

THE UPPER PALEOLITHIC IN BELGIUM (1991-1998)

Marcel OTTE¹ and Rebecca MILLER²

During the 1990s, numerous field projects were carried out in Belgium by different researchers from Belgium and other countries. Preliminary reports and results of analyses were generally published in articles devoted to a series of sites excavated, often from different cultures within the Upper Paleolithic (32, 33, 35, 36, 37, 45, 46, 51, 53, 55, 56, 57). Detailed monographs have also been published for certain sites (*Chaleux*, 38; *Trou Magrite*, 44; *Bois Laiterie*, 58), presenting the results of interdisciplinary research and placing the sites in regional and temporal contexts.

AURIGNACIAN

Some open-air sites were discovered in western Belgium (Hainaut), a region lacking natural rock shelters or caves (14). This Aurignacian occupation area is comparable to that found in northern France and described by Jean-Pierre Fagnart. The presence of such sites brings to mind the sometimes contested hypothesis of open-air Aurignacian sites situated in the intermediate zone between the cave sites of Belgium and Great Britain.

At Modave (Province of Liège), the site of *Trou Al'Wesse*, formerly excavated by Edouard Dupont, ongoing excavations of a large sondage on the terrace have taken place over the past decade (7, 8, 9, 48, 49). At the base of the talus slope, close to the alluvial plain of the Hoyoux river, multiple Late Mesolithic occupations are found interstratified with lenses of Early Neolithic. At the top of the talus, but at the bottom of the stratigraphic sequence, a stratum with limestone éboulis contains a Mousterian industry underlying a stratum with a few typically Aurignacian tools. Recently obtained dates (Aurignacian : OxA-7634 : 36,500 ± 660 BP; Mousterian : OxA-7497 : 41,100 ± 2,300 BP) complement a C14 date of around 32,000 years BP (48). A sagaie point in ivory, with a massive base (Mladec type), found out of stratified context, probably belongs to this assemblage, and has been dated to 30,750 ± 850 BP (OxA-7496 (Lyon-590)).

The site of *Trou Magrite* (Anseremme, near Dinant, Province of Namur), also excavated in the 19th century by Dupont, yielded an ivory anthropomorphic statuette and an engraved reindeer antler. The sequence includes Magdalenian, Gravettian, Aurignacian and Mousterian occupations. Recent excavations by

1 Professeur à l'Université de Liège. Service de Préhistoire. Place du XX Août, 7, Bât. A1. B-4000 Liège. Belgique.

2 Archéologue à l'Université de Liège. Service de Préhistoire. Place du XX Août, 7, Bât. A1. B-4000 Liège. Belgique.

Straus and Otte in 1991-92 yielded two Aurignacian and two Mousterian levels in stratigraphic position on the terrace. New data on these two industries was thus obtained, including dates, organic residue analysis, fauna consumed, activities, and reduction techniques. Among the dates obtained, one should note particularly the early dates for the Aurignacian (38-41,000 years BP). According to the stratigraphic relationship with the early excavations, the statuette and engraved antler should probably be reattributed to the Aurignacian instead of the Gravettian and thus added to the series of statuettes known in the German Aurignacian (Hohlenstein-Stadel, Vogelherd) and to engraved sexual symbols in the Dordogne region (e.g., Abri Blanchard) (16, 32, 33, 35, 37, 41, 44, 51, 52, 55, 59).

In the Meuse Valley on the Hesbaye Plateau (Province of Liège), test pits on the terrace of the *Grotte du Docteur* were excavated in 1998 (31) and excavations will continue in 1999. In the 19th century, Fraipont and Tihon completely excavated the interior of the cave and part of the terrace. Their stratigraphic sequence yielded assemblages of Mousterian with bifacial retouch, Levallois Mousterian, and Aurignacian industries, and Neolithic burials. The test pits yielded Aurignacian and Mousterian artifacts in somewhat disturbed context, probably due to penecontemporaneous hyena occupation and/or slippage along the terrace slope.

