and the origin of Corsican veal meat. However, **its recognition is essential to maintain the activity of many breeders in the mountain areas**. But this means that the slaughterhouse managers start an open procedure where the keys of the organisation are available for most of them. This procedure leans on the development of clear regulations and transparent procedures of animal and product qualification. Yet, the persistence of loop line strategies, underground activities and the hierarchical relations between breeders and butchers will not spontaneously lead to better connections between their activities. Slaughtering appears therefore central in the qualification of the animal origin, but also in the local link between the product and the *terroir* from where it comes.

3.2. *In Camargue : From the specific resources to the specified products*

- Recognition of a PDO project

In 1992, Olivier Roux (manager of the Tarascon slaughterhouse and meat trader) wishes to valorise bulls meat, unfit for the Camargue games. He contacts the supermarkets and organises the merchandising of the animals. Its main functions within the sector at the interface between breeders and butchers are very important for the success of the labelling procedure. It allowed him to know productive realities of the Camargue breedings and simultaneously to consider the beef meat processing. This binocular vision of the alive and dead animal assures a tension of the breeding and butchery method as well as a connection between these two activities.

- Construction of the code of practice

The decree of December 3, 1996 modified on the June 7<sup>th</sup>, 2000 codify the production conditions of the *Taureau de Camargue* and processing of its meat.

The production conditions frame the breeders technical activity especially with the use of Spanish and Camargue breeds and the necessity to graze their animals at least 6 months of the year in a damp area of the Little Camargue.

There are numerous specifications on the slaughtering and processing conditions of the meat. They are guided by a « worry to protect » the product. Indeed, the qualification of production conditions would be useless if there was a stress at the slaughtering or approximate cutting up of the carcass, the quality of the meat and even its « specificity » would be irreversibly changed or spoilt. The table 1 (Trift and Casabianca, 2000) sum up the animals processing conditions and their carcass, mentioned in the decree of the 2000/07/07. But no cut up operation is specified, whereas it is obviously specific and determines the quality of the process of the meat.

**Table 1: Carcass processing conditions**

Technical operations	Technical criteria	Risks associated to
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		<b>operations</b>
Transportation Unloading of the animals Penning in cow sheds	Either separated or attached animals Special passageways for unloading  No waiting	Stress due to transportation Size of passage ways
Slaughtering	Animal stunned in 5 seconds Contention trap	Stress at the slaughtering
Splitting of the carcasses	2 animals/post/hour 25 m <sup>2</sup> /carcass Splitting by band-saw or only internal shower	Approximate cut up Steam one the carcasses Warming-up of the carcasses
Cooling	Temperature: 5 to 7°C 10 °C in the heart of the carcass before 10 hours	<i>Cryochoc</i> (AFNOR prescription)
Maturation	Temperature: between 0 and 2 °C Between 48 hours and 5 days	Toughness of meat

Only one operator work on the slaughtered animals carcass and the splitting of the carcass. This whole treatment avoids the sharing of the tasks and gives a better meaning to the whole cutting up of the carcass.

The classification of the European carcass OFIVAL/EUROPA is not easily usable because of the small size of carcasses of the *Taureau de Camargue*. A classification grid was to be set up, adapted to the size of carcasses but it was refused by the European Union that only acknowledged the OFIVAL EUROPA classification. This classification leans on 4 elements : the weight, the *conformation*, the destination of the carcass (from the manufactures to the category), the colour and the fattening (from low to fat). In the same mind, the creation of the new zootechnical category, the « bull » including male and females, shows the necessity to produce pre formatted categories when it concerns original animals.

All these innovations were done in the Tarascon slaughterhouse while the other slaughterhouse located at Nîmes in the PDO area and approved for the slaughtering of the *Taureau de Camargue* only applied them. This makes the Tarascon slaughterhouse a real laboratory in the construction and the management of the *Taureau de Camargue* PDO. The main role of Tarascon's slaughterhouse and Olivier Roux testify a particular capacity of the group in charge of the project to suggest new management rules for the qualification of origin.

- From protection to valorisation

The decree of *Taureau de Camargue* PDO require to protect of the product and especially the carcass. In other means, managers of PDO prefer to protect the carcass without assuring its specificity. To assure the specificity of the *Taureau de Camargue* meat would mean to affirm the of cut up methods and slaughterhouse butchers know how in order to highlight the new qualities of the processed meat. These reversals in points of views needs to go from implicit know how to the codification of the significant knowledge in the construction of the specificity wrote in the code of practice.

#### **4. By way of conclusion : the technical systems role in the qualification of the meat origin and actors projects.**

For the case of Corsica, all the technical specifications and the qualification systems of the products are confronted to information asymmetries and to divergence of points of view. They do not allow the actors within the beef meat supply chain to « think » in collective actions terms and to find a common referential. The local resources therefore stays disqualified.

In Camargue, this common code of practice is not only a codification of practice but becomes a collective organisation lever. « The qualification of the objects is a powerful motive in the co-ordination regime » (Boltanski and Thévenot 1987). Thus, these rules made up beyond their co-ordination function allows to readjust the decisions during the action.

