

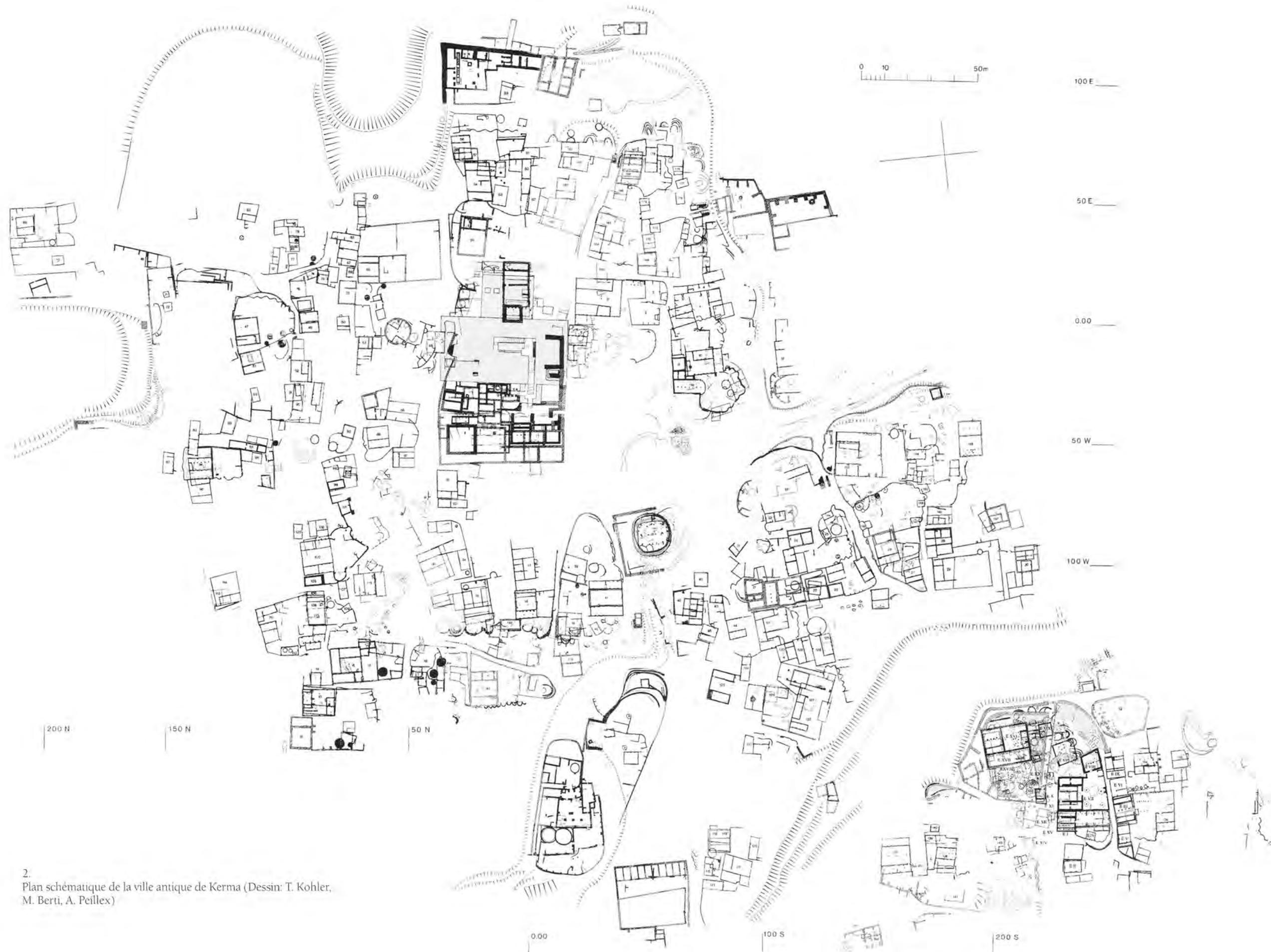


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KERMA

1997-1998 1998-1999

SOUDAN



2.
 Plan schématique de la ville antique de Kerma (Dessin: T. Kohler,
 M. Berti, A. Peillex)

LES FOUILLES ARCHÉOLOGIQUES DE KERMA (SOUDAN)

Par Charles Bonnet, avec la collaboration de Matthieu Honegger et Dominique Valbelle



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1.
Vue générale du quartier sud-ouest de la ville antique

KERMA : RAPPORT PRÉLIMINAIRE SUR LES CAMPAGNES DE 1997-1998 ET 1998-1999

Par Charles Bonnet

Présente sur le site de Kerma depuis près de 25 ans, la Mission de l'Université de Genève en Nubie a pu, une fois de plus, compter sur le soutien tant des autorités que de la population locale pour mener à bien deux nouvelles campagnes de fouilles. Un effort particulier a été consenti à des travaux de restauration visant à préserver la lisibilité des vestiges dégagés. Cette mise en valeur du site, comme la parution d'un ouvrage en arabe consacré à nos investigations les plus récentes, ont conduit un groupe de responsables gouvernementaux à décider la création d'un musée sur place et d'un centre d'études destiné à promouvoir la civilisation de Kerma. C'est ainsi que le 10 mai 1998, la pose de la première pierre de fondation a été effectuée sous le patronage de cinq ministres, plus particulièrement, de son Excellence Mohamed Taher Eila et de son adjoint, M. Sir El-Khatim Mohamed Fadel.

Comme chaque année, nous avons bénéficié de l'appui du Fonds national suisse de la recherche scientifique et de celui du Musée d'art et d'histoire de la Ville de Genève. La Mairie et le Conseil municipal de Satigny ont également participé au financement des fouilles sous la forme d'un «prix du mérite». Ces différentes subventions, auxquelles s'ajoute un apport privé, sont essentielles et nous aimerions remercier chacune de ces instances pour leur générosité et leur fidélité. Ma gratitude s'adresse également au professeur Michel Valloggia, président de la Commission des fouilles de l'Université de Genève, pour l'intérêt qu'il porte à cette entreprise, ainsi qu'à M^{me} Danielle Buysens, rédactrice de la revue *Genava*.

Les campagnes de fouilles se sont déroulées du 7 décembre 1997 au 6 février 1998, puis du 1^{er} décembre 1998 au 6 février 1999. Les Rais Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nouri et Idriss Osman Idriss ont dirigé avec aisance 150 ouvriers, répartis sur cinq chantiers. Le soutien du Directeur général du Service des Antiquités, M. Hassan Hussein Idriss, et du Directeur des Musées, M. Siddig Gasm El-Sid, nous a grandement facilité la tâche. L'inspecteur délégué était M. Salah el-Din Mohamed Ahmed,

Directeur des fouilles archéologiques du Soudan, remplacé durant quinze jours par M. Ali El-Mirghani; tous deux se sont investis avec enthousiasme dans les recherches.

La découverte de trois horizons néolithiques sous les niveaux de l'établissement pré-Kerma constitue un actif particulièrement intéressant, qui sera présenté dans ces pages par M. Matthieu Honegger. Dans **la ville antique**, la mise au jour de vestiges appartenant à une ligne de fortifications remontant au Kerma Moyen (2050-1750 avant J.-C.) a notablement enrichi notre analyse du développement urbain; dans certains secteurs, notre technique d'intervention a été modifiée aux fins d'exploiter ces couches anciennes et de faciliter la restitution de ce système défensif (fig. 1). De grand tumulus princiers, également datés du Kerma Moyen, ont été dégagés au milieu de **la nécropole orientale**, alors qu'un nouveau secteur d'investigation (CE 27) était ouvert dans la zone la plus ancienne du cimetière (vers 2400-2300 avant J.-C.). En relation avec notre étude des édifices religieux de la nécropole, un nettoyage de la chambre funéraire du tumulus K III a encore été effectué. Quant au **site de Doukki Gel**, il a livré des données extrêmement intéressantes sur deux temples superposés d'époques napatéenne et méroïtique, et dans les maçonneries desquels étaient employés de très nombreux blocs décorés et inscrits. Enfin, notre programme de restauration s'est poursuivi et la *delfufa* occidentale est aujourd'hui dotée d'un escalier permettant d'accéder sans danger à la terrasse supérieure.

Il va sans dire que le bon déroulement des différents chantiers est entièrement dû aux compétences et à la disponibilité des membres de la Mission. Que tous trouvent dans ces lignes l'expression de ma plus vive gratitude. Ainsi, M^{me} Béatrice Privati a pu proposer une nouvelle chronologie de la céramique qui sert de base à la datation des cultures Kerma. M. Matthieu Honegger a pris l'entière responsabilité des recherches sur les sites pré-Kerma et néolithiques. Dans la ville antique, les relevés archéologiques ont été confiés à M. Thomas Kohler, également chargé de la surveillance

des travaux de restauration, alors que M^{me} Pascale Köhler-Rummler se consacrait à la documentation photographique. Outre ses tâches liées à la restauration des pièces archéologiques, M^{me} Marion Berti a dessiné la chambre funéraire de K III, des tombes des Kerma Ancien et Moyen ainsi qu'un certain nombre d'objets. M. Salah el-Din Mohamed Ahmed s'est attaché au site de Doukki Gel, MM. Louis Chaix et Christian Simon continuent leur analyse des ossements, humains et animaux, livrant des éléments de réflexion qui éclairent de façon parfois inattendue certaines de nos problématiques. Ont également participé à la fouille, dans la ville ou dans la nécropole, MM. Alfred Hidber et Marc Bundi, ainsi que de M^{mes} Françoise Plojoux et Anne Smits. La recherche géomorphologique conduite par M. Nicola Surian dans le bassin de Kerma s'est également poursuivie. Enfin, nous aimerions associer à ces remerciements d'une part M^{me} Dominique Valbelle, épigraphiste de la Mission, dont l'apport est essentiel pour tout ce qui concerne les relations entre l'Égypte et Kerma aux époques historiques, ainsi que M^{me} Nora Ferrero pour son travail de documentation et ses relectures attentives.

Signalons encore qu'à l'occasion de la Conférence internationale des études nubiennes, tenue à Boston en août 1998, plusieurs membres de la Mission ont présenté des communications; les sujets traités concernaient l'époque pré-Kerma, la céramique Kerma, l'administration et les échanges, les inscriptions retrouvées et leur signification pour les cultures nubiennes. Quelques articles permettront aux spécialistes, comme à un public moins averti, de se renseigner sur nos objectifs et l'avance des travaux¹.

LES ÉTABLISSEMENTS NÉOLITHIQUES ET PRÉ-KERMA

La poursuite des décapages dans l'établissement pré-Kerma confirme l'intérêt des gisements puisque des niveaux d'occupation antérieurs ont été retrouvés, attribuables à plusieurs périodes néolithiques. Les données stratigraphiques, tant horizontales que verticales, se multiplient et des datations cohérentes ont pu être obtenues grâce aux analyses du carbone 14². La découverte de trous de poteaux dessinant des palissades ou des huttes circulaires reste exceptionnelle dans un horizon du V^e millénaire. En revanche, les foyers sont assez nombreux et proches des structures délimitées. Quant au matériel archéologique, il n'est guère abondant dans ces couches lavées par les inondations du Nil, et se compose essentiellement de tessons de céramique et d'ossements animaux.

En l'état, le plan de l'agglomération pré-Kerma offre une image saisissante du système de fortifications établi avec des enceintes arrondies doubles ou triples. Les études

sédimentologiques ont montré la présence d'élévations faites avec du torchis, sans doute posé sur des entrelacs de branchages. De nouvelles fosses-greniers ont été localisées et, en tenant compte des espaces creusés pour les tombes du Kerma Moyen, on peut estimer leur nombre à environ 500. Une première tombe pré-Kerma a été trouvée au cours de la dernière campagne; le matériel inventorié est remarquable, récipient en ivoire, palette, meule, molettes de potier, pointes en bronze.

LA VILLE ANTIQUE

Une importante découverte concernant l'urbanisme de la ville antique a permis de retrouver plusieurs phases de développement que les dégagements de surface laissent généralement inaccessibles. En effet, nous avons opté d'emblée pour une méthode d'intervention par larges décapages horizontaux, aux fins d'obtenir rapidement une vision d'ensemble de la ville et de son organisation. Aussi, les strates des Kerma Ancien et Moyen nous restent-elles pratiquement inconnues puisque, pour les dégager, il eût fallu détruire les fondations plus tardives ou multiplier les sondages dans des ensembles complexes. Toutefois, par chance, dans le quartier sud-est, certains éléments du système défensif du Kerma Moyen furent conservés aux périodes plus tardives, ce qui nous a permis d'étudier en détail des segments de murs bastionnés de cette époque, ainsi que deux portes. Ce front oriental faisait vraisemblablement partie d'une enceinte quadrangulaire qui semble s'être développée sur environ 200 m de longueur par 120 m de largeur. En revanche, le front occidental a sans cesse été modifié, ce qui s'explique sans doute par la présence dans ce secteur des grands monuments résidentiels et des portes principales du côté du fleuve. Il était donc plus difficile d'en reconstituer le plan (fig. 2).

Les techniques de construction du Kerma Moyen se sont révélées bien différentes de celles du Kerma classique et nous avons dû développer une nouvelle approche pour les étudier. Ces murs bastionnés sont en effet constitués essentiellement de «galous» ou «tofs»³, et non de briques crues. Ces mottes de terre, de formes et de grosseurs variables, peuvent être montées de diverses manières, par assises rectilignes ou curvilignes, ou tout simplement façonnées par additions successives jusqu'à obtention d'un massif plein. Lorsque les mottes sont très grosses, un mortier de limon peut assurer une meilleure cohésion. Si l'on reconnaît assez facilement la consistance et la couleur jaunâtre de ce matériau, les limites des structures sont beaucoup plus difficiles à percevoir car elles n'ont pas de forme clairement définie. D'autre part, l'emploi de «galous» nécessite la mise en place de fondements plus élaborés pour prévenir les glissements.



3. Bastions du front méridional de la ville du Kerma Moyen (2000-1800 av. J.-C.)

La brique crue peut parfaitement être associée à certains massifs pour consolider un bord, souligner un axe ou une quelconque particularité architecturale. Il en est de même du bois qui, sous forme de pieux ou de planches noyées dans les maçonneries, peut aussi participer à la statique des murs. Les restaurations effectuées à l'aide de poteaux, comme dans les palissades extérieures, montrent que nous avons affaire à une architecture mixte dont les complémentarités restent à analyser (fig. 3).

Nous avons déterminé la situation de plusieurs segments fortifiés grâce à des structures circulaires qui servaient de base aux bastions de proportions variables. La plupart de ces structures sont établies dans des fosses qui atteignent jusqu'à 4 m de diamètre pour une profondeur de 0,50 à 1 m. La cavité est ensuite comblée avec des déblais de limon fortement compactés et lavés, puis recouverte par une fondation circulaire entièrement constituée de «galous», autour de laquelle vont venir s'appuyer encore d'autres massifs de terre de manière à former un socle élargi. C'est sur celui-ci que les murs semi-circulaires ou biconvexes des bastions sont enfin montés. Les réserves de limon que constituaient ces structures n'ont pas échappé aux *sebba-khins* et nombre d'entre elles ont été exploitées. C'est du reste en repérant les éléments endommagés que nous avons pu progressivement retrouver et reconstituer plusieurs segments de fortifications au sud, à l'est et à l'ouest, qui donnent une première image de cette ville contemporaine du Moyen Empire égyptien (fig. 4).



4. Porte occidentale. Fondations circulaires constituées de «galous»

5. Chicane de bois appartenant à la porte sud-ouest de la ville du Kerma Moyen. Traces laissées par le bétail



Plusieurs portes ont également été localisées dans ces segments d'enceinte, qui confirment le tracé fourni par les bastions et apportent une information utile sur les voies de circulation. Ces portes sont généralement formées de deux massifs allongés, de 8 à 20 m de long et de 1,50 à 6 m de



6.
Vestiges de la porte sud-est (Kerma Moyen)

large. Le passage axial mesurait entre 1 et 1,50 m; il était donc relativement étroit. A l'arrière des massifs, on peut dans certains cas observer la présence d'un local, sans doute destiné aux gardes, alors que d'autres soldats étaient perchés sur les massifs.