La *Grotte Walou* (Trooz, Province of Liège) is located above the small valley of the Magne and was discovered by speleologists. Excavations occurred from 1985-90 (10, 18) and were continued in 1996 (11, 12). The site contains a long stratigraphic sequence which includes material from the Neolithic and Mesolithic (Unit A), Creswelllo-Tjongerian and Magdalenian (Unit B), Aurignacian (Stratum C6) and Mousterian (Stratum C8).

GRAVETTIAN

Also located in the Meuse Valley, the open-air site of *Huccorgne* is found in recent Pleniglacial B loess deposits next to the ancient course of the Meuse river and has been dated to around 24,000 years BP. Traces of Mousterian and Gravettian occupations were discovered in the 19th century. Different researchers continued to excavate in the 20th century, principally in the Gravettian levels, and most recently by Otte and Straus (1991-1993). The industry contains pointed blades with flat retouch and tanged tools (of Maisières-Canal type), but also points and backed blades (of Gravette type). This facies is thus similar to the Perigordian Va in southwest France. Analyses and definitive publication are still in progress (32, 33, 35, 37, 54, 55, 56).

A Gravettian assemblage with truncated elements (Vb in France) has been recently studied and dated, from a rock shelter near the *Grottes de Goyet* on the Samson river, a tributary of the Meuse (Province of Namur). These sites show the bipartition of the Belgian Gravettian in nearly identical chronological phases to southwest France (13). Excavations still in progress were begun in 1997 (66).

MAGDALENIAN

The well-known cave site of *Chaleux* (Province of Namur) was re-excavated in the 1980s and a monograph published in 1994 (38). It was possible to observe the integrity of the Magdalenian level, which had sometimes been questioned, to place this occupation at the end of the Bölling period (around 12,500 years BP), and to clarify the technology (facies similar to Pincevent and Gönnersdorf), economy (fossil shells from the Paris Basin), hunting (dominated by horse), and environment (temperate microclimate). An engraved plaque with a figured motif (front view of an aurochs) was also recovered in the recent excavations.

At the site of *Furfooz-Nutons* on the Lesse river (Province of Namur), the recent analysis of a cache of reindeer antlers excavated by E. Dupont in the 19th century permitted an interpretation for the formation of this type of collection, which was apparently intentional and likely served as a storage area for materials intended to be used to make tools (24).

At the recently discovered site of *Bois Laiterie* in the Burnot Valley (Profondeville, Province of Namur), the Magdalenian deposits were completely excavated in 1994-95 by Straus and Otte, following anonymous vandalism which destroyed the upper deposits (15, 25, 26, 28, 40, 46, 47, 60). The site is a small cave which opens near the summit of the valley and served as a hunting camp (wide range of animals represented in the faunal assemblage). A series of sagaie fragments (four bases and one proximal end) (25) was found along with a lithic assemblage made primarily on imported flint, probably from the Hesbaye Plateau. A series of impressive fossil shells, as at Chaleux, seems to demonstrate contacts with the Paris Basin, where Tertiary marine deposits yield such fossils. C14 dates place the assemblage within the Bölling period. The site was paved with psammite plaquettes. The abundant use of mineral colorants was also observed. A monograph was published in 1996 (58).

The open-air Magdalenian site of *Orp*, on the Brabant Plateau was excavated in 1979 and the final excavation report published in 1987 (68). More recently, the site was dated by TL and the chronostratigraphy of the site clarified (69, 70).