The study of the Corsican and Camargue situations reveals potentially typical animal, but whose valorisation is very unequal. For the first case, it practically does not exist whereas in the other it is built up step by step.

This confrontation of the two situations brings to think that the technical systems implementation (way to breed, to slaughter, to cut up and to classify) is necessary for the labelling of the beef meat origin. This technical system does not lean on a strong product innovation but more on the organisational modifications concerning the whole supply chain. If the actors involved in labelling procedures do not grasp the local resources (whether it concerns the breed or a particular breeding system), this will stay deliberately disqualified and not managed. This means that the actors develop a common strategy aiming at the better differentiation of the local resources of the other production systems in the beef meat production. As we noticed, this differentiation strategy brings them to qualify and to note in a code of practice, their production methods and what makes their product specificities. The development of such an original code of practice does not lean on the celebration of a past tradition but on the concrete definition of the existing objects to be qualified. For this, the breeders, slaughterers and butchers must resist to the tensions and look towards the building of a new future to be built : to live better. It is the strength of the project led by the actors that stimulates the technical systems. This involvement allows to subjugate violence, conflicts, tensions and bargaining that reveals the critical points in the construction of agreements and regulations (Casabianca and Sainte Marie, 1997). Indeed, even though the production of rules is not spontaneous but restricting, we must follow them for the re-qualification of the resources. The dynamics of the actors and the technical systems leans generally on a group in charge of the project. In Camargue, the main position of the Tarascon slaughterhouse manager allowed him to play a mediator role, making easier the connections between breeding activities and butchery. The project group position in a labelling procedure allows to re-interpret the regulations and to increment the technical referential (Trift and Casabianca, 2000) while taking care to leave the question path free. The position of the project group is not only functional but also statutory. It legally imposes itself to the other actors of the supply chain that represents inside and outside of the local community, the cultural contents of the origin product.

So, the bad conformation of the animals does not seem to be an handicap for good butchery. But the valorisation must be based on a **collective agreement on the criteria witch reduce the importance of the carcasses output and turn the characteristics of the meat to good account**. It is exactly the basis on which the professionals and institutional actors can justify their labelling system.

Regions with weak competitive potential could find, in such labelling procedures, new assets for breeding development using local resources. Therefore, it is in the valorisation of each regions potential and not pushing them towards advanced specialised skills that new solidarity will begin between the disadvantaged areas and the intensive production areas. The sectors that can prove the origin of their meats will be able to defend better their product and thus have access to the markets.



## References

- BERANGER CL. 1999. *Synthèse des rapports et débats de Parant*. Document interne : 1-7.
- BOLTANSKY L, THÉVENOT L. 1987. *Les économies de la grandeur*. Presses Universitaires de France : Paris.
- CASABIANCA F, BERANGER CL, MONIN G. 1999. La codification des liens entre le terroir et le produit dans le cas des produits carnés : analyse de situation et perspectives. *Actes du colloque SFER signes officiels de qualité et développement agricole* : 91-104.
- CASABIANCA F, DE SAINTE MARIE CH. 1997. Concevoir des innovations pour les produits typiques. Quels enseignements pour les charcuteries sèches corse. *Seminar of the European Association of Agricultural Economists EAAE* : 201-214
- COMITE NATIONAL DES ARTS CULINAIRES. 1996. *Corse : produits du terroir et recettes traditionnelles*. Albin Michel/CNAC: Paris.
- COMITE NATIONAL DES ARTS CULINAIRES. 1994. *PACA : produits du terroir et recettes traditionnelles*. Albin Michel/CNAC: Paris.
- CROZIER M, FRIEDBERG E. 1977. *L'acteur et le système*. Seuil : Paris.
- LIVET P, THÉVENOT L. 1994. *Les catégories de l'action collective. Analyse économique des conventions*. Presses Universitaires de France : Paris
- PROST J, CASABIANCA F, CASALTA E, VALLERAND F., DE SAINTE MARIE CH. 1994. Maîtrise de la qualité et solidarité des acteurs. La pertinence des innovations dans les filières d'élevage en Corse. *Etudes et Recherches sur les Systèmes Agraires et le Développement* 28 : 143-156.
- QUILICHINI Y. 1998. L'appréciation des carcasses et des viandes par les professionnels. La qualité et les transactions. *La revue française de génétique et de reproduction* 22 (88) : 8-16.
- SANS P, DE FONTGUYON G. 1999. Choc exogène et évolutions des formes organisationnelles hybrides. Les effets de la crise de la « vache folle » sur la filière bovine. *Sciences de la société* 46 : 173-189.
- TRIFT N. 1999. *Relations entre éleveurs extensifs de bovins et bouchers ruraux en Corse. Fonctionnement des activités et représentations d'un futur abattoir*. Mémoire de DEA, INAP-G : Paris.
- TRIFT N, CASABIANCA F, 2000. Quelles formes d'organisations techniques pour construire la typicité des viandes bovines ? *Rencontres et Recherches sur les Ruminants* 7 : 255-258.
- USUNIER J-C. 1994. Ethique des affaires et relativité culturelle. *Revue française de gestion* 99: 23-40.