Ces remarques préliminaires montrent bien la complexité des problèmes que soulèvent une telle étude car ce mode de construction, à l'origine de nombreux types architecturaux en Afrique, demandera encore bien des vérifications. Si l'on prend encore en considération les ravalements réguliers, comme les réaménagements en terre ou à l'aide de poteaux de bois pour rendre ces structures plus résistantes ou les adapter à de nouveaux impératifs de défense, l'on comprendra mieux les limites auxquelles se heurte notre interprétation.

Nous avons déjà eu l'occasion de commenter la découverte, entre les maisons M 115 et M 46, d'une porte occidentale, caractérisée par un large bastion agrandi plusieurs fois et surmonté d'une tour quadrangulaire. De l'autre côté, une seconde tour a été retrouvée, qui pourrait être un peu plus ancienne. Le chemin, après un retour en direction de la grande hutte, aboutissait à l'une des portes principales du Kerma Moyen, défendue par une étonnante chicane de bois et sans doute de «galous» (fig. 5). En dégagant les couches antérieures sont apparues les traces d'installations diverses, très souvent remaniées, qui restent malaisées à interpréter. Il s'agit essentiellement de trous de poteaux de différents types et de différentes époques. Par ailleurs, un grand nombre d'empreintes de pattes de bovidés et de petit bétail dans la terre meuble indiquent la présence à proxi-

mité d'un enclos à bestiaux. Les traces étaient tournées vers l'extérieur, en direction d'une petite ouverture étroite pratiquée dans le massif septentrional de la porte.

On retrouve ces phases successives avec la porte proche de l'angle sud-est du front oriental. Ses deux massifs étroits et allongés ont été remaniés une première fois au Kerma Moyen, puis maintenus aux périodes suivantes. Devant cette entrée, une tour permet de surveiller le va-et-vient du chemin étroit et bordé de murs. En arrière s'élève bientôt un énorme ensemble de fortifications parementé de maçonneries de briques cuites et doublé d'un fossé. En un dernier état, un mur à contreforts crée un élément fortifié supplémentaire en tenaille, servant à protéger le trafic aux abords du centre urbain (fig. 6).

Le dégagement de surface du quartier situé un peu plus au nord, près des maisons M 166 et M 167, a permis de constater qu'une autre porte du Kerma Moyen détermine encore le parcellaire et la rue principale. Celle-ci en effet se prolonge selon le même axe jusqu'à un poste de contrôle établi au Kerma Classique. Une vaste étendue semble avoir été consacrée aux tâches administratives, comme en atteste la découverte, dans les couches de déblais, de très nombreuses empreintes de sceaux⁷ du Moyen Empire et du Kerma Classique. Au nord de ce secteur s'élevait un grand bâtiment dans lequel devaient être entreposées les marchandises précieuses. On peut penser que les maisons M 166 et M 167, par comparaison avec celles établies au voisinage des autres entrées de la ville, étaient destinées à l'un ou l'autre des dignitaires en charge de la surveillance et de l'organisation du trafic de marchandises (fig. 7-8).



7. Empreintes d'un sceau du Kerma Classique

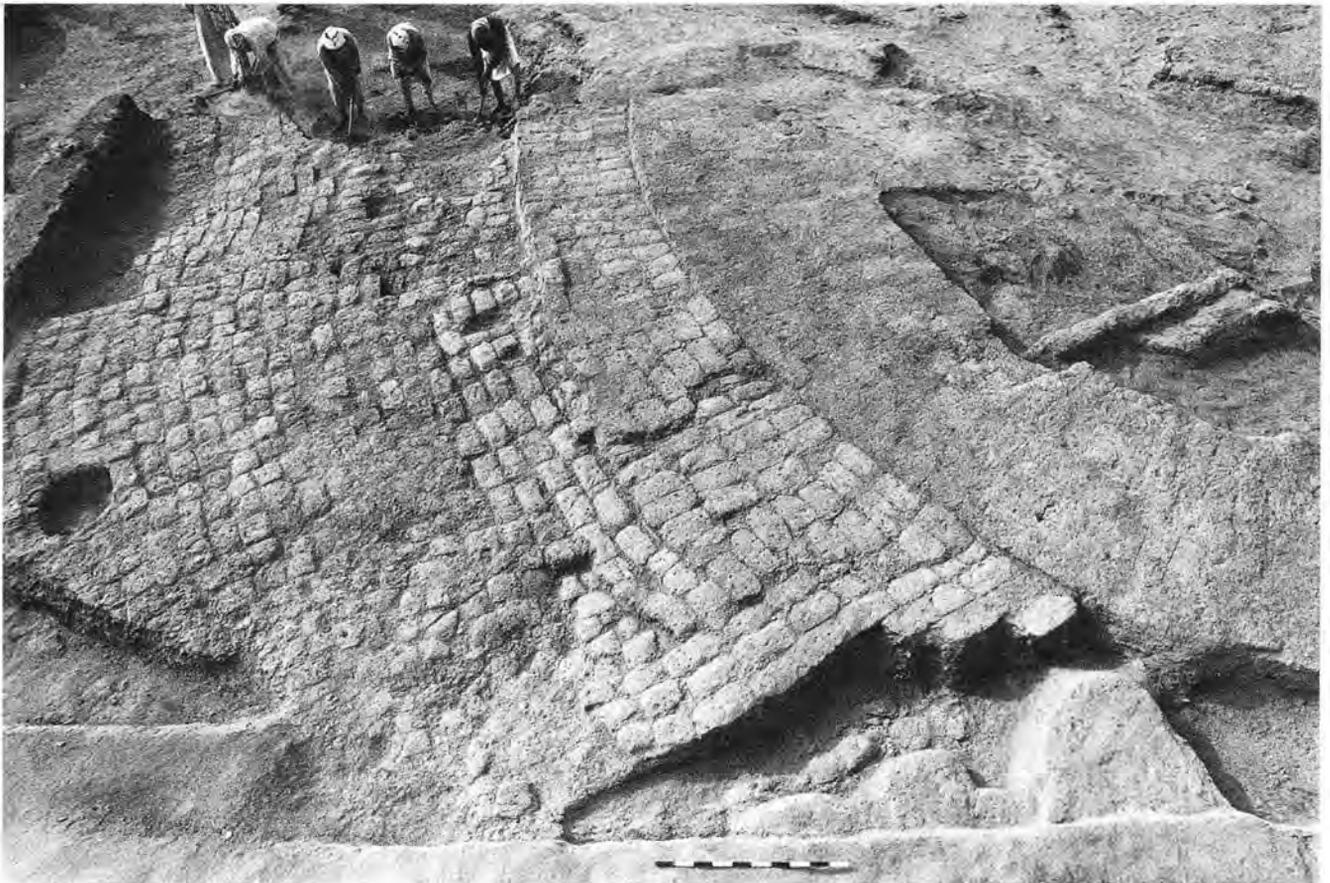


8. Contre-sceau retrouvé à l'est de la ville antique



9.
Front bastionné occidental de la fin du Kerma Moyen

Au nord-ouest du quartier religieux, quatre immenses ateliers de potiers ont détruit la majorité des vestiges, et, dans les couches étudiées, il n'a pas été possible de retrouver le tracé de l'enceinte du Kerma Moyen. Les amoncellements de cendres, portant souvent le négatif des récipients cuits à basse température, occupaient une large surface du terrain et ont certainement accéléré l'érosion éolienne. Toutefois, du côté ouest, nous avons retrouvé des voies de circulation qui se sont développées le long des fortifications du Kerma Moyen. Ces nouvelles parcelles créées autour de la ville au fur et à mesure de son expansion se sont fortifiées à leur tour; c'est ainsi qu'un réseau de murs bastionnés a été établi au bord du fossé qui défendait l'entrée occidentale déjà discutée (fig. 9). La maison M 181, belle construction de la fin du Kerma Moyen et du Kerma Classique, peut également être attribuée à un dignitaire du royaume. Son plan classique est constitué d'une grande cour donnant accès de part et d'autre à des corps de bâtiment allongés. On relève que son mur de clôture suit un tracé en biais, obtenu



10.
Grand bastion de l'agglomération secondaire (Kerma Classique)

par retraits successifs de segments de 2 à 3 m de longueur. Les maisons M 179 et M 180 sont dotées de cours intérieures et de chambres spacieuses; au sud de ces maisons se trouve généralement un jardin ou une aire réservée aux cuisines et aux silos.

L'AGGLOMÉRATION SECONDAIRE

Les recherches menées dans le complexe religieux, probablement destiné au culte funéraire des souverains ou de hauts personnages, visaient à compléter l'analyse stratigraphique. Il semble bien que le plan général de l'agglomération, quadrangulaire à l'origine, évolue comme celui de la ville principale. Le système de défense avec ses bastions de dimensions réduites est augmenté d'autres dispositifs dont les fondations circulaires ont été repérées tout au long des limites de l'agglomération (fig. 10).

LA NÉCROPOLE ORIENTALE

De nouveaux sondages ont été effectués dans la nécropole orientale, ce qui nous a permis de reprendre l'étude de la topo-chronologie des inhumations, qui se révèle relativement complexe. En effet, si les sépultures importantes sont implantées selon un axe nord-ouest/sud-est, puis, à partir du Kerma Classique, selon un axe sud-ouest, on observe que leur présence a attiré des séries de tombes qui, progressivement et en fonction de la place disponible, ont elles-mêmes formé des ensembles. Pour tenter de préciser cette tendance et mieux suivre les rites funéraires, nous avons dégagé deux secteurs, l'un dans le Kerma Ancien (CE 27) et l'autre dans le Kerma Moyen (CE 25). Par ailleurs, on notera que le sigle CE 26 remplace désormais le sigle CE 14 b attribué à une zone extérieure à la nécropole, située à l'extrême nord (fig. 11).

En parallèle avec l'essai de classification des céramiques proposé par M^{me} B. Privati pour la période la plus ancienne du Kerma Ancien (KA I), il nous a paru utile de vérifier l'homogénéité du matériel et des coutumes funéraires dans cette partie du cimetière. Pour ce faire, nous avons étudié une longue bande de terrain reliant les secteurs CE 1 à CE 2. Lorsque, il y a près de 20 ans, nous étions intervenus dans cette zone, les superstructures étaient encore fort bien conservées et il était aisé de distinguer celles faites de cercles concentriques de pierres noires de celles constituées de stèles dressées sur le pourtour des fosses³. Aujourd'hui hélas, tous ces vestiges de surface ont été complètement écrasés suite aux passages réitérés de véhicules à moteur. Il a donc été possible de décaper librement le terrain jusqu'à l'apparition des puits ou d'autres traces préservées en néga-

lif. Une première surprise fut la découverte d'un foyer qui a livré des tessons et du matériel lithique appartenant à un horizon néolithique; rappelons que les principaux gisements contemporains sont éloignés de plusieurs centaines de mètres.

Vingt-sept tombes ont été fouillées dans ce nouveau secteur CE 27. A l'est des petites fosses ovales étaient quelquefois préservés, en fragments cela va sans dire, les bols retournés sur le sol lors des cérémonies funéraires; leur nombre variait entre deux et six. Cependant, certains d'entre eux avaient glissé dans le remplissage de la fosse, vraisemblablement lors de creusements de pillards, et nous sont parvenus en bon état. Un grand nombre de ces tombes étaient à l'origine signalées par un cercle de sept stèles fixées par du limon et un amas de cailloux de quartz blanc. Dans un cas, un dépôt avait été effectué au nord d'une fosse (t 281), dans une cavité étroite et peu profonde; il se composait d'un bracelet en calcite et de trois lames de silex portant encore des traces de la colle ayant servi à les emmancher. Quatre grands trous de poteaux restituent un petit édifice de 2,30 par 2,60 m, destiné sans doute à l'une ou l'autre des tombes voisines (t 273, t 278, t 279, t 280). On relèvera que la pointe des deux poteaux nord était brûlée pour la rendre plus résistante à l'attaque des termites ou à l'humidité. S'il s'agissait là d'une chapelle funéraire, ce serait le plus ancien édifice religieux retrouvé à Kerma⁴ (fig. 12).

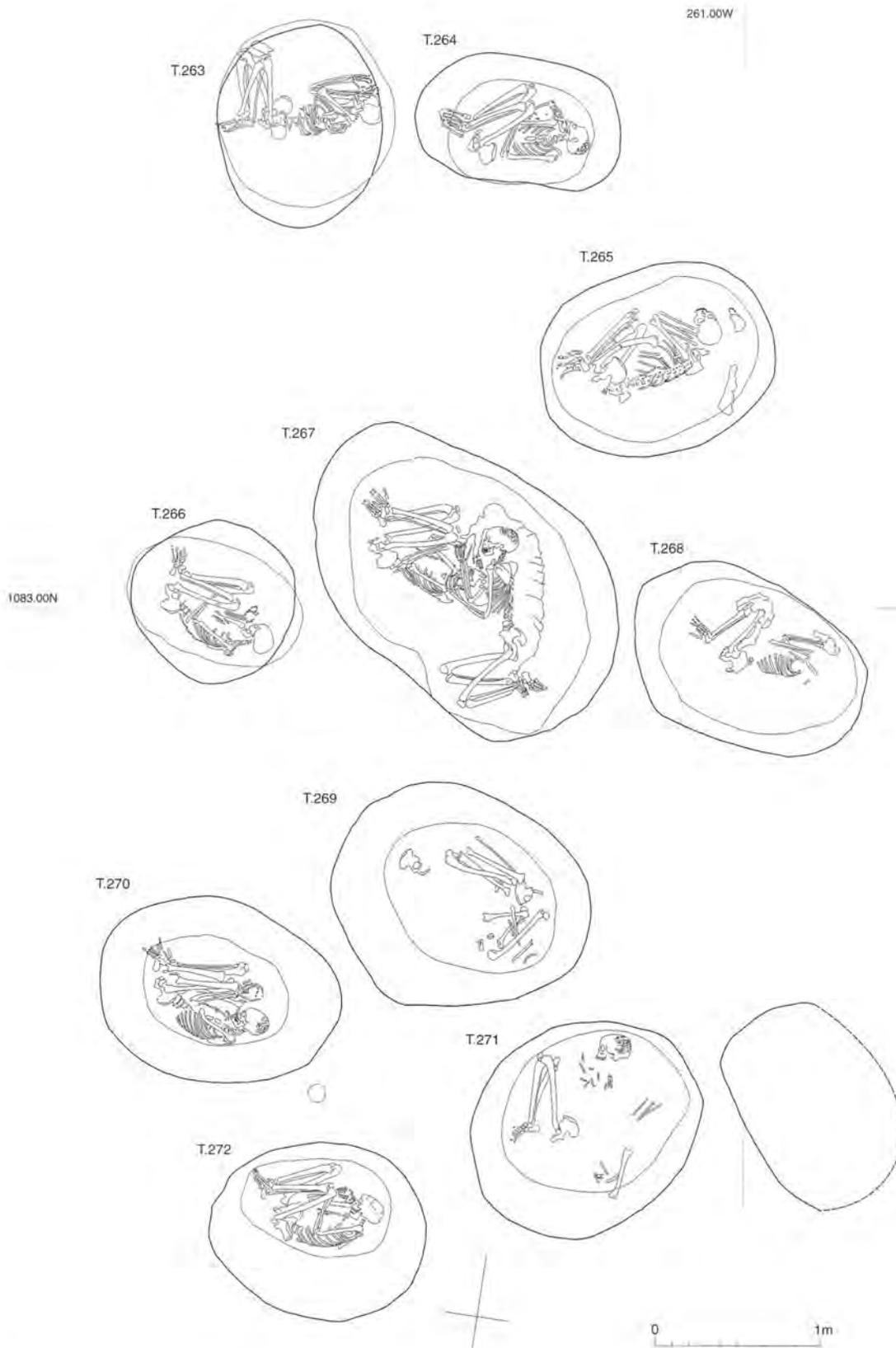
Cette série de tombes est relativement homogène. Les sujets en position contractée, plus rarement fléchie, étaient déposés dans des fosses étroites (1,20/1,50 m par 0,60/1,00 m), très profondes (1,60/1,70 m); certains étaient enveloppés d'une peau de mouton finement tannée. Si fréquentes dans les tombes plus tardives, les couvertures de cuir tapissant la fosse ou étendue par dessus la sépulture ne sont attestées que quatre fois. Les morts étaient vêtus d'un pagne; à deux reprises, une résille de cuir recouvrait la tête. Notons encore la présence de quelques rares paires de sandales. On le voit, ces inhumations sont pauvres en matériel; le beau bracelet de pierre témoigne cependant de l'existence d'objets de qualité. Une autre tombe (t 267) se distingue par la présence de deux sujets. L'un, un homme robuste de 45 ans, était couché en position contractée sur le côté droit, tête à l'est, les mains devant la face. L'autre, également de sexe masculin, était âgé de 15 ans; sa position particulière - tête au nord, jambes fléchies et bras posés autour du crâne du premier squelette - semble indiquer qu'il avait été sacrifié. Les dimensions de cette tombe double (2,14 m par 1,38 m) pourraient traduire un début de hiérarchisation au sein de ce modeste cimetière. Dans cette perspective, il est intéressant de relever que plusieurs des inhumations qui entouraient la tombe appartenaient à des sujets féminins relativement âgés, entre 50 et 60 ans (t 266, t 268, t 269,



11.
Plan topographique de la nécropole de Kerma (Dessin : M. Berti, M. Honegger, A. Peillex)



12.
Trous de poteaux restituant le plan d'un édifice funéraire avec les fosses d'une ou plusieurs tombes associées (vers 2375 av. J.-C.).