Excavations were completed in 1998 at the site of *Trou Da Somme* (Waulsort, Province of Namur), a small cave on the Meuse river. Excavations were begun by Verheyleweghen in the 1950s, resumed by J.-M. Léotard of the University of Liège in 1988, and completed in 1997-1998. The site consists of two caves formerly linked by a wide corridor. Analysis of site taphonomy supports an interpretation of secondary deposition of archaeological material from the upper cave to the lower cave due to mud flow. The archaeological material includes abundant psammite plaquettes, a lithic assemblage made on silicified limestone and flint (both imported). The faunal assemblage includes ibex, chamois, horse, reindeer and musk-ox, along with some carnivore remains. A musk-ox bone recently yielded a date of $12,815 \pm 75$ BP (OxA-8308). (27, 29, 30)

The fauna from the Magdalenian level at the *Grottes de Goyet* were recently reanalyzed by Germonpré (17) for species composition, preservation, breakage, and traces of carnivore and human activity.

CRESWELLO-TJONGERIAN

This general term, created by M. Dewez, designates non-Magdalenian traditions present at the end of the Belgian Upper Paleolithic. These include assemblages which contain truncated armatures on wide, flat bladelets. An intermediary site has been described at *Comblain-au-Pont* (Province of Liège), where a small cave contained debitage with technical characteristics analogous to the Creswellian (63, 64). A more intense occupation was recovered in stratigraphic context below a Mesolithic level at *Chauveau-Godinne* (Province of Namur) (65).

TJONGERIAN

The open-air site of *Meer* (Antwerp) has been the object of several field seasons, concentrating on Locus IV. The vast assemblage recovered permits the establishment of a more precise technical definition of the Tjongerian cultural facies (39). The microlithic component, sometimes interpreted as evidence of contamination, may also indicate a late development of the Tjongerian, a hypothesis further supported by dates clustering at the beginning of the Pre-Boreal.

TRANSITION

Development of the Mesolithic has particularly been studied on the sandy plains of northern Belgium, from the Epipaleolithic (Ahrensbourgian and Tjongerian) to the specific forms of the local Mesolithic (1, 67).

The rock shelter site of *Abri du Pape* (Freyr, Province of Namur) has yielded a continuous sequence of Middle and Late Mesolithic assemblages in limestone gravel deposits at the base of the Rochers de Freyr, along with a series of radiocarbon dates (40, 41, 53, 55). A monograph is currently in preparation for publication in 1999.

RESEARCH ON ART

Short syntheses have been devoted to the carved artwork of the Belgian Paleolithic (28) and to ivory artifacts (43). The two pieces recovered at *Trou Magrite* (statuette and engraved antler) were subject to re-analysis, based on the

recent excavations (see above) and compared wit materials from other regions. Their re-attribution to the Aurignacian was supported by various arguments (21, 44).

New discoveries of mobile art were also described and interpreted for the Magdalenian: an ivory disc engraved with a mammoth and a perforated and notched tooth from Chaleux (2, 20) and engraved stone plaquettes from *Trou Da Somme* (19).

CHRONOLOGY

Several new AMS dates have been obtained for different sites in the Belgian Upper Paleolithic, principally from the final phase (3, 6; *Trou Da Somme*, n.d.). Reciprocal relationships between Magdalenian (southern and continental) and Creswello-Hambourgian traditions, all represented in Belgium, could thus be clarified in northern Europe. Moreover, a series of dates obtained by thermoluminescence on burned stone in open-air Magdalenian sites in Middle Belgium manifests systematic shifts with respect to classical C14 dates. The TL dates place these assemblages, linked to abundant lithic materials, to the recent phase of Dryas I (61). They show both the functional dispersion of the Belgian Magdalenian, in comparison to the Mosan caves, and the long duration of occupation of this northern Magdalenian presence.

Dates were also recently obtained for the Early Upper Paleolithic at the sites of *Trou Al'Wesse* (48) and *Grotte du Docteur* (n.d.).

HUNTING ORGANIZATION

Several studies have examined, on the basis of Belgian collections, the practice of hunting during the Paleolithic. The abundance and coherence of available information has principally benefited understanding of the Magdalenian period. For example, at *Chaleux*, the intensity of hunting of horse has often been noted (4, 5, 38), demonstrating that this animal was a major component of Late Magdalenian subsistence economy in the northwest Ardennes, without completely excluding the contribution of other large mammals (e.g., reindeer). Butchery practices were also analyzed, suggesting the possible existence of a range of techniques for treating bone that could have a "cultural" character.

In the same context, seasonality studies, based on the analysis of dental cementum, have permitted the development of an adaptation model at cave sites based on seasonal predation (61). However, at *Chaleux* for example, the slaughter of ibex in both winter and summer was not an expected result and suggests rather that this site was subject to relatively intense occupation, at different periods of the year. These studies (5, 61) do not exclude the probability that the dominant representation of horse could be the result of opportunistic hunting.

SYNTHESES

Magdalenian occupation, once again, has been the subject of regional studies, primarily focused on the Lesse river valley (Province of Namur), where numerous sites have been attributed to this culture (22, 23). Their topographic distribution, the exploitation of lithic and subsistence resources, closely related activities, and migration routes were, among others, integrated in such approaches, constituting local syntheses (50, 62). We have also attempted to place such Paleolithic "provinces" in the general European context, in order to explain the Belgian Magdalenian as developing within a movement of expansion from the west and as part of the recolonization of the northern plains after the Last Glacial Maximum (34).

BIBLIOGRAPHY

- AMEELS V. and VAN VLANDEREN L., 1995,
Epipaleolithic en Vroeg-Mesolithische langsheen de Moervaart (Oost-Vlaanderen). *Notae Praehistoricae* 15 : 35-43.
- BOTT S., CATTELAINE P. and JADIN I., 1994,
Un mammoth gravé sur une rondelle du Trou de Chaleux (Province de Namur). *Notae Praehistoricae* 13 : 27-29.
- CHARLES R., 1992,
Towards a new chronology for the Belgian Lateglacial. Recent radiocarbon dates from the Oxford AMS system. *Notae Praehistoricae* 12 : 59-62.
- CHARLES R., 1993,
Evidence for faunal exploitation during the Belgian Lateglacial : recent research on the Dupont collection from the Trou de Chaleux. *Exploitation des animaux sauvages à travers le temps*, Actes des XIIIes Rencontres d'Archéologie et d'Histoire d'Antibes, IVe Colloque international de l'Homme et l'Animal, Juan-les-Pins : APDCA, p. 103-114.
- CHARLES R., 1994,
Food for Thought: Late Magdalenian chronology and faunal exploitation in the north-western Ardennes. Unpublished dissertation thesis, Queen's College (Oxford), Great Britain.
- CHARLES R., 1994,
Towards a new chronology for the Lateglacial archaeology of Belgium. Part II : recent radiocarbon dates from the Oxford AMS system. *Notae Praehistoricae* 13 : 31-39.
- COLLIN F., MASY Ph. and TINANT M., 1993,
La grotte du Trou al'Wesse (province de Liège). Fouilles et découvertes de 1993. *Bulletin des Chercheurs de la Wallonie* XXXIII : 5-8.