13.
Plan d'une partie des tombes du Kerma Ancien (secteur CE 27) (Dessin: M. Berti)



14. Tombe d'un sujet féminin (t. 266) proche d'une inhumation avec sacrifice humain (t. 267)



15. Bol du Kerma Ancien I

t 270). Nous projetons d'élargir la fouille de cette aire funéraire car nous n'avons pas retrouvé dans le secteur étudié tous les critères intervenant dans l'essai de classification; un complément d'analyse s'avère donc nécessaire (fig. 13, 14, 15).

Notre connaissance de la partie médiane de la nécropole, occupée au Kerma Moyen, est meilleure car les décapages effectués pour dégager les vestiges pré-Kerma ont notablement élargi le secteur CE 12 en direction du secteur CE 11. Ainsi, une vaste surface a pu être reconnue. Cependant, trois tumulus princiers mesurant près de 20 à 30 m de diamètre avaient depuis longtemps attiré notre attention du côté ouest, en limite du secteur CE 25. Celui-ci est à rattacher, en l'état de la recherche, au Kerma Moyen I, soit aux alentours de 2000 avant J.-C. Le royaume à cette époque jouit d'une pleine prospérité et les échanges avec l'Égypte, si l'on en juge par les fragments de céramique importée, se développent. En dépit du pillage assuré de ces sépultures princières, nous avons décidé d'en fouiller au moins une aux fins d'étudier certains détails structurels; huit autres inhumations voisines ont encore fait l'objet d'une investigation dans ce secteur (t 238 à t 245) (fig. 16, 17).

La fouille de la tombe princière (t 253) s'est déroulée sur deux campagnes, ce qui n'est pas surprenant compte tenu des dimensions extraordinaires de la fosse: 11,70 m de diamètre pour une profondeur de plus de 2 m ! Elle se trouvait sous un tertre de limon de 25 m de diamètre, recouvert par plusieurs rangées de petites pierres noires de grès ferrugineux. La fosse avait été pratiquement vidée mais la position des ossements de trois sujets indiquait que ceux-ci n'étaient pas très éloignés de leur situation d'origine. Le sujet principal était un adulte de sexe masculin; il était accompagné d'une femme de 20 à 25 ans dont les restes étaient repoussés du côté méridional, et d'un adolescent de 15 ans déposé au nord du lit funéraire. Les dimensions restituées du lit sont de 2 m de long environ et de 1,30 m de large. Les pieds avaient une section carrée de 0,10 m de côté; le bois était encore visible mais pulvérisé. Il s'agit donc d'un meuble de bonnes dimensions, rehaussé, comme c'est souvent le cas à Kerma, d'un décor de plaquettes en os gravées de motifs ocellés. Sur son pourtour, des cavités portant les traces de pieux sont à rattacher à un petit édicule en bois quadrangulaire de 2,64/2,74 m par 3,04/3,28 m. Les poteaux qui supportaient la couverture mesuraient 8 à 10 cm de côté. Ce dispositif invite à restituer une sorte de dais qui n'a pu être utilisé que durant les funérailles, soit une période très courte.

Cette tombe princière était sans aucun doute dotée d'un abondant et riche mobilier dont il ne subsiste que des centaines de tessons appartenant aux habituelles catégories de



16.
Dégagement des bucranes d'une tombe princière du Kerma Moyen



17.
Tumulus et bucranes de la tombe d'un haut personnage (t 238)

réceptacles du Kerma Moyen et à des jarres de facture égyptienne, ainsi que de nombreux ossements animaux (vingt-deux moutons, deux chèvres et deux chiens ont été inventoriés). Signalons encore une pierre circulaire de grès jaune et deux tables d'offrandes en terre cuite à quatre compartiments qui, pour l'une, contenaient plusieurs petits animaux (oiseaux?) schématiquement modelés. Ces trois objets devaient, à l'origine, être placés à plat sur le haut du tumulus.

L'élément le plus spectaculaire de cette sépulture princière reste néanmoins le dépôt, au sud du tertre, de plusieurs milliers de bucranes formant un immense croissant. Certains d'entre eux exhibent des cornes déformées, se recourbant vers l'avant, d'autres portent des traces d'ocre rouge sur le frontal ou sur la corne. La prise de mesures de cet ensemble exceptionnel, par M. Louis Chaix, se poursuivra durant ces prochaines années.

Quant aux autres tombes du secteur, également très bouleversées, elles ont livré un matériel tout à fait comparable, avec de grandes jarres-grenier, des bols rouges à bord noir si caractéristiques et des céramiques d'importation. Des moutons et des chiens étaient déposés près des défunts reposant souvent sur un lit. Les sacrifices humains sont attestés par plusieurs doubles inhumations. Signalons enfin qu'au sud du tumulus t 238 sont apparus 378 bucranes avec, là encore, plusieurs frontaux aux cornes déformées.

LA CHAMBRE FUNÉRAIRE DU TUMULUS K III

Le grand tumulus de 90 m de diamètre fouillé par G. Reisner⁷ dans les années vingt peut être associé à la *delfufa* orientale, temple funéraire situé au centre de l'extrémité méridionale de la nécropole, connu sous le sigle K II. En vue de la publication d'un ouvrage consacré aux édifices religieux de la nécropole, il a paru utile de dégager une nouvelle fois la chambre funéraire royale et d'analyser les maçonneries préservées pour vérifier certaines de nos hypothèses. Pour nous permettre de mieux comprendre les circulations entre le lieu de culte et la tombe, l'extrémité du corridor sacrificiel donnant accès à la chambre a également été nettoyé et redessiné. Deux gros fragments d'une statue de crocodile taillée dans du quartz, puis émaillée, ont été découverts à cet endroit; cette sculpture marquait peut-être l'entrée du corridor dans lequel seront déposés plus d'une centaine de sacrifices.

Le caveau funéraire a été construit en deux étapes. La voûte ayant sans doute montré des signes de faiblesse, des murets de soutènement ont été ajoutés le long des parois latérales. Le décor de bandes ocre jaune peint sur enduit

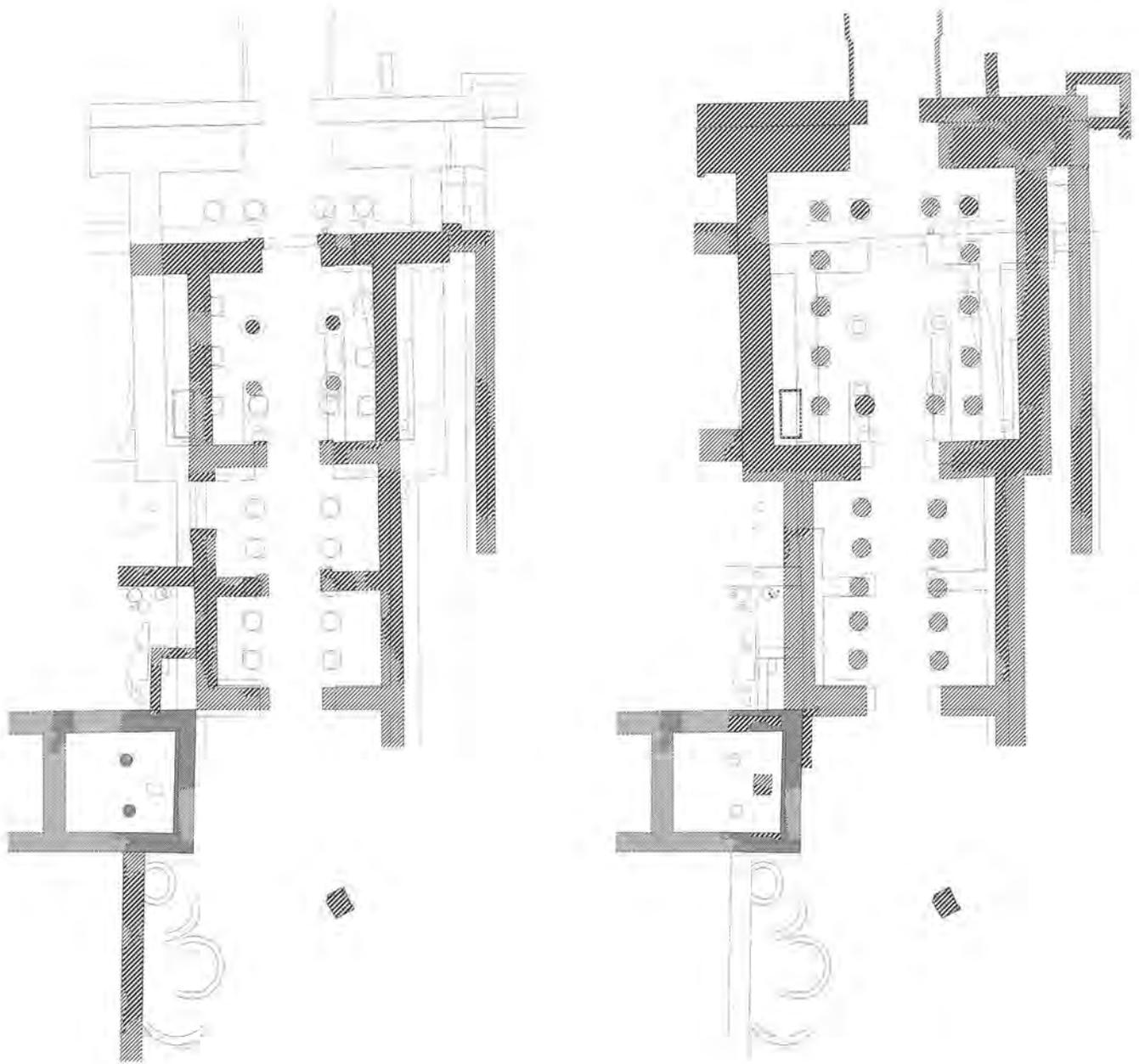


18. Chambre funéraire de la tombe royale K III. A droite, deux fragments d'une stèle

(haut. 0,40 m) qui décorait les parois a du reste été reporté sur les murets de soutènement. Dans l'un de ceux-ci étaient remployés deux éléments d'une stèle. Le système de voûtement du vestibule et du passage vers le caveau a également été modifié et nous avons pu analyser ces transformations. La construction du caveau a très certainement été engagée du vivant du souverain puisque les restaurations ont nécessairement été effectuées avant la fermeture de la tombe (fig. 18).

LE SITE DE DOUKKI GEL

La fouille du **temple méroïtique classique**, qui s'est poursuivie durant ces deux dernières saisons, est loin d'être achevée, le monument se développant sur une longueur d'au moins 55 m. L'extrémité méridionale pourrait se trouver sous le «*kôm des bodegas*», extraordinaire amoncellement de moules à pains d'offrandes s'élevant sur 5 m de hauteur, à l'origine de la réputation du site. Malheureusement, ce secteur a été largement exploité par les *sebbakhins* pour fertiliser les champs cultivés, ce qui fait que les couches archéologiques sont détruites assez profondément (fig. 19).



0 10m

-  Existant
-  Reconstitué
-  Etat antérieur



19.
Plans schématiques des temples napatéen et méroïtique (Dessin: Salah Ed-Din Mhd Ahmed, M. Bundi, Fr. Plojoux, M. Berti)

Le pylône d'entrée, large d'environ 25 m, est entièrement dégagé; ses maçonneries sont constituées d'un noyau de briques crues parementé de briques cuites. Sur la face externe, un mur donne une épaisseur supplémentaire à chacun des deux mâles, complété peut-être par un chambranle en maçonneries de pierre. Devant le pylône, de très nombreux fragments d'enduit peint *à fresco* ainsi que quelques reliefs sculptés dans du grès ont été récoltés dans les niveaux de destruction. On ne peut que regretter le fait que les décors soient si mal conservés car les pièces de bonnes dimensions qui nous sont parvenues témoignent d'une iconographie intéressante: personnages plus grands que nature, au corps peint en ocre rouge, éléments de frises, signes prophylactiques, etc. Des morceaux innombrables, éparpillés dans tout le temple, étaient recouverts d'un enduit de couleur jaune, enduit que l'on retrouve aussi sur des briques cuites ou des blocs de pierre pour souligner certains éléments architecturaux (fig. 20).

Des fondations carrées permettent de fixer la position des quatorze colonnes supportant la toiture du péristyle de la cour. Quelques gros fragments des bases de grès gisaient çà et là, leurs négatifs étaient encore visibles sur les fondations. En avant peut être restituée une salle hypostyle presque carrée (12 par 11 m), ses supports ont été abondamment exploités et il n'en subsiste guère que quelques briques de fondation et des fragments de fûts en grès, peints en jaune. Nous sommes encore moins bien renseignés sur les salles suivantes puisque leurs murs ont été démantelés; cependant, la présence d'une base de granit gris d'un autel, ou *naos*, comme la situation d'une chapelle plus ancienne en pierre, axée perpendiculairement au temple du côté ouest, nous autorisent à développer quelques hypothèses.

Dans le temple B 500 de Gebel Barkal, on découvre en effet, à l'arrière de la salle hypostyle, une sorte de vestibule doté d'un socle de pierre de granit, dans ce cas au nom de Taharka, alors qu'à l'ouest se trouve une chapelle, également placée perpendiculairement à l'axe du temple. La chapelle est attribuée au règne de Ramsès II. A Kerma, la chapelle en pierre est enfoncée dans le sol à un niveau nettement antérieur au temple méroïtique; toutefois, des restaurations en briques cuites prouvent que la chapelle est restée en fonction jusqu'à l'époque méroïtique, époque à laquelle elle a sans doute été reconstruite puisque ses supports comme l'épaisseur de ses murs ont été modifiés. Comme on peut le constater avec le plan du temple B 500, le sanctuaire de notre temple méroïtique pourrait bien se trouver au-delà du *naos*, mais il faudra le vérifier.