- COLLIN F. and OTTE M., 1995,
Sondages dans la terrasse pléistocène de la grotte du Trou al'Wesse (Petit-Modave, province de Liège). *Notae Praehistoricae* 15 : 5-10.
- COLLIN F., LÓPEZ BAYÓN I., OTTE M., DERCLAYE C. and TRINH D., 1996,
Interprétation de la chrono-stratigraphie sur la terrasse du Trou Al'Wesse (Petit-Modave, province de Liège). *Notae Praehistoricae* 16 : 47-53.
- DEWEZ M., COLLCUTT S., CORDY J.-M., GILOT E., GROESSENS-VANDYCK M.-C., HEIM J., KOZLOWSKI S. and E., LACROIX D. and SIMONET P., 1993,
Recherches à la grotte Walou à Trooz (Province de Liège, Belgique). Premier rapport de fouille. Société Wallonne de Palethnologie, mémoire 7.
- DRAILY C., 1996,
Reprise des fouilles à la grotte Walou en 1996. *Actes de la journée d'archéologie en Province de Liège, Amay, 7 décembre 1996.* Liège : 29-30.
- DRAILY C., 1998,
Campagne de fouilles 1996-1998 à la grotte Walou à Trooz. *Notae Praehistoricae* 18 : 25-32.
- ELOY L. and OTTE M., 1995,
Le Périgordien de l'Abri-sous-Roche de Goyet (Namur, Belgique). *Bulletin "Les Chercheurs de la Wallonie"*, t. XXXV, 1995, p. 25-40 (en collaboration avec L. Eloy).
- FOURNY M. and VAN ASSCHE M., 1992,
Sites aurignaciens en surface autour du Bois de la Houssière, Braine-le-Comte, Ecaussines d'Enghien, Henripont et Ronquières (Hainaut). *Notae Praehistoricae* 11 : 29-31.
- GAUTIER A., 1994,
Preliminary report on the faunal remains from the cave Bois Laiterie, excavation campaign 1994. *Notae Praehistoricae* 14 : 69-72.
- GAUTIER A., CORDY J.-M., STRAUS L.G. and OTTE M., 1997,
Taphonomic, Chronostratigraphic, Palaeoenvironmental and Anthropogenic Implications of the Upper Pleistocene Faunas from Le Trou Magrite, Belgium, *Anthropozoologica*, 25-26 (Proceedings of the 7th International Conference for Archaeozoology, ICAZ, Constance, September 1984), p. 343-354.
- GERMONPRÉ M., 1996,
The mammals of the Magdalenian upper horizon of Goyet. *Notae Praehistoricae* 16 : 75-85.
- GILOT E., 1993,
Liste des datations C14 effectuées sur du matériel de la grotte Walou à Trooz (Liège). In *Études et Documents. Série Fouilles*, 4, Namur.

- LEJEUNE M., 1992,
Découverte d'une plaquette gravée dans le Magdalénien du Trou da Somme (massif de la Roche-Al-Rue, Waulsort, Belgique). *Notae Praehistoricae* 12 : 53-57.
- LEJEUNE M., 1993,
Découverte d'une dent perforée et encochée à Chaleux (Dinant, Belgique). *Notae Praehistoricae* 12 : 47-52.
- LEJEUNE M., 1994,
Apport des fouilles récentes à l'attribution culturelle des témoins d'art mobilier paléolithique du Trou Magrite (Pont-à-Lesse). *Notae Praehistoricae* 14 : 39-44.
- LÉOTARD J.-M., 1992,
Tourisme magdalénien dans la région dinantaise. *Notae Praehistoricae* 12 : 63-64.
- LÉOTARD J.-M., 1993,
Les premiers touristes de la Basse Lesse étaient magdaléniens. *L'archéologie en Région Wallonne*, Dossiers de la Commission Royale des Monuments, Sites et Fouilles, 1, Namur, p. 14-16.
- LÓPEZ BAYÓN I. and TEHEUX E., 1994,
L'amas de bois de rennes du Trou des Nutons à Furfooz (Province de Nalur, Belgique). *Préhistoire Européenne* 6 : 223-224.
- LÓPEZ BAYÓN I., TEHEUX E., STRAUS L.G. and LÉOTARD J.-M., 1996,
Pointes de sagaies au Magdalénien de Bois Laiterie (Profondeville, Namur). *Préhistoire Européenne* 8 : 125-141.
- LÓPEZ BAYÓN I., STRAUS L.G., OTTE M., GAUTIER A., CORDY J.-M., VANDEBRUAENE M., STUTZ A., KRUEGER H.W., LÉOTARD J.-M., LACROIX Ph., DEVILLE J., MILLER R., VAN NEER W., LOZOUET P., ANCION V., MARTINEZ A., LEJEUNE M., ORPHAL J., JARDÓN GINER P., TOUSSAINT M., NOIRET P. and FARRERES A., 1996,
La Grotte du Bois Laiterie, du Magdalénien au Mésolithique : Différences comportementales. *Notae Praehistoricae* 16 : 63-74.
- LÓPEZ BAYÓN I., LÉOTARD J.-M., OTTE M., QUINIF Y., ANCION V., LACROIX Ph., MILLER R. and NOIRET P., 1997,
Nouvelles recherches dans le site magdalénien du Trou Da Somme (Hastière). *Notae Praehistoricae* 17 : 63-75.
- LÓPEZ BAYÓN I., OTTE M., STRAUS L.G., GAUTIER A., LÉOTARD J.-M., MILLER R. and LACROIX Ph., 1997,
Le Magdalénien du Bois Laiterie (Profondeville) : une halte de chasse "saisonnnière". *Actes de la cinquième journée d'archéologie namuroise*, 22 février 1997, Namur, pp. 11-18.

- LÓPEZ BAYÓN I., LÉOTARD J.-M., OTTE M., LACROIX Ph. and ANCION V., 1998,
Le Trou Da Somme (Hastière) : état de la question. *Actes de la sixième journée d'archéologie namuroise*, 28 février 1998, Gembloux, pp. 19-32.
- MILLER R., OTTE M., LÉOTARD J.-M., LÓPEZ BAYÓN I., LACROIX Ph. and ANCION V., 1998,
Trou Da Somme : Excavation Report 1998. *Notae Praehistoricae* 18 : 51-63.
- MILLER R., OTTE M., HAECK J., COLLIN F., LÓPEZ BAYÓN I., and ANCION V., 1998,
The Grotte du Docteur : Preliminary Report for the 1998 Excavations. *Notae Praehistoricae* 18 : 65-75.
- NOIRET P., STRAUS L.G. and OTTE M., 1990-91,
Fouilles paléolithiques en Belgique méridionale (été 1992). *Vie Archéologique* 237 : 11-20.
- NOIRET P., OTTE M., STRAUS L.G., LÉOTARD J.-M., MARTINEZ A., ANCION V., NEWMAN M., LACROIX Ph., GAUTIER A., CORDY J.-M. and HAESAERTS P., 1994,
Recherches paléolithiques et mésolithiques en Belgique, 1993 : le Trou Magrite, Huccorgne et l'Abri du Pape. *Notae Praehistoricae* 13 : 45-62.
- OTTE M., 1992,
Processus de diffusion à long terme au Magdalénien. *Le peuplement magdalénien. Paléogéographie physique et humaine*, Actes du colloque de Chancelade (octobre 1988), Paris : CTHS, p. 399-416.
- OTTE M., STRAUS L.G., LÉOTARD J.-M., GAUTIER A. and HAESAERTS P., 1992,
Fouilles dans le Paléolithique moyen et supérieur de Belgique méridionale. Rapport 1991. *Notae Praehistoricae* 11 : 3-28.
- OTTE M., 1993,
Recherches paléolithiques en Namurois. *Actes de la première journée d'archéologie namuroise*, Namur, p. 25-29.
- OTTE M., STRAUS L.G., GAUTIER A., MARTINEZ A., NEWMAN M., SCHUTZ C., HAESAERTS P., NOIRET P. and LÉOTARD J.-M., 1993,
Fouilles paléolithiques 1992 en Belgique. *Notae Praehistoricae* 12 : 15-31.
- OTTE M. (dir.), 1994,
Le Magdalénien du Trou de Chaleux (Hulsonniaux, Belgique). Liège : E.R.A.U.L. 60, 255 p.
- OTTE M., 1994,
L'industrie lithique de Meer IV. *Bull. Soc. Anthropologie et Préhistoire* 105 : 39-62.