La datation du temple est encore difficile, comme l'attribution à un règne précis. L'emploi très large de la brique cuite, la technique du décor ainsi que la céramique le situent

plutôt au I^{er} siècle avant J.-C. ou au I^{er} siècle après J.-C. Un indice supplémentaire nous est peut-être fourni par un beau fragment d'une plaque en grès sculpté, représentant un roi agenouillé offrant son cartouche au dieu Amon criocéphale. Ce relief, trouvé dans le vestibule, appartenait vraisemblablement à une petite chapelle ou à une stèle; il confirme l'occupation durant la période classique. Signalons également la base d'une statuette en grès d'un personnage étendu, les mains posées sur le fourreau de son épée, qui appartient à la même période méroïtique.

Sous les couches de destruction a été mis au jour un **temple antérieur** caractérisé par un plan très allongé. Les architectes de l'époque classique semblent en avoir tiré parti puisque les anciens murs de briques crues ont été entamés lors du nouveau chantier de construction. Il faut même se demander si une partie de ces anciennes élévations n'ont pas été maintenues durant les travaux car les murs du temple méroïtique s'organisent autour du corps de l'édifice précédent en préservant certaines façades. Celui-ci était fort bien construit avec une architecture mixte de briques crues pour les murs et de pierres pour les portes ou les supports. Il était établi contre la chapelle en pierre, elle-même bien antérieure.

Le pylône est allongé (19 m) et peu épais (1,90 m). On retrouve là une des caractéristiques de quelques édifices de culte en briques crues, tel le temple de Kawa dit «palais oriental»⁸. Le seuil de la porte à double battant est fait de grands blocs de remploi derrière lesquels ont été retrouvées les deux crapaudines de granit; du côté ouest, une feuille de bronze pliée permettait à l'axe du battant de pivoter plus facilement. On pénétrait ensuite dans une pièce carrée dotée de quatre colonnes; deux bases circulaires étaient encore *in situ*, mais elles ont été plusieurs fois restaurées; celle du côté occidental a été entourée d'une couronne de pierres remployées, alors que du côté oriental, les pierres ont été disposées en carré. Les lignes de repère gravées par les architectes à la surface des bases ne correspondent pas à l'orientation du bâtiment, ce qui nous indique que les bases ne sont pas d'origine. Il ne restait qu'un peu de sable de fondation et de rares traces lavées à l'emplacement des deux autres supports.

Les deux salles suivantes sont plus larges que profondes. Seule la porte de la première est conservée sous les fondations de briques cuites méroïtiques; la seconde porte est toutefois située par le socle de l'un de ses montants. C'est enfin le négatif de la première assise de la construction qui nous fait rétablir une cloison presque dans le prolongement du mur latéral de la chapelle perpendiculaire.

Le long du mur latéral ouest du temple ancien, d'autres murs témoignent d'une liaison avec un bâtiment d'importance



20.
Vue des deux temples superposés de Doukki Gel



21.
Petits objets en bronze retrouvés dans les couches de destruction
proches d'un atelier

appartenant à un vaste complexe religieux, qui se développe dans cette direction mais qui, en l'état des recherches, reste pratiquement *terra incognita*. Une porte donnait accès depuis la deuxième salle du temple à cet autre bâtiment, dont les murs ont été repris à l'époque méroïtique avec des briques cuites. Entre celui-ci et la chapelle ont encore été dégagés les vestiges d'une petite cour et d'un vestibule où plusieurs fours de type domestique ont été retrouvés; des ossements animaux et de nombreux moules montrent qu'ils servaient à la cuisson d'aliments et de pains d'offrandes. Deux de ces fours semblent avoir été réservés à la fonte du bronze; sur le fond, dans le limon brûlé, était en effet préservé un conduit arrondi, entourant une partie centrale noircie sur laquelle on distinguait des traces de minerai et de fumée. Dans le comblement ont été récoltés des fragments d'une tuyère rectiligne et d'une sorte de joint en terre cuite. Enfin, un fragment de creuset contenant encore du métal était abandonné au même endroit (fig. 21).

Cet atelier peut être associé à la manufacture de petits objets, statuettes d'Osiris inventoriées en quantité dans le temple, têtes de bélier surmontées du disque solaire, voire épingles à tige décorée, dont plusieurs moules ont du reste

été retrouvés. L'atelier de bronziers semble avoir été occupé assez longtemps au vu des nombreuses restaurations apportées aux fours. Cette installation dans le quartier religieux, sous la protection du *temenos*, n'est pas étonnante puisque déjà au pied de la *deffufa* nous avons retrouvé la chambre chauffée d'un four utilisé pour la confection d'objets en bronze beaucoup plus ancien⁹, et nous avons été étonnés par l'exiguïté de l'espace. La relation entre la chapelle et l'atelier reste encore à analyser.

Dans le vestibule et près du socle de granit, les déblais en couches peu homogènes ont livré plusieurs fragments de statues égyptiennes du Moyen Empire. Ces monuments, au nombre de cinq, étaient sûrement disposés dans le sanctuaire. Une large zone doit encore être fouillée à cet endroit et nous pourrions probablement compléter cet inventaire. D'autres niveaux plus anciens sont attestés en profondeur, ils sont mal conservés et exigeront un travail particulièrement minutieux. Une occupation au Nouvel Empire paraît assurée par le matériel céramique, dans lequel on constate une forte proportion de moules à pain. Il y avait donc des boulangeries pour alimenter des sanctuaires bâtis durant cette période de colonisation du pays, et sans doute aussi des brasseries si l'on en juge par certains récipients caractéristiques.

L'un des aspects les plus surprenants de nos deux campagnes est certainement l'apport iconographique et épigraphique que nous fournissent cent vingt blocs décorés et porteurs d'inscriptions, découverts dans les fondations des deux temples. Ils appartiennent à plusieurs périodes et confirment la richesse de ce site. Dans l'allée centrale du temple ancien, des tranchées pour l'exploitation des matériaux et du limon ont fait basculer un pavement de blocs de remploi qui se sont maintenus plus ou moins en place. Cet ensemble fait apparaître la diversité des monuments dont proviennent les blocs, comme la diversité des grès taillés.

M^{me} D. Valbelle présente à la suite de notre rapport une première analyse de ce matériel qui témoigne de plusieurs campagnes de construction, aussi bien durant la 25^e dynastie qu'au cours de la fin du Nouvel Empire, une période qui pose encore bien des problèmes d'interprétation dans les régions nubiennes. Les vestiges du VII^e ou du début du VI^e siècle avant J.-C. montrent que notre premier temple doit être rattaché à une époque postérieure puisque les blocs datés sont réemployés dans les fondations. Ce premier temple est donc napatéen et peut avoir été occupé jusqu'au I^{er} siècle avant J.-C., car une inscription en méroïtique cursif est gravée sur le montant oriental de la porte d'entrée.

Les blocs de remploi apportent bien d'autres données. Ils semblent renforcer l'idée d'une occupation assez systéma-



22.
Les escaliers de la deffufa après les dernières restaurations

tique du territoire par les Egyptiens, qui, progressivement et malgré les nombreux soulèvements, prendront le contrôle du pays. Certes, dès l'arrivée des troupes de Thoutmosis I^{er}, on peut être sûr que des passages fréquents s'effectuent le long du Nil ou plus directement vers Kurgus, au travers du désert oriental. Mais les princes nubiens conservent une certaine autonomie même s'ils sont partiellement égyptianisés. Thoutmosis II et surtout Thoutmosis III établissent un culte d'Amon au Gebel Barkal qui devient un centre de grande importance. L'apparition de monuments grandioses sous le règne d'Aménophis III, à Soleb et à Sedeinga, appartient à une nouvelle étape de construction qui se poursuit durant le règne d'Aménophis IV.

On relèvera ainsi l'intérêt d'une scène fragmentaire montrant le roi sous les rayons du soleil se terminant par des mains. Cette représentation, qui est certainement amarnienne, atteste la présence de bâtiments de la 18^e dynastie. Plusieurs fondations d'Aménophis IV, le roi hérétique Akhenaton, existent au voisinage de Kerma, que ce soit à Sesebi¹⁰, Tabo¹¹ ou, avec le nom ancien de *Gematon*, à Kawa¹². Il n'est donc pas étonnant de retrouver un ou plusieurs édifices de culte de cette époque sur le site de Doukki Gel.

RESTAURATIONS ET CONSERVATION DES VESTIGES

Les travaux de restauration ont porté sur les escaliers de la deffufa occidentale, le palais situé à l'intérieur du *temenos*, la porte monumentale voisine, ainsi que le quartier d'habitation situé au sud-est. 80 000 briques ont été façonnées dans ce but... Ces interventions visent essentiellement à protéger les maçonneries originales, particulièrement vulnérables une fois dégagées, d'autant que le site reste difficile à surveiller. Il était devenu nécessaire de redonner ses lignes architecturales à la deffufa qui, au fil des ans et des déprédations, a pris l'aspect d'une colline abandonnée. Du haut de ce grand temple, on peut aujourd'hui saisir l'organisation d'une bonne partie de la ville. Le dégagement des déblais à l'ouest conduira à réhabiliter le quartier religieux. Le résultat de nos travaux de recherche est ainsi mis en valeur et le nombre croissant des visiteurs nous semble un gage de l'intérêt que suscite le passé nubien (fig. 22).

NOTE SUR LES EMPREINTES DE SCEAUX DÉCOUVERTES EN 1997-1999

Par Brigitte Gratien, CNRS

Plusieurs des empreintes de sceaux découvertes récemment sont d'un modèle inédit à Kerma. Si l'on a une nouvelle fois trouvé un document portant l'empreinte d'un sceau local, un quadrillage en fort relief identique aux types «Kerma» précédemment publiés¹³, de même que trois empreintes portant des titres égyptiens fragmentaires ou des signes prophylactiques et un contre-sceau appartenant à cette dernière catégorie, plus remarquables sont onze scellés datés de la Deuxième Période Intermédiaire :

- deux empreintes au nom du *ntr nfr M3^c-jb-R^c dj^c nh^c*, encadré de deux colonnes de signes¹⁴;
- neuf empreintes d'un même sceau, un scarabée de type *c^cnr^c*¹⁵

Les sceaux de l'époque Hyksôs ne sont pas nouveaux en Haute Nubie, mais la découverte d'empreintes au nom d'un roi de la XV^e dynastie confirme les relations établies entre le Delta et le royaume de Kerma à la Deuxième Période Intermédiaire.

Notes :

- 1 Ch. BONNET, « Nouvelles données sur les peintures murales de la chapelle K XI à Kerma, Note d'information », *Académie des Inscriptions et Belles-Lettres, Comptes rendus des séances de l'année 1995*, avril-juin, fasc. II, 1995, pp. 643-650; « The Funerary Traditions of Middle Nubia », *Eighth*

International Conference for Meroitic Studies, Pre-prints of the main papers and abstracts, London, July 1996, pp. 2-18; «A-Gruppe und Prä-Kerma»; Die Kultur der C-Gruppe; Das Königreich von Kerma», *Sudan, Antike Königreiche am Nil*, Kunsthalle der Hypo-Kulturstiftung, München, 2. Oktober 1996 - 6. Januar 1997, 1996, pp. 37-39, 51-52, 89-95 (traductions en français, anglais et italien); Ch. BONNET et D. VALBELLE, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Musumeci Editeur, Aoste, 1996, 199 pages; Ch. BONNET et N. FERRERO, «Les figurines miniatures de Kerma (Soudan)», *Sahara*, 8/1996, pp. 61-66; Ch. BONNET, «Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1995-1996 et 1996-1997», *Genava*, n.s., t. XLV, 1997, pp. 97-137; «Le sanctuaire d'Hathor à Sérabit el-Khadim et la topographie urbaine», *Le Sinaï durant l'Antiquité et le Moyen Age, 4000 ans d'histoire pour un désert*, Actes du Colloque tenu à l'UNESCO du 19 au 21 septembre 1997, textes réunis sous la direction de D. VALBELLE et Ch. BONNET, 1998, pp. 44-49; Ch. BONNET et L. CHAIX, «Le royaume de Kerma au Soudan, Architecture et rituels funéraires», *L'archéologue, Archéologie nouvelle*, n° 39, déc. 1998 - janv. 1999, pp. 27-32; L. CHAIX, «La integración dels animals en les practiques ludiques, magiques o religioses», *Cota Zero*, 1995, pp. 81-88; «Les bœufs à cornes parallèles: archéologie et ethnographie», *Sahara*, 8/1996, pp. 95-97; L. CHAIX, P. IACUMIN, H. BOCHERENS, A. MARIOTTI, «Stable carbon and nitrogen isotopes as dietary indicators of ancient Nubian populations (Northern Sudan)», *Journal of Archaeological Science*, 25/1998, pp. 293-301; L. CHAIX, «Nouvelles données sur l'exploitation du monde animal au Soudan central et septentrional», *CRIPPEL*, 17/1998, pp. 79-84; «Une tombe inhabituelle à Kerma, Soudan», in P. ANREITER, L. BARTOSIEWICZ, E. JEREM & W. MEID, (EDS), *Man and the animal world - Studies in Archaeozoology, Archaeology, Anthropology and Palaeolinguistics in memoriam Sandor Bökönyi*, *Archaeolingua*, Budapest, 1998, pp. 147-155; M. HONEGGER, «Kerma: l'agglomération pré-Kerma», in Ch. BONNET & collab., «Les fouilles archéologiques de Kerma (Soudan)», *Genava*, n.s., t. XLV, 1998, pp. 113-118; B. PRIVATI, «La nécropole de Kerma: classification de la céramique», *CRIPPEL*, 20, (à paraître); Ch. SIMON, «Kerma: quelques résultats de l'étude paléodémographique des squelettes de la nécropole», in Ch. BONNET & collab., «Les fouilles archéologiques de Kerma (Soudan)», *Genava*, n.s., XLIII, 1995, pp. 60-64; «Premiers résultats anthropologiques de la nécropole de Kadrouka, KDK 1, (Nubie soudanaise). Conférence int. des études nubiennes, (Lille 11-17 sept. 1994). Vol. 2: découvertes archéologiques», *CRIPPEL*, 1997, pp. 37-53; M. HONEGGER, «The Pre-Kerma settlement at Kerma: new elements throw light on the rise of the first Nubian Kingdom», in R. FREED et T. KENDALL, *9th International Conference of the Society for Nubian Studies*, Boston 21-26 August 1998 (actes à paraître); M. RING, A. SALEM, K. BAUER, H. GEISERT, A. MALEK, L. CHAIX, C. SIMON, W. DEREK, A. DI RIENZO, G. UTERMANN, A. SAJANTILIA, S. P. ÅABO, M. STONEKING, «MitDNA Analysis of Nile Valley Populations: a Genetic Corridor or Barrier for Migration?», *American Journal of Human Genetics* (à paraître)

2 Voir l'article de M. HONEGGER dans ce volume

3 Voir par exemple N. H. HENEIN, Mari Girgis, «Village de Haute-Egypte», *Bibliothèque d'Etude*, t. XCIV, 1988, pp. 40-41

4 Voir la brève note de B. GRATIEN publiée en fin de ce rapport

5 Ch. BONNET, «Les fouilles archéologiques à Kerma (Soudan)», *Genava*, n.s., t. XXX, 1982, pp. 45-57

- 6 La moyenne de la date C¹⁴ d'un des poteaux se situe autour de 2375 av. J.-C. Analyse du Laboratoire de l'ETH à Zurich, n° 20153, échantillon K 71
- 7 G. REISNER, *Excavations at Kerma, Part III, Harvard African Studies*, vol. V, Cambridge (Mass.), 1923, pp. 135-189
- 8 M. F. L. MACADAM, *The Temples of Kawa, II, History and Archaeology of the Site*, Londres, 1955, texte, pp. 114-115, planche 17
- 9 Ch. BONNET, «Les fouilles archéologiques...», *op. cit.*, 1982, pp. 41-45
- 10 B. PORTER et R. MOSS, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, VII, *Nubia, Deserts and Outside Egypt*, Oxford, 1962, pp. 172-174
- 11 H. JACQUET, Ch. BONNET, J. JACQUET, «Pnubs and the Temple of Tabo on Argo Island», *The Journal of Egyptian Archaeology*, vol. 55, 1969, pp. 103-111
- 12 M. F. L. MACADAM, *The Temples of Kawa...*, *op. cit.*, pp. 8-27
- 13 B. GRATIEN, «Nouvelles empreintes de sceaux à Kerma: Aperçus sur l'administration de Kouch au milieu du 2^e mill. av. J.-C.», *Genava*, n.s., t. XLI, 1993, p. 28; «Les institutions en Nubie au Moyen Empire», *CRIPPEL* 17/2, 1996, pp. 162-163
- 14 Maa-ib-Rê Sheshy, roi Hyksôs de la XV^e dynastie est bien connu par ses multiples sceaux-scarabées, dont plusieurs ont été retrouvés en Nubie, et par deux fois à Kerma même, avec la graphie Maa-ib-Rê seule, dans le tumulus K X.
- 15 Ce type, répandu à l'époque Hyksôs (P. NEWBERRY, *Ancient Egyptian Scarabs*, London, 1905, pl. 24, 1 à 9; O. TUFNELL, W. WARD, G. T. MARTIN, *Studies on Scarab Seals II*, Warminster, 1984, class 3 C/3E), est connu en Nubie et à Kerma (G. A. REISNER, *Excavations at Kerma, parts IV-V*, 1923, pl. 40, 2, n° 69-70).