- OTTE M., STRAUS L.G., LACROIX P., MARTINEZ A., NOIRET P., LÉOTARD J.-M., ANCION V. and LÓPEZ BAYÓN I., 1994,
Fouilles 1994 à l'Abri du Pape et à la grotte du Bois Laiterie (Province de Namur). *Notae Praehistoricae* 14 : 45-68.
- OTTE M., STRAUS L.G., LÉOTARD J.-M. and NOIRET P., 1994,
Recherches paléolithiques et mésolithiques en Belgique, 1993 : le Trou Magrite et l'Abri du Pape. *Actes de la deuxième journée d'archéologie namuroise*, Namur, p. 9-17.
- OTTE M., 1995,
La Préhistoire. J. Stiennon et al. (dir.), *L'architecture, la sculpture et l'art des jardins à Bruxelles et en Wallonie*, Bruxelles : La Renaissance du Livre, p. 9-17.
- OTTE M., 1995,
L'ivoire paléolithiques au nord-ouest européen. J. Hahn et al. (ed.), *Le travail et l'usage de l'ivoire au Paléolithiques supérieur*, Actes du colloque de Ravello (mai 1992), Ravello, p. 103-113.
- OTTE M. and STRAUS L.G. (dir.), 1995,
Le Trou Magrite: fouilles 1991-1992. Résurrection d'un site classique en Wallonie. Liège, E.R.A.U.L. 69, 239 p.
- OTTE M., STRAUS L.G., LACROIX Ph., MARTINEZ A., NOIRET P. and LÉOTARD J.-M., 1995,
Recherches paléolithiques et mésolithiques en Belgique 1994 (province de Namur). *Actes de la troisième journée d'archéologie namuroise*, Namur, p. 19-34.
- OTTE M., STRAUS L.G., LÉOTARD J.-M., GAUTIER A., LÓPEZ BAYÓN I., LACROIX Ph., TEHEUX E., ANCION V. and ORPHAL J., 1995,
Rapport préliminaire sur le site Magdalénien final du Bois Laiterie (Wallonie, Belgique). *Notae Praehistoricae* 15 : 11-33.
- OTTE M., STRAUS L.G., GAUTIER A., LÉOTARD J.-M., LÓPEZ BAYÓN I. and LACROIX Ph., 1996,
Le Magdalénien final de la grotte du Bois Laiterie (province de Namur), *Actes de la quatrième journée d'archéologie namuroise*, Namur, p. 9-18.
- OTTE M., COLLIN F., MILLER R. and ENGESSER K., 1998,
Nouvelles datations du Trou Al'Wesse dans son contexte régional. *Notae Praehistoricae* 18 : 45-50.
- PIRSON S. and COLLIN F., 1997,
Révision de la stratigraphie pléistocène du Trou Al'Wesse. *Notae Praehistoricae* 17 : 39-43.