Crédit photographique :

Photos Pascale Kohler-Rummler: fig. 1, 3 à 10, 12 à 22

KERMA : LES OCCUPATIONS NÉOLITHIQUES ET PRÉ-KERMA DE LA NÉCROPOLE ORIENTALE

Par Matthieu Honegger

Les derniers travaux concernant la préhistoire et la protohistoire des environs de Kerma se poursuivent sur la nécropole orientale, un lieu qui s'avère privilégié pour l'étude de ces occupations anciennes. Les découvertes réalisées entre 1997 et 1999 ont ainsi permis d'enrichir la problématique présentée lors du précédent compte rendu paru dans *Genava*¹. Bien sûr, l'objectif principal de nos recherches réside toujours dans la compréhension de l'agglomération pré-Kerma où nous continuons à appliquer une stratégie de fouille extensive. Cependant, d'autres centres d'intérêt se sont progressivement développés, suite aux prospections réalisées sur l'emplacement du cimetière antique de la cité de Kerma. La mise au jour de plusieurs occupations datant du Néolithique fournit en effet l'opportunité d'établir un cadre chronologique pour ces périodes anciennes, jusqu'alors presque inconnues sur le territoire de la Nubie. De plus, leur état de conservation parfois exceptionnel pour la région permet pour la première fois d'étudier l'organisation spatiale d'un de ces établissements, dont la date remonte au cinquième millénaire av. J.-C. Enfin, la découverte inattendue d'une sépulture attribuée au pré-Kerma pourrait bien définir un nouvel objectif pour les futures campagnes. Si cette dernière n'est pas isolée et appartient, comme nous le pensons, à une nécropole, l'étude de ce complexe funéraire pourrait s'avérer d'un grand intérêt dans la perspective d'une confrontation entre les données issues du monde des morts et celles provenant de la fouille de l'agglomération supposée contemporaine.

LOCALISATION DES DÉCOUVERTES

La nécropole antique de Kerma se trouve à 5 km à l'est du cours actuel du Nil. Elle est installée sur une légère élévation qui surplombe de 2 m la plaine environnante. Grâce aux travaux de la mission de l'Université de Genève, elle a pu être en grande partie préservée des destructions provoquées par l'extension considérable des surfaces cultivées durant ces trente dernières années. À l'époque du Néolithique et du pré-Kerma, le cours du Nil se situait plus à l'est et devait passer à proximité de l'emplacement de la nécropole², comme le laisse supposer la présence de nombreux paléochenaux encore visibles aujourd'hui (fig. 1). Il est possible que l'ensemble ait même formé une île, circonscrite par deux bras du fleuve. Dans tous les cas, l'emplacement devait être particulièrement favorable à l'établissement de groupes humains,

au vu du nombre d'occupations révélées jusqu'à ce jour. La proximité de l'eau et le fait que le lieu domine les environs représentaient sans doute des avantages déterminants pour l'époque. L'endroit n'était pourtant pas toujours à l'abri des crues du Nil. Comme l'indiquent les observations stratigraphiques, les occupations néolithiques, en général lessivées, sont souvent recouvertes de dépôts de limons amenés par le fleuve. On peut s'imaginer des années de crues exceptionnelles, où l'eau est allée jusqu'à recouvrir ce lieu habituellement émergé. Par contre, à l'époque du pré-Kerma, aucun indice ne permet d'affirmer que le site ait été inondé. Tout laisse penser que le fleuve s'était déjà quelque peu déplacé en direction de l'ouest.

Malgré la présence de plusieurs milliers de sépultures de la civilisation de Kerma dont l'implantation a profondément perturbé les occupations plus anciennes, les prospections ont permis de découvrir toute une série de sites plus ou moins bien conservés qui s'échelonnent entre le V^e millénaire et le début du III^e millénaire av. J.-C. Pas moins de onze emplacements livrant du mobilier néolithique ont ainsi été repérés sur le lieu même du cimetière antique ou dans ses environs immédiats. Parfois, ceux-ci ont été observés en stratigraphie à une profondeur pouvant atteindre un mètre. Mais le plus souvent ils se trouvaient en surface dans des zones érodées, où les dépôts postérieurs avaient disparu suite à l'action éolienne ou à des destructions causées par l'avancée des surfaces cultivées. Quelques céramiques attribuées au pré-Kerma attestent également la présence d'occupations remontant à cette époque. Certaines se trouvent à quelques dizaines de mètres de l'agglomération en cours de fouille; elles témoignent de la large extension de cet habitat. D'autres, beaucoup plus éloignées au nord de la nécropole, indiquent une occupation antérieure ou postérieure à l'agglomération.

LES OCCUPATIONS NÉOLITHIQUES

Les vestiges de ces occupations se caractérisent par la présence de foyers accompagnés d'ossements de faune, de tessons et d'artefacts en pierre. Le mobilier présente toujours un encroûtement calcaire plus ou moins prononcé, qui témoigne d'un séjour en milieu humide. Les structures de combustion sont attaquées par l'érosion et les sols d'occupation



1. Localisation des sites du Néolithique et du pré-Kerma découverts sur l'emplacement de la nécropole et dans ses environs immédiats

2. Chronologie des occupations repérées sur l'emplacement de la nécropole

Période	Occupation	Éléments datant	Datation
Kerma	nécropole	chronologie basée sur une quarantaine de dates C14 ainsi que sur la présence de céramiques importées d'Égypte	entre 1450 av. J.-C. et 2450 av. J.-C.
Pré-Kerma	agglomération	ETH-18829: 4365 ± 55 B.P. ETH-18828: 4400 ± 55 B.P.	vers 3000 av. J.-C.
	sépulture	mobilier caractéristique de la fin du IV ^e et du début du III ^e mill. av. J.-C.	?
Néolithique	habitat	céramique avec des caractéristiques du Néolithique et du Pré-Kerma	?
Néolithique	habitat	B 6626: 5670 ± 30 B.P. CRG 770: 5670 ± 75 B.P.	vers 4500 av. J.-C.
Néolithique	habitat	ETH 14935: 5770 ± 65 B.P. ETH-18827: 5815 ± 60 B.P.	vers 4650 av. J.-C.



3. Alignements de trous de poteaux décrivant des palissades du Néolithique

sont toujours lavés, conséquence des épisodes de crues responsables de l'inondation du lieu. Malgré cette destruction partielle d'origine fluviale, l'état de conservation de ces sites est exceptionnel dans le cadre de la préhistoire soudanaise. En effet, les habitats néolithiques louillés jusqu'à ce jour livrent du matériel, souvent éparpillé en surface, mais ils ne révèlent presque jamais de structures conservées encore en place, ne serait-ce que des foyers³. Dans ce contexte, les perspectives offertes par la découverte de ces sites sont d'un intérêt primordial. L'étude du mobilier lithique et céramique, la datation au radiocarbone de plusieurs zones foymères, ainsi que les données stratigraphiques,

contribuent à la construction d'un cadre chronologique et culturel qui devrait faire office de référence pour la région.

A l'heure actuelle, on sait que le lieu a été occupé au moins pendant trois périodes distinctes du Néolithique (fig. 2). Deux d'entre elles sont datées avec une bonne précision et se situent dans le V^e millénaire. Elles se trouvent sous l'agglomération pré-Kerma et également en surface au sud de cette dernière, à un endroit où l'érosion a fait disparaître près de 50 cm d'épaisseur de limons. C'est précisément à cet emplacement que les fouilles de cet hiver ont révélé, en plus des habituels foyers, toute une série de trous de poteaux décrivant des huttes et des palissades de longueur réduite (fig. 3 et 4). Grâce aux observations stratigraphiques et à la présence de céramique caractéristique, leur attribution au Néolithique ne fait aucun doute. Les huttes, au nombre de trois, sont d'un diamètre équivalent à celles de l'agglomération pré-Kerma. Elles ne présentent cependant pas la même régularité et leur forme se rapproche plus souvent de l'ovale que du cercle parfait. Les quelques sondages réalisés dans les environs montrent que ce niveau pourra être suivi sur une grande extension lors des campagnes à venir. La troisième occupation du Néolithique est moins bien conservée. Il s'agit de découvertes de surface composées essentiellement de céramique. L'étude stylistique de cette dernière indique un habitat probablement plus tardif, car des éléments concernant la forme des vases et leur décor évoquent déjà des caractéristiques que l'on retrouve fréquemment sur la céramique du pré-Kerma.

Tous les sites découverts ont livré des ossements de faune en plus ou moins grand nombre. Les premières déterminations ont révélé la présence de bœufs et de caprinés domestiques⁴ (mouton ou chèvre). Au nord de la nécropole, un foyer isolé accompagné de céramique était associé à des ossements de poissons, notamment des siluridés. Ces indications fournissent certains renseignements sur le mode de vie de l'époque. Les populations devaient pratiquer la pêche et l'élevage, mais pour l'instant, on manque encore de données sur le rôle joué par l'agriculture. Peut-on considérer qu'il existait déjà une complémentarité entre des groupes humains, certains pratiquant l'élevage, d'autres se concentrant plutôt sur l'agriculture? Ou faut-il envisager des communautés à économie mixte? Cette question pourrait bien avoir des incidences sur l'interprétation du type d'habitat présent sur la nécropole. S'agit-il d'installations saisonnières liées à la pêche et à l'élevage, le lieu étant ensuite abandonné en période de hautes eaux? Ou a-t-on affaire à des villages occupés toute l'année, situés à proximité des champs cultivés? La multiplication des sondages prospectifs et la poursuite de la fouille sur l'habitat récemment mis au jour devraient permettre de répondre à ces interrogations, du moins partiellement.



4. Plan de l'agglomération pré-Kerma avec l'apparition des niveaux du Néolithique au sud, dans la zone la plus érodée

L'AGGLOMÉRATION ET LA SÉPULTURE DU PRÉ-KERMA

L'ouverture de nouvelles surfaces au sein de l'agglomération découverte il y a plus de dix ans³ offre aujourd'hui une image s'étendant sur près d'un hectare (fig. 4). Les structures reconnues se composent de 281 fosses de stockage ainsi que de nombreuses constructions signifiées par des trous de poteaux. Ces dernières se matérialisent par une cinquantaine de huttes circulaires qui devaient servir d'habitat et éventuellement de greniers pour les plus petites

d'entre elles. Ont également été identifiés deux bâtiments rectangulaires assez différents l'un de l'autre, le plus large ayant été reconstruit à trois reprises exactement sur le même emplacement⁶. Ces deux édifices devaient sans doute être destinés à un autre usage que les huttes; il se peut qu'ils soient en relation avec le système administratif ou religieux de la communauté. De nombreuses palissades ont également été dressées à l'aide de poteaux en bois. Si quelques unes semblent marquer des séparations à l'intérieur de l'espace habité, la majorité se situe en périphérie des bâtiments et pourrait constituer un système de fortification ceinturant

l'ensemble. Le fait qu'à de nombreuses reprises ces palissades s'organisent en plusieurs rangées parallèles laisse en effet supposer qu'elles remplissaient une fonction défensive. Au nord-est de la fouille, elles forment de vastes structures ovales de 20 m de largeur pour 25 à 30 m de longueur. Il pourrait s'agir de grands bastions en relation avec une des entrées de l'agglomération, suivant en cela un modèle connu dans la cité antique de Kerma⁷. Il faut cependant relever que la forme de ces structures évoque également des enclos à bétail tels qu'on les connaît en périphérie des villages actuels chez les populations d'Afrique de l'est pratiquant le pastoralisme. Or l'on sait que l'élevage de bovidés occupe sans doute une place centrale dans les sociétés pré-Kerma et Kerma. Il ne faut donc pas exclure cette possibilité et il se peut d'ailleurs que les palissades aient joué à la fois les rôles d'enclos et de fortifications. Enfin, au sud-ouest de l'agglomération, une zone assez étendue se distingue du terrain environnant par le fait qu'elle est recouverte de terre rapportée. Il est encore difficile de savoir s'il s'agit des restes d'une architecture effondrée ou si l'on a affaire à un terrassement dont la fonction nous échappe pour l'instant.

Deux datations au radiocarbone ont été réalisées sur des échantillons provenant des fosses de stockage (fig. 2). Elles situent l'occupation pré-Kerma aux environs de 3000 av. J.-C., ce qui signifie qu'elle est antérieure de cinq siècles au début de la civilisation de Kerma. On ne peut pas évaluer la durée d'existence de l'agglomération sur la base de ces deux dates, cependant, les recoupements ou les superpositions observés entre les structures, notamment les huttes et les fosses, nous incitent à proposer une période de deux siècles au maximum.

De manière générale, la conservation du sol d'occupation pré-Kerma est plutôt mauvaise, même si elle varie beaucoup en fonction de l'endroit considéré. Au sud, la couche est complètement érodée et les niveaux inférieurs rattachés au Néolithique apparaissent en surface. Au nord, les vestiges sont mieux préservés et il a été possible de réaliser des observations sur la succession des strates résultant de la destruction de l'agglomération. L'analyse microscopique de certaines coupes de terrain a révélé que les sédiments recouvrant le sol d'origine se composaient de restes de parois effondrées en pisé⁸. Les bâtiments et les palissades devaient donc être construits avec une armature de bois que l'on recouvrait de terre. La découverte de plusieurs fragments de clayonnage renforce d'ailleurs cette hypothèse. En stratigraphie, on a observé juste au-dessus de ce niveau de destruction des traces de labour parfaitement lisibles. Il se peut qu'elles résultent de la mise en culture de la zone, suite à l'abandon de l'agglomération, mais il est également possible que le terrain ait été retourné en profondeur lors du fon-

tionnement de la nécropole Kerma. La nécessité de prélever de la terre pour ériger les tumulus funéraires, le creusement de tranchées pour installer les bucrânes disposés devant les tombes ainsi que les divers aménagements en relation avec les cérémonies funéraires ont probablement perturbé passablement le terrain sous-jacent.