- RAMON F., 1997-98,
Les ressources alimentaires au Tardiglaciaire dans le Bassin mosan belge.
 Mémoire de licence, Université Catholique de Louvain-la-Neuve,
 Belgium.
- STRAUS L.G., OTTE M. and HAESAERTS P., 1992,
Upper Pleistocene Hominid Adaptations in Southern Belgium. Paper
 presented at the SAA conference, St. Louis.
- STRAUS L.G., OTTE M., LÉOTARD J.-M., GAUTIER A. and HAESAERTS P.,
 1992,
 Middle and Early Upper Paleolithic excavations in Southern Belgium : a
 preliminary report. *Old World Archaeology Newsletter* XV/2 : 10-18.
- STRAUS L.G., GAUTIER A., LACROIX Ph., LÉOTARD J.-M., NEWMAN M. and
 OTTE M., 1993,
 The Pope's Mesolithic : Preliminary Report on 1993 Excavations of the
 Lower Levels in l'Abri du Pape (Dinant, Namur Province, Belgium).
Mesolithic Miscellany 14/1-2 : 2-5.
- STRAUS L.G., LACROIX Ph., LÉOTARD J.-M., OTTE M., MARTINEZ A. and
 NEWMAN A., 1994,
 Late Pleistocene and Early Holocene Research in Wallonia : Abri du Pape,
 Grotte du Bois Laiterie and Huccorgne. *Old World Archaeology Newsletter*
 XVIII/1 : 11-21.
- STRAUS L.G., OTTE M., CORDY J.-M., LÉOTARD J.-M., NOIRET P., GAUTIER
 A., HAESAERTS P. and LACROIX Ph., 1993,
 Palaeolithic and Mesolithic Research in Belgium 1993 : Le Trou Magrite,
 Huccorgne and l'Abri du Pape. *Old World Archaeology Newsletter*
 XVII/1 : 17-24.
- STRAUS L.G., OTTE M., GAUTIER A., HAESAERTS P., MARTINEZ A.,
 NEWMAN M. and SCHUTZ Cl., 1993,
 1992 Palaeolithic Excavations in Belgium by the Universities of New
 Mexico and Liège. *Old World Archaeology Newsletter* XVI/2 : 1-11.
- STRAUS L.G. and OTTE M., 1995,
 Stone Age Wallonia. *Current Anthropology* 36/5 : 851-854.
- STRAUS L.G. and OTTE M., 1996,
 La Grotte du Bois Laiterie. Liège, ERAUL 80.
- STRAUS L.G. and OTTE M., 1996,
 The Middle to Upper Paleolithic Transition at the Local Level : the Case of
 Le Trou Magrite (Namur Province, Belgium). In E. Carbonell et M.
 Vaquero (ed.), *The Last Neandertals, the First Anatomically Modern*
Humans, Capellades, p. 157-167.

- STRAUS L.G. and OTTE M., 1998,
Bois Laiterie Cave and the Magdalenian of Belgium, *Antiquity*, vol. 72, n° 276 : 253-268.
- STUTZ A., 1993,
Settlement Patterns in Late Glacial Northwestern Europe : the example from the Lesse Valley Magdalenian. Unpublished bachelor's thesis, Harvard University (Cambridge, MA), USA.
- TEHEUX E., 1993-94,
Le Magdalénien de la vallée de la Lesse (province de Namur). Approche écologique, économique et sociale. Mémoire de licence, Université de Liège, Belgium.
- TOUSSAINT M. and BECKER A., 1991,
Le Trou Jadot à Comblain-au-Pont (province de Liège), synthèse des études pluridisciplinaires d'un site du Paléolithique supérieur récent. *Notae Praehistoricae* 10 : 23-25.
- TOUSSAINT M. and BECKER A., et al., 1993,
Le Trou Jadot à Comblain-au-Pont (province de Liège, Belgique). Paléoécologie et archéologie d'un site du Paléolithique supérieur récent. Liège, ERAUL 58, 92 p.
- TOUSSAINT M., BECKER A. and du RY P., 1993,
Bilan préliminaire des fouilles 1986-1992 à l'Abri de Chauveau (Godinne-Yvoir). *Actes de la première journée d'archéologie namuroise*, Namur, p. 33-39.
- TOUSSAINT M., BECKER A. and LACROIX Ph., 1998,
Recherches 1997-1998 aux grottes de Goyet, à Gesves, province de Namur. *Notae Praehistoricae* 18 : 33-44.
- VAN PEER Ph., 1992,
Epi-paleolithicum te Weelde-Eindegoorheide. *Notae Praehistoricae* 11 : 33-35.
- VERMEERSCH P., SYMENS N., VYNCKIER P., GIJSELINGS G. and LAUWERS R., with the aid of GEYTER G., 1987,
Orp, Site Magdalénien de plein air (Commune Orp-Jauche). *Archaeologica Belgica* III, Service National de Fouilles, Bruxelles, pp. 7-56.
- VERMEERSCH P., 1991,
TL dating of the Magdalenian sites at Orp, Belgium. *Notae Praehistoricae* 10 : 27-29.
- VERMEERSCH P. and MAES M., 1996,
Chronostratigraphy of the Magdalenian at Orp. *Notae Praehistoricae* 16 : 87-90.