En bordure occidentale de la fouille, lors d'un décapage visant à dégager un nouveau secteur, une sépulture est apparue en surface. Partiellement détruite par l'implantation de deux tombes du Kerma moyen, elle contenait le squelette d'une femme adulte en position fléchie, disposé sur le côté gauche, la tête en direction de l'est. Le mobilier accompagnant la défunte est abondant, il se compose entre autres d'une palette en quartz et d'une épingle en cuivre de section quadrangulaire. Ces deux objets sont fréquents dans les tombes du groupe A⁹, alors qu'ils sont inconnus dans celles de la civilisation de Kerma. Ils nous incitent à placer cette inhumation aux environs de 3000 av. J.-C., soit durant la période pré-Kerma. Il est cependant délicat d'affirmer qu'elle est strictement contemporaine de l'établissement se trouvant juste à côté : il n'est pas impossible qu'elle soit légèrement plus ancienne ou plus récente. Une datation au radiocarbone est en cours, elle devrait permettre de préciser cette question. Le restant du mobilier associé à la sépulture réunit une alène en cuivre encore enchâssée dans son manche en bois, des fragments de malachite situés sous la palette et deux broyeur disposés juste à côté, un peigne et un lissoir en pierre, une écuelle en grès soigneusement poli et un mortier en ivoire d'éléphant. De la céramique devait sans doute accompagner la défunte, mais celle-ci a disparu suite aux destructions provoquées par l'implantation des deux tombes plus récentes.

Cette inhumation n'est sans doute pas isolée et il est fort probable qu'elle fasse partie d'un cimetière. Il reste alors à définir son extension et à déterminer s'il peut être contemporain ou non de l'agglomération toute proche. Il peut paraître étonnant que cette tombe se trouve au niveau de la surface, alors que celles de la civilisation de Kerma sont aménagées dans des puits parfois profonds de plus de deux mètres. On peut se demander si les sépultures pré-Kerma n'étaient pas disposées à même le sol ou dans des fosses peu profondes, avant d'être recouvertes d'un tertre¹⁰. La présence de terre rapportée située un peu plus au sud pourrait éventuellement être en relation avec ce phénomène.

■

La richesse des découvertes de ces dernières années soulève de nombreuses questions qui nous poussent à orienter la suite des recherches vers de nouvelles problématiques, tout en maintenant le programme de fouille déjà établi.

Ainsi, les vastes décapages sur l'agglomération pré-Kerma vont se poursuivre afin de saisir l'organisation de l'ensemble. D'après les prospections, celui-ci s'étend au moins sur deux hectares, mais il se peut qu'il couvre une surface bien plus grande. La surface dégagée à ce jour est loin d'être suffisante pour déterminer le degré de complexité de l'établissement et pour savoir dans quelle mesure il montre des analogies avec la cité antique de Kerma.

La construction d'une chronologie sur les périodes antérieures à la civilisation de Kerma représente un autre axe de recherche. Les prospections et les analyses vont se multiplier dans le but de combler les nombreux hiatus d'occupation. On portera une attention particulière sur la première moitié du III^e millénaire av. J.-C., qui voit le passage du pré-Kerma à la civilisation de Kerma. Un des objectifs est de savoir précisément à quel moment est abandonnée l'agglomération et s'il est envisageable que l'emplacement de la nécropole antique ait été occupé de manière continue jusqu'au début du Kerma ancien.

Enfin, deux nouvelles problématiques ont vu le jour grâce à la découverte d'un habitat néolithique et d'une sépulture du pré-Kerma. L'exploitation de ces vestiges inédits permettra d'enrichir nos connaissances sur des domaines de l'archéologie soudanaise jusqu'alors inconnus.

Notes :

- 1 M. HONEGGER, «Kerma: l'agglomération pré-Kerma», *Genava*, n.s. t. XLV, 1997, pp. 113-118
- 2 Voir à ce sujet l'étude de B. MARCOLONGO et N. SURIAN, «Kerma: les sites archéologiques de Kerma et de Kadruka dans leur contexte géomorphologique», *Genava*, n.s. t. XLV, 1997, pp. 119-123
- 3 Pour se faire une idée des problèmes de conservation des sites préhistoriques, cf. J. REINOLD, «Conservation et préservation des sites archéologiques», dans: *Actes du VII^e congrès international d'études nubiennes* (Genève, 3-8 septembre 1990), 1992, vol. 1, pp. 187-192
- 4 Etude en cours par Louis Chaix
- 5 Les premières découvertes sont relatées dans: Ch. BONNET, «Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes 1986-1987 et de 1987-1988», *Genava*, n.s. t. XXXVI, 1988, pp. 5-20
- 6 La reconstitution de deux autres bâtiments rectangulaires avait été proposée lors de la dernière interprétation (HONEGGER, *op. cit.*, note 1). Leur existence a cependant été remise en cause par le fait que certaines de leurs parois étaient constituées d'alignements de poteaux du Kerma moyen, situés au nord de certaines tombes.
- 7 Pour la description de ces structures mises au jour dans la ville de Kerma, cf. Ch. BONNET, «Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1991-1992 et de 1992-1993», *Genava*, n.s., t. XLI, 1993, 1-18; *Id.*, «Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1995-1996 et de 1996-1997» *Genava*, n.s., t. XLV, 1997, 97-112

- 8 M. GUELAT, «Analyse micromorphologique de deux échantillons (fouilles 1996-97), Rapport préliminaire», septembre 1998 (non publié)
- 9 H. A. NORDSTRÖM, *Neolithic and A-Group sites, The Scandinavian joint expedition to sudanese Nubia*, 3:1, Uppsala, 1972; B. B. WILLIAMS, *The A-Group royal cemetery at Qustul: cemetery L, The University of Chicago oriental institute nubian expedition*, 3:1, Chicago, 1986
- 10 Une situation analogue semble exister dans les cimetières néolithiques de Kadruka, situés à 20 km au sud de Kerma, cf. J. REINOLD, communication à la *Table ronde sur les synchronies en Egypte et au Soudan*, Institut de Papyrologie et d'Égyptologie de l'Université de Lille, 31 octobre 1998

Crédit photographique

Photographie de l'auteur: fig. 3

KERMA : LES INSCRIPTIONS

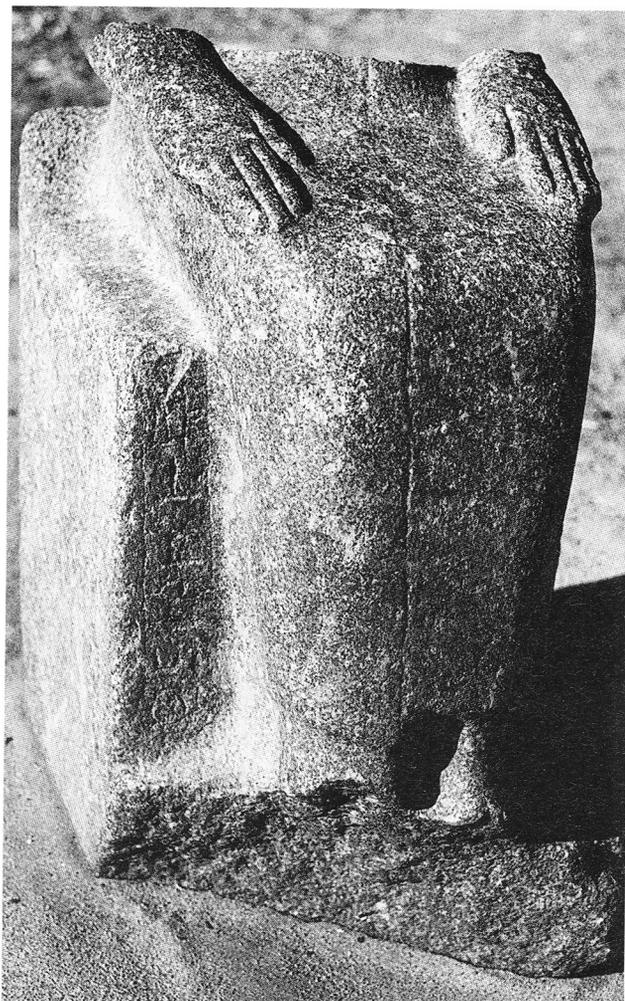
Par Dominique Valbelle

Les campagnes 97-98 et 98-99 ont apporté une moisson épigraphique et iconographique prometteuse. Un fragment de statue égyptienne du Moyen Empire a été recueilli dans la nécropole du Kerma Classique, aux environs du tumulus K X, mais c'est surtout le temple méroïtique de Doukki Gel qui a fourni l'essentiel de l'apport. Celui-ci se répartit entre un nouveau lot de statues fragmentaires égyptiennes du Moyen Empire et des éléments architectoniques du temple en cours de fouille. S'il est encore trop tôt pour donner un bilan complet de ce matériel, certains ensembles se dégagent déjà, à ce stade de la fouille.

LES STATUES DU MOYEN EMPIRE

Les monuments les plus anciens retrouvés sur le site du temple méroïtique sont des statues fragmentaires du Moyen Empire. Elles appartiennent aux mêmes catégories que celles qui avaient été retrouvées par G.A. Reisner dans la deffufa occidentale et surtout dans la nécropole du Kerma Classique¹ où un nouveau fragment a été ramassé en surface à proximité de K X en 1998. Au nombre de cinq, les fragments mis au jour à Doukki Gel appartiennent à des statues de particuliers. Deux d'entre eux sont figurés assis, un troisième dans la posture du scribe. Enterrées à proximité les unes des autres dans le vestibule et dans la salle hypostyle, ces statues sont dans une situation comparable à celle d'autres monuments du Moyen Empire mis au jour dans divers temples napatéens et méroïtiques de Nubie - Semna², Tabo³, Kawa⁴ et Gebel Barkal⁵. Chaque cas devra néanmoins être examiné séparément, chacun de ces sites ayant une histoire spécifique.

Comme ceux que nous venons de citer et les autres statues de Kerma, il s'agit de monuments fabriqués en Egypte pour des Egyptiens. Aucun indice, dans les inscriptions conservées, ne suggère qu'ils étaient destinés à un sanctuaire particulier de Nubie. Ainsi, l'une de ces statues (fig. 1 et 2) représentait le «directeur des choses scellées, directeur de district administratif, Ren[is]éneb». Ces deux titres sont courants en Egypte au Moyen Empire⁶. Mais le premier d'entre eux - *jmy-r htmt* -⁷ se rencontre sur une autre statue de Kerma, celle du nomarque Amény⁸, et sur la stèle d'Antef⁹ qui date de l'an 33 d'Aménemhat III; il est fréquemment porté par des hommes envoyés en mission par le roi dans les régions frontalières et hors des frontières¹⁰.



1.
Statue du directeur des choses scellées Réniséneb

Rien ne prouve donc qu'ils n'ont pas été apportés à Kerma par les intéressés lors de missions officielles, avant d'être réutilisés ultérieurement en divers endroits du site.

La présence de ces statues dans un temple méroïtique du site de Kerma suscite plusieurs remarques. L'abondance des statues égyptiennes du Moyen Empire à Kerma, quelles que soient les circonstances et la date de leur venue, a constitué un matériel cultuel, remployé aussi bien au Kerma Classique qu'aux périodes napatéenne et méroïtique. En



2.
L'inscription dorsale de la statue de Réniséneb

l'état de la fouille, il est impossible d'associer ces statues du Moyen Empire plutôt à un niveau qu'à un autre. D'une part, elles ont été recueillies dans des couches perturbées qui peuvent correspondre soit au sous-sol du dernier temple, soit aux décombres consécutifs à son abandon; ce qui signifie qu'elles ont pu être enterrées comme un mobilier sacré hors d'usage comme à Semna, ou avoir été encore dressées dans les salles du temple comme à Tabo. D'autre part nous ignorons, à l'heure actuelle, la date de la fondation la plus ancienne sur le site de Doukki Gel.

LES ÉLÉMENTS ARCHITECTURAUX

Parmi les nombreux blocs et fragments de blocs mis au jour jusqu'à présent dans le secteur dégagé du temple méroïtique, plusieurs groupes distincts peuvent être identifiés de manière plus ou moins précise pour l'instant. Ils correspondent chacun à un ou plusieurs monuments construits, soit successivement sur le site même du temple, soit dans ses environs immédiats. Au moment de leur découverte, certains gisaient en vrac dans les remblais, d'autres étaient remployés dans les murs du temple napatéen, d'autres encore composaient le dallage de sa troisième pièce en allant vers le sanctuaire.

Les blocs du Nouvel Empire

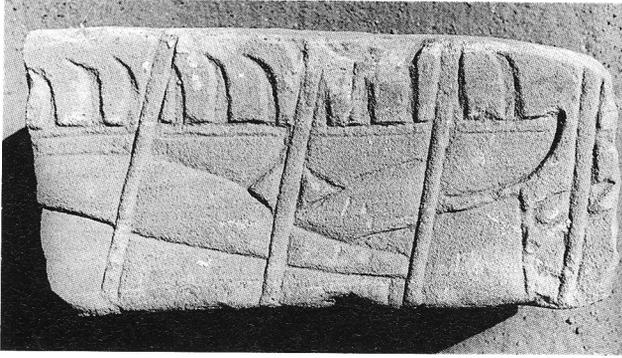
Les blocs de remploi les plus anciens sont attribuables, par leur décor, au Nouvel Empire. Quelques-uns pourraient dater du début de la XVIII^e dynastie. Mais le lot le plus remarquable est incontestablement « amarnien ». Ces blocs présentent le module habituel des *talatat*¹¹. Ils étaient tous remployés dans le dallage. Les indices les plus caractéristiques que l'on peut relever sur ces blocs sont :

- les rayons du soleil terminés par des mains qui descendent vers les visages des membres de la famille royale ou vers les autels chargés d'offrandes sur lesquelles sont disposées des lampes à huiles (fig. 3),
- les cartouches martelés des souverains et d'Aton,
- les silhouettes outrées, enveloppées dans des étoffes de lin transparent.

Certaines inscriptions et certains éléments de décors, moins particuliers, pourraient dater d'une période différente à l'intérieur du Nouvel Empire.

Les blocs napatéens

Il n'est pas toujours aisé de distinguer des fragments de décor provenant d'un monument du Nouvel Empire, ramesside notamment, de fragments de décors soignés exécutés durant la XXV^e dynastie. Néanmoins divers blocs



4. Partie supérieure du nom de Chabaka ou Chabataka

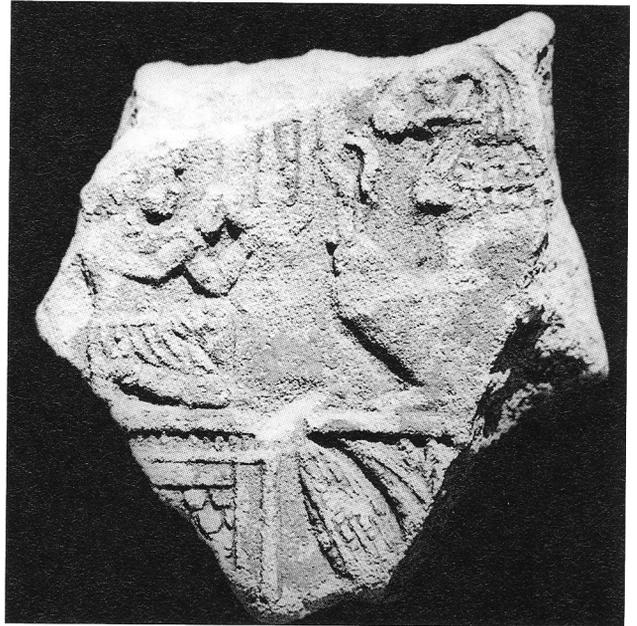


remployés dans les maçonneries du temple napatéen ont certainement été sculptés sous l'un des règnes de la dynastie kouchite. L'un des blocs découverts cette année portait un cartouche incomplet commençant par les signes *š3* et *h3* (fig. 4) qui pouvaient noter le nom du roi Chabaka ou celui de son successeur, Chabataka.

Un autre bloc conserve la partie supérieure de deux cartouches renfermant des épithètes particulièrement fréquentes durant la Troisième Période Intermédiaire: *stp.n jmn* et *[mry] jmn*. Mais plusieurs particularités paléographiques font penser à la période napatéenne. Ces épithètes apparaissant de manière très souple dans les protocoles royaux, en fonction des lieux de culte où ceux-ci sont gravés, il est difficile de les attribuer à un souverain

3. Bloc amarnien portant la représentation de la partie supérieure d'un autel sacralisé par les rayons du soleil

5. Fragment de stèle ou de naos méroïtique



particulier, en l'absence d'un des noms de celui-ci. Le bloc étant remployé dans le temple napatéen, il doit donc avoir été sculpté au plus tard sous l'un des premiers règnes de cette période.

Éléments de décor méroïtiques

Le temple méroïtique était bâti en briques, crues et cuites, pour l'essentiel. Cependant des graffiti cursifs et quelques éléments de décor témoignent encore de cette dernière étape de reconstruction du sanctuaire. Le plus significatif est sans doute un fragment de plaque en grès provenant d'un naos ou d'une stèle (fig. 5) et figurant un roi offrant au dieu Amon criocéphale un cartouche dans lequel on devine la silhouette de la déesse Maât, ce qui pourrait corres-

pondre à *nb-m3^ct-r^c*, nom porté par Amanitenmomidé et Amanichataqermo (?)¹². Le roi est agenouillé sur une sorte d'estrade, tandis que le dieu est accroupi sur le lotus et tient un sceptre *héqa*.

Le dieu du temple

S'il est trop tôt pour tirer des conclusions nuancées de ces premiers éléments épigraphiques, compte tenu de leur richesse, de leur état de conservation et de la proximité d'autres temples, un faisceau d'indices désigne nettement le dieu, maître des lieux. Il est difficile d'être formel avant l'époque amarnienne : deux hautes plumes très fines, conservées sur un bloc susceptible d'avoir été sculpté antérieurement, pourraient appartenir aussi bien à une coiffure de reine qu'à une coiffure divine. Les blocs amarniens ont subi des martelages systématiques de visages et de cartouches.

Plusieurs inscriptions datables, les unes du Nouvel Empire, les autres de la période napatéenne, révèlent que le patron du sanctuaire dont ils proviennent n'est autre qu'Amon. Quoique leur destination initiale ne puisse être assurée, puisque la plupart d'entre eux sont en situation de remploi, ils forment un ensemble documentaire cohérent que confirme le petit fragment méroïtique. Amon n'était évidemment pas la seule divinité figurée sur les murs du temple. Un dieu hiéracocéphale, un Horus nubien, est également présent à plusieurs reprises.

Malgré leur état fragmentaire, ces documents épigraphiques et iconographiques devraient, lorsqu'ils auront été tous recueillis, fournir un ensemble d'informations extrêmement précieuses sur l'histoire du site à une période encore assez mal connue dans toute cette région de Nubie, notamment au Nouvel Empire et peut-être sous la Troisième Période Intermédiaire pour laquelle on dispose de peu d'indices sur la politique égyptienne correspondante.

Notes :

- 1 D. VALBELLE, « The Cultural Significance of Iconographic and Epigraphic Data Found in the Kingdom of Kerma », in *IX^e Conférence Internationale des Etudes Nubiennes*, Boston, août 1998
- 2 PM VII, p. 149 et J. VERCOUTTER, *RdE* 27, pp. 225-228
- 3 PM VII, p. 180
- 4 PM VII, p. 184
- 5 PM VII, p. 216
- 6 W.A. WARD, *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom*, Beyrouth, 1982, n° 364 (lu *jmy-r sḏ3w.t*) p. 47 et n° 411 (*jmy-r gs-pr*), p. 52
- 7 P. VERNUS, « Observations sur le titre *jmy-r3 ḥimt* "directeur du Trésor" », in S. ALLAM (éd.), *Grund und Boden in Altägypten*, Tübingen, 1994, pp. 251-260
- 8 Boston MFA 14.725 : G.A. REISNER, *HAS* VI, fig. 344, p. 525

- 9 G.A. REISNER, *HAS* V, pp. 126-127 et 132-134 ; *HAS* VI, pp. 511-512
- 10 D. VALBELLE et Ch. BONNET, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Paris, 1996, p. 18-19 ; M. ABD EL-MAKSOU, *Tell Héboua (1981-1991)*, Paris, 1998, p. 271
- 11 R. VERNIEUX et M. GONDRAN, *Aménophis IV et les pierres du soleil*, Paris, 1997, pp. 37-41
- 12 J. VON BECKERATH, *Handbuch der ägyptischen Königsnamen*, *MÄS* 20, 1984, p. 313-314

Crédit photographique :

Photos Pascale Kohler-Rummler : fig. 1 à 5

ARCHAEOLOGICAL EXCAVATIONS AT KERMA (SUDAN): PRELIMINARY REPORT ON THE 1997-1998 AND 1998-1999 CAMPAIGNS

By Charles Bonnet

With a history of nearly 25 years at the site of Kerma, the University of Geneva Mission to Nubia was once again able, thanks to the support of both the authorities and the local population, to undertake two new seasons of excavations. Particular attention was given to restoration work to preserve the remains already uncovered. This development of the site, together with the appearance of a work in Arabic on our recent investigations led, a group of government officials to decide to create at the site a museum and a study centre to promote the Kerma civilisation. Thus, on 10 May 1998, the first foundation stone was laid with the patronage of three ministers, most particularly his Excellence Mohamed Taher Eila and his assistant, M. Sir El-Khatim Mohamed Fadel.

As in the previous years, we were supported by grants from the Swiss National Fund for Scientific Research and the Museum of Art and History. The Mayor and the Municipal Council of Satigny also contributed to financing the excavations through the award of a 'prize for merit'. These various grants, which also included a private donation, are essential and we should like to thank each of these authorities for their generosity and loyalty. I am also grateful to Professor Michel Valloggia, President of the Excavations Commission of the University of Geneva, for the interest that he has shown in this work, and also to Mme Danielle Buysens, the editor of the journal *Genava*.

The excavations took place from 7 December 1997 to 6 February 1998 and from 1 December 1998 to 6 February 1999. The Raïs Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nouri and Idriss Osman Idriss ably directed 150 workmen on five different sites. Our task was considerably helped by the support of the Director General of the Antiquities Service, M. Hassan Hussein Idriss and the Director of Museums, M. Siddig Gasm El-Sid. Both the assistant inspector, M. Salah el-Din Mohamed Ahmed, Director of Sudanese Archaeological Excavations, and his replacement for 15 days M. Ali El-Mirghani, devoted themselves with enthusiasm to the research.

The discovery of three Neolithic horizons beneath the layers of the **pre-Kerma settlement** is particularly interesting and is discussed by Mathieu Honegger below. In the **ancient town**, the discovery of the remains of a line of forti-

fications dated to the Middle Kerma period (2050-1750 BC) has considerably enriched our analysis of the development of the town; in some sectors our excavation techniques were modified in order to investigate these ancient layers and to reconstruct the defensive system (fig. 1). In the middle of the **eastern necropolis** some large royal tombs, also dated to the Middle Kerma period, were excavated and we opened a new area (CE 27) in the most ancient zone of the cemetery (c. 2400-2300 BC). As a part of our study of the religious buildings of the cemetery, the funerary chamber of tumulus K III was also cleared. At **Doukki Gel**, some extremely interesting discoveries were made at the site of two superimposed temples of the Napatan and Meroitic periods; their masonry included very many decorated and inscribed stones. Finally, our restoration programme continued at the western Deffufa and it now has a staircase allowing safe access to the upper terrace.

It goes without saying that the good progress made at each of the sites was entirely due to the skill and alertness of the members of the Mission. I should like to record here my very considerable gratitude. Mme Beatrice Privati was able to propose a new ceramic chronology that forms the basis of the dating of the Kerma cultures. Martin Honegger took complete responsibility for the investigation of the pre-Kerma and Neolithic sites. In the ancient town, Thomas Kohler took charge of the supervision of the restoration work while Pascale Kohler-Rummler was responsible for the photographic record. In addition to her work in connection with the restoration of the archaeological finds, Marion Berti drew the funerary chamber of K III, the Ancient and Middle period tombs and several objects. Salah el-Din Mohamed Ahmed worked at the site of Doukki Gel. Louis Chaix and Christian Simon continued their analysis of the animal and human remains, offering further thoughts that provided sometimes unexpected insights into some of our problems. Alfred Hidber, Marc Bundi, Françoise Plojoux and Anne Smits contributed to the excavations of the town or the necropolis, and Nicola Surian undertook the geomorphological study of the Kerma basin. Finally, we should like to thank both Dominique Valbelle, the Mission's epigraphist, whose contribution to the study of the relationship between Egypt and Kerma during the historical periods is essential to our work, and Nora Ferrero for her work on the documentation and her careful editing.

Several members of the Mission presented papers on the subject of the pre-Kerma period, the Kerma pottery, administration and trade and the inscriptions and their significance for the Nubian cultures, on the occasion of the International Conference on Nubian Studies held in Boston in August 1998. The publication of several articles will inform both specialists and a less well-informed public of our aims and the progress of our research¹.

THE NEOLITHIC AND PRE-KERMA SETTLEMENTS

Further excavation within the pre-Kerma settlement confirmed the importance of these deposits and also revealed traces of earlier occupation, belonging to several Neolithic phases. We added to the stratigraphic information, both horizontal and vertical, and consistent dates were obtained by means of C14 analysis². The discovery of postholes belonging to a palisade or a round house were exceptional finds in a 5th millennium context. A number of hearths were found close to structures. Archaeological material is scarce in these layers which had been washed by inundations from the Nile and was confined to potsherds and animal bones.

The plan of the pre-Kerma settlement shows a striking picture of the fortification system of double or triple enclosures. Study of the sediments showed the presence of daub walls, doubtless supported on interlacing branches. New storage pits were located and, taking account of the areas where Middle Kerma tombs had been dug, we estimate that there were around 500 of these. The first pre-Kerma tomb was found in the last season, and contained a remarkable collection of material, including an ivory vessel, a palette, a mortar, pottery roulettes and bronze points.

THE ANCIENT TOWN

An important discovery relating to the urbanisation of the ancient town revealed several phases of development that surface cleanings had left generally inaccessible; our initial decision had been to undertake large-scale horizontal excavations in order to gain rapidly an overall picture of the town and its organisation. Thus the Ancient and Middle Kerma layers had remained virtually unknown, as to excavate them would have required the destruction of later foundations or a proliferation of test pits within these complex buildings. However, by chance, we found that in the south-eastern quarter, part of the Middle Kerma defensive system had been maintained into later periods, and this allowed us to study in detail sections of bastioned walls from this period, and two gateways. The eastern façade

seems likely to have formed part of a rectangular enclosure around 200 metres long by 120 metres wide. In contrast, the western façade had been continuously modified, probably because large residential buildings and the main river-side gates were built on this side. It was thus difficult to reconstruct the plan here (fig. 2).

The Middle Kerma construction techniques were shown to be very different from those of the Classic Kerma period and we had to develop a new approach to their study. These bastioned walls were essentially built of 'galous' or 'tof'³ and not of mud brick. These lumps of mud, of variable shape and thickness, could be used in different ways, in rectilinear or curvilinear foundations or simply through successive additions until a large wall had been achieved. When the mud lumps were very large, a silt mortar was used for better cohesion. Although it was easy to distinguish the consistency and yellow colour of this material, the limits of these structures were very difficult to determine as they did not have a clearly defined shape. On the other hand, the use of 'galous' necessitated the construction of more elaborate foundations to prevent the walls sliding. Mud brick was used in some structures to consolidate an edge, or define the centre line or some architectural detail. In the same way wood, either in the form of posts or planks built into the wall, formed part of the walls. Restorations using posts, like the exterior palisades, showed that there was a mixed architectural form whose details remain to be analysed (fig. 3).

We determined the position of several fortified sections thanks to circular structures that served as the bases of bastions of variable proportions. The majority of these structures were built in pits which reached up to 4 metres in diameter with a depth of 0.50 to 1 metre. The cavity was filled up with silt, strongly compacted and washed, then covered with a circular foundation entirely made from 'galous', around which a solid mass of earth formed a large plinth. It was on these that the semi-circular or bi-convex walls of the bastions were finally built. The reserves of silt that formed part of these structures had not escaped the *sebbakhins* and a number of them had been dug out. It was while recovering the damaged pieces that we gradually found and were able to reconstruct several parts of the east and west of the southern fortifications, which provide the first image of the town which was contemporary with the Egyptian Middle Kingdom (fig. 4).

Several entrances were also located in parts of the enclosure, confirming the line of the bastions and giving us useful information on the roadways. These entrances were usually formed from two elongated walls, from 8 to 20 metres long and 1.50 to 6 metres wide. The passageway measured between 1 and 1.50 metres and was thus rela-

tively narrow. Behind the walls, it was possible in some cases to see the remains of a room which must have been used for the guards; some of the soldiers were probably stationed on top of the walls.

These preliminary observations show the complexity of the problems that such a study brings, for this type of construction, the origin of many architectural forms in Africa, requires much more analysis. If the regular restorations, such as those using mud or wooden posts in order to strengthen the structures or to adapt them to new demands for defensive arrangements, are taken into account one can better understand the limits of our approach.

We have already commented on the discovery, between the houses M 115 and M 46, of an eastern gate, characterised by a large bastion that was enlarged several times and surmounted by a rectangular tower. On the other side a second tower was discovered, which could be slightly older in date. The road, after turning in the direction of the great roundhouse, ended at one of the main gates of the Middle Kerma town, defended by an amazing chicane of wood and, possibly, 'galous' (fig. 5). In removing the upper layers, traces of various constructions were found, very often modified and difficult to interpret. They consisted mainly of postholes of different types and period. A large number of cattle and small livestock hoof prints suggested proximity to an animal enclosure. The traces pointed towards the exterior in the direction of a small narrow opening in the northern wall of the gate.

These successive phases were also found in the gate near the south-eastern corner of the eastern side. Its two narrow elongated walls were modified for the first time in the Middle Kerma period, and then again in later periods. In front of this entrance there was a tower from which to watch the comings and goings along a narrow road bounded by walls. Behind rose an enormous set of fortifications faced with fired brick masonry and edged with a ditch. In its final state, a buttressed wall formed additional fortified tenaille that protected the traffic in the area of the urban centre (fig. 6).

Surface excavation of the area a little to the north, near houses M 166 and M 167, revealed that another Middle Kerma gate defined the sector and the main street. This latter continued along the same axis to a control post established in the Classic Kerma period. A vast area seems to have been used for administrative activities, attested by the discovery amongst the rubble layers of many Middle Kingdom and Classic Kerma seal imprints¹. In the north of this sector was a large building which must have been used for the storage of valuable goods. Houses M 166 and M 167,

like those near the other entrances to the town, perhaps belonged to one or another of the dignitaries in charge of surveillance and the organisation of the movement of merchandise (fig. 7, 8).

In the north-west of the religious quarter, vast potters workshops had destroyed the majority of the remains and in those layers studied it was not possible to trace the Middle Kerma enclosure. Accumulations of ashes, often bearing the impressions of vessels fired at low temperatures, occupied a large area and had certainly accelerated the process of wind erosion. However, on the western side we found roadways that had developed alongside the Middle Kerma fortifications. These new plots created around the town as it expanded were also fortified; thus a network of bastioned walls was established beside the ditch that defended the eastern entrance already discussed (fig. 9). House M 181, a fine construction of the late Middle Kerma and Classic Kerma periods, can also be associated with a dignitary of the kingdom. Its classic plan consisted of a large courtyard opening on either side onto elongated buildings. Its enclosure wall was set at an angle with successive offsets of segments from 2 to 3 metres long. Houses M 179 and 180 were furnished with interior courtyards and spacious rooms; to the south there was usually a garden or an area for kitchens and silos.

THE SECONDARY SETTLEMENT

The research carried out in the religious complex, which was probably devoted to the funerary cult of royalty or persons of importance, was focused on the completion of the stratigraphic analysis. The overall plan of the settlement, which was at first rectangular, had developed in the same way as the main settlement. The defensive system, with its scaled-down bastions was augmented by other constructions whose circular foundations were located all along the edges of the settlement (fig. 10).

THE EASTERN NECROPOLIS

New excavations were undertaken in the eastern necropolis in order to continue the study of the complex topo-chronology of the inhumation. Although the important tombs were laid out on a north-west/south-east axis, and then in the Classic Kerma period on a south-west axis, a series of tombs had collected near to them, and, according to the space available, gradually formed a group of their own. In order to clarify this trend and better understand the funerary rituals, two areas were cleared, one in the Ancient Kerma sector (CE 27) and the other in the Middle Kerma

sector (CE 25). It should be noted that the acronym CE 26 now replaces CE 14b, which is attributed to a zone outside the necropolis, situated to the extreme north (fig. 11).

Our aim was to test the pottery classification proposed by Mme B. Privati for the earliest phase of Ancient Kerma, and to verify the homogeneity of the material and the funerary customs of this part of the cemetery. Thus we investigated a long strip of land linking sectors CE 1 and CE 2. When we first worked in this area, almost 20 years ago, the superstructures of the tombs were still very well preserved and it was easy to distinguish between those made from concentric circles of black stones and those constructed from dressed stele surrounding the pits⁵. Today, alas, all surface remains have been completely flattened by motor vehicles. We were thus able to clear the area until the burial pits or other negative features appeared. The first surprise was the discovery of a hearth which contained Neolithic sherds and lithic material; the main contemporary deposits were several hundred metres away.

Twenty seven tombs were excavated in this new sector CE 27. To the east of small oval graves, upturned bowls from funerary ceremonies were sometimes preserved in fragments; their numbers varied between two and six. Some of the bowls had slipped into the fill of the ditch, probably as a result of the excavations of tomb robbers, and were well-preserved. Very many of these tombs had originally been marked out by a circle of seven stele, held in place with silt and a pile of white quartz pebbles. In one case, a deposit was laid to the north of a grave (t 281) in a narrow and shallow cavity; it consisted of a calcite bracelet and three flint blades that still bore the traces of the adhesive used to fix them to handles. There were four large postholes from a small building, 2.30 metres by 2.60 metres, related to one or other of the neighbouring tombs (t 273, t 278, t 279, t 280). The ends of the two northern posts had been burnt in order to make them more resistant to termite attack or damp. If this building was a funerary chapel, then it would be the oldest religious building found at Kerma⁶ (fig. 12).

This series of tombs was relatively homogeneous. The dead were in a contracted position, more rarely flexed, and were placed in narrow graves (between 1.20 - 1.50 metres and 1.60 - 1.70 metres); some were wrapped in a finely tanned sheep skin. Leather covers, laid in the grave or spread over the corpse, are frequently found in later tombs but have only been found from this period on four occasions. The corpses were clothed in a loincloth; two wore leather nets on their heads. Very rarely, they wore a pair of sandals. These inhumations yielded very few grave goods, but the beautiful stone bracelet showed that objects of quality existed. One tomb (t 267) contained two corpses. One was

a robust male of 45 years, lying in contracted position on his right side, his head to the east and his hands in front of his face. The other, also male, was 15 years old; his unusual position - head to the north, legs bent and arms around the head of the first skeleton - seems to suggest that he had been sacrificed. The dimensions of this double grave (2.14 metres by 1.38 metres) indicate the beginning of a hierarchisation within this modest cemetery. From this perspective it is interesting to note that several of the burials that surrounded this tomb were those of relatively elderly women, between 50 and 60 years old (t 266, t 268, t 269, t 270). We plan to extend the excavation of this burial area, as we have not yet found all the criteria required for classification and further analysis is necessary (fig. 13, 14, 15).

We now have much better knowledge of the middle part of the necropolis, occupied in the Middle Kerma period as the work undertaken to reveal the pre-Kerma remains considerably enlarged sector CE 12 in the direction of sector CE 11; a vast area could thus be studied. Three royal tumuli, measuring nearly 20 to 30 metres in diameter, situated on the west side, at the edge of sector C 25 had for a long time attracted our attention. These graves seem, in the current state of our knowledge, to be from the Middle Kerma I period, that is around 2000 BC. The kingdom at this period was enjoying a period of prosperity and the trade with Egypt, if one can judge from the fragments of imported pottery, was developing. Despite the certain robbing of these royal tombs, we decided to excavate at least one in order to study some of the structural details; eight other neighbouring burials were also investigated in this sector (t 238 to t 245) (fig. 16, 17).

The excavation of the royal tomb (t 253) took place over two seasons, not surprisingly given the extraordinary size of the grave: 11.70 meters in diameter with a depth of over 2 metres! It was under a mound of silt, 25 metres in diameter, covered in several rows of small black stones of ferruginous sandstone. The burial chamber had been almost completely emptied but the position of the bones of three individuals indicated that they were not far from their original positions. The principal burial was an adult male; he was accompanied by a woman of between 20 and 25 years whose remains were to the west, and by an adolescent of 15 years placed to the north of the funerary bed. The reconstructed dimensions of the bed were around 2 metres long by 1.30 metres wide. The feet of the bed had square sections with sides of 0.10 metres; the wood was still visible, but reduced to a powder. It was thus a piece of furniture of very good dimensions, embellished, as is often the case, with a decoration of bone plaques engraved with eye motifs. On the perimeter, the cavity bore traces of posts from a small structure in square wood 2.64 - 2.74 metres by 3.04 - 3.28 metres. The posts had 8 to 10 cm sides. This

would seem to be a kind of dais, which could only have been used for a very short period during funerals.

Without doubt, this royal tomb once contained very abundant and rich grave goods, of which the only remains were hundreds of potsherds from the usual Middle Kerma vessels and Egyptian-made jars. There were also many animal bones (from 22 sheep, 2 goats and 2 dogs). There was a circular stone of yellow sandstone and two fired clay offering tables with four compartments, one of which contained many small animals (birds?) schematically modelled. These three objects must originally have been placed flat on the top of the tumulus.

The most spectacular element of this tomb remains, however, the deposition to the south of the mound of several thousand bucrania forming an enormous crescent. Some of them had deformed horns, curving forwards, and others bore traces of red ochre on their frontals or their horns. The metrical analysis of this exceptional assemblage will be undertaken by Louis Chaix in future years.

As for the other, also very disturbed, tombs in this sector, they also yielded a very comparable material, with large storage jars, the very characteristic red bowls with black borders and imported ceramics. Sheep and goats were placed beside the corpse, which was often lying on a bed. Human sacrifices are also indicated by many double inhumations. Finally, we should note that to the south of tumulus 238, there were 378 bucrania, many of which also had deformed horns.

THE FUNERAL CHAMBER OF TUMULUS K III

The large 90 meter diameter tumulus excavated by G. Reisner⁷ in the 1920s can be associated with the eastern Deffufa, the funerary temple, known as K II, which is situated in the centre of the southern extremity of the cemetery. To coincide with the publication of a book on the religious buildings of the cemetery, it seemed appropriate to clear again the royal funerary chamber and to study the preserved masonry in order to verify some of our hypotheses and better understand the movements between the cult building and the tomb. Thus the end of the sacrificial corridor which gave access to the chamber was also cleaned and redrawn. Two large fragments of a statue of a crocodile shaped in quartz and then glazed were discovered there; this sculpture perhaps marked the entrance to the corridor, in which over a hundred human sacrifices were placed.

The funerary vault was constructed in two stages. The vault having no doubt shown signs of weakness, low support

walls were added along the side walls. The bands of yellow painted on plaster (0.40 m high) which decorated the walls had had to be repainted onto the retaining walls. In one of these two parts of a stele were reused. The construction of the vault had no doubt been undertaken during the lifetime of the king, as these restorations must have been carried out before the tomb was closed (fig. 18).

THE SITE OF DOUKKI GEL

The excavation of the **Classic Meroitic temple**, which was undertaken during both the last two seasons, is still far from complete, as the monument extends to at least 55 meters in length. The southern extremity can be found under 'kôm des bodegas', the extraordinary mound, over 5 metres high, of offertory bread moulds, the origin of the reputation of this site. Unfortunately, this sector has been considerably exploited by the *sebbakhins* to fertilise their fields, and the archaeological layers have been destroyed to quite a depth (fig. 19).

The entrance pylon, 25 metres wide, was completely excavated; it was constructed from a core of mud brick faced with fired bricks. On the external face, a wall formed an extra thickness to each of the two piers, perhaps completed by framework of stone masonry. In front of the gateway, very many fragments of a coating painted 'a fresco' together with several reliefs sculpted in sandstone were found in the destruction layers. One can only regret that the decoration was so poorly preserved, for those pieces of a reasonable size attested to an interesting iconography (figures bigger than natural size, with bodied painted in red ochre, elements of friezes, prophylactic signs etc.). Innumerable fragments, scattered throughout the temple, were covered with a yellow coating, a coating that was also found on fired bricks or blocks of stone to emphasis certain architectural elements (fig. 20).

Square foundations allows us to locate the position of the 14 columns that supported the roof of the courtyard peristyle. Several large fragments of sandstone bases were lying here and there, their impressions still visible on the foundations. They perhaps first supported an almost square hypostyle room (12 metres by 11 meters), but had then been thoroughly robbed and there were only a few bricks from the foundations and fragments of column shafts of sandstone painted in yellow. We were less well informed about the following rooms as their walls had been dismantled; however, the presence of a base of grey granite from an alter or *naos*, and the situation of a more ancient chapel, set perpendicularly to the temple on the western side, allowed us to put forward certain hypotheses.

In the temple B 500 of Gebel Barkal, at the back of the hypostyle room, there was a sort of vestibule, which had a plinth of granitic stone, in this case to the name of Taharka, while to the west was a chapel, also placed at a perpendicular axis to the temple. The chapel is attributed to the reign of Rameses II. At Kerma, the stone chapel is dug into the ground at a clearly lower level than that of the Meroitic temple; however, restoration in fired brick proved that the chapel was still being used into the Meroitic period, a period in which it was no doubt reconstructed, as its pillars and the thickness of the walls were modified. The plan of temple B 500 suggests that the sanctuary of our Meroitic temple could well be found beyond the *naos*, but this is yet to be verified.

The dating of the temple remains difficult, as does its attribution to a precise reign. The considerable use of fired brick, the technique of decoration together with the ceramics, place it in the 1st century BC. A supplementary clue is given by a beautiful fragment of a sculpted sandstone plaque, representing a kneeling king, offering his cartouche to the ram-headed god Amon. This relief, found in the vestibule, seems to belong to a small chapel or a stele, and confirms an occupation during the classic period. We should also note the base of a sandstone statuette of an extended figure, whose hands are placed on the sheath of his sword, and which also dates to the same Meroitic period.

Under the destruction levels an **earlier temple** was discovered, characterised by an very elongated plan. The architects of the classic period seem to have taken advantage of this building as the ancient walls of mud bricks had been cut into at the time of the new construction. It is possible that part of these ancient buildings had been maintained during the work as the walls of the Meroitic temple were arranged around the body of the earlier building, preserving some of the facades. This latter was very well constructed with a mixed architecture of mud brick for the walls and stone for the doors or the pillars. It was built against the much earlier stone chapel.

The pylon was elongated (19 metres) and not very thick (1.9 metres). Here we see one of the characteristics of the mud brick cult buildings such as the temple of Kawa known as the 'eastern palace'⁸. The threshold of the double door was made from large reused blocks behind which were the two granite bearings for the pivots; on the western side, a sheet of folded bronze eased the movement of the door pivot. One then entered into a small square room with four columns; two circular bases were still *in situ*, but they had been restored many times. The one on the western side had been surrounded by a circle of reused stones, while on the eastern side the stones were arranged in a square. The

architect's marking out lines engraved on the surfaces of the bases did not correspond to the orientation of the building, indicating that the bases were not in their original positions. The only remains of the other pillars were a small amount of sand from the foundations and a few water worn traces of the settings.

The next two rooms were wider than they were deep. Only the door of the first was preserved under the foundations of Meroitic fired brick. The second was however located by the base of one of its uprights. It was the negative of the first construction course which indicated a partition, almost in the continuation of the side wall of the perpendicular chapel.

Along the western side walls of the ancient temple, other walls showed a connection with an important building belonging to a vast religious complex which stretched in this direction, but, in the present state of our research this remains in practice *terra incognita*. A door led from the second room of the temple to this other building, whose walls had been repaired in the Meroitic period with fired bricks. Between this and the chapel the remains of a small courtyard and a vestibule were again found. Several ovens of a domestic type were found here, and animal bones and numerous moulds showed that they had been used for cooking food and bread offerings. Two of these ovens seem to have been reserved for the smelting of bronze; on the base, in burnt silt, a rounded conduit was preserved surrounding a central darkened area on which could be distinguished traces of ore and smoke. In the fill fragments, a straight nozzle and a sort of joint in fired clay were found. Finally a fragment of crucible still containing metal had been abandoned in the same place (fig. 21).

This workshop is perhaps associated with the manufacture of small objects, the statuettes of Osiris found in quantity in the temple, the heads of rams with sun discs and even pins with decorated shaft, of which many moulds were found. The presence of this workshop in the religious quarter, under the protection of the *temenos*, is not surprising as we have already found the chamber of a kiln used to make much more ancient objects in bronze at the foot of the Deffufa⁹, and we were astonished by the restricted space afforded. The relationship between the chapel and the workshop remains to be analysed.

In the vestibule, close to the granite plinth, the rather unhomogeneous rubble layers yielded several fragments of Middle Kingdom Egyptian statues. These monuments, of which there were five, must have been erected in the sanctuary. A large area still needs to be excavated at this location and we shall then probably be able to complete this inven-

tory. Other deeper and more ancient layers exist but these are poorly preserved and require particularly meticulous excavation. An occupation in the New Kingdom is shown by the ceramic material, amongst which is a high proportion of bread moulds. Thus bakeries were built in this period of colonisation to supply the sanctuaries, and no doubt also breweries, if we can judge by certain characteristic vessels.

One of the most surprising aspects of our two campaigns is certainly the iconographic and epigraphic contribution provided by 120 decorated and inscribed blocks found in the foundations of these two temples. They were from several periods and confirmed the richness of this site. In the central aisle of the ancient temple, trenches dug to exploit the alluvium had disturbed a pavement of reused blocks which had remained more or less in place. This collection demonstrated the diversity of the monuments, and the diversity of the worked sandstone.

Mme D. Valbelle's report below on the first analysis of this material shows several phases of construction, both during the 25th Dynasty and at the end of the New Kingdom, a period for which there are many problems of interpretation in the Nubian regions. The remains dated to the 7th or early 6th century BC show that our first temple must be from a later period as these stones are reused in the foundations. This first temple is thus Napatan and may have been occupied until the 1st century BC, as there is an inscription in Meroitic cursive script engraved on the eastern door post of the entrance.

The reused stones also provided much additional information. They seem to reinforce the idea that there was a fairly systematic occupation of the territory by the Egyptians, who, despite numerous uprisings, progressively took control of the country. Certainly from the arrival of Thutmose II's troops one can be sure that there was frequent traffic along the Nile or more directly towards Kurgus through the eastern desert. But even if the Nubian princes were partially Egyptianised, they retained a certain autonomy. Thutmose II and particularly Thutmose III established a cult to Amon at Gebel Barkal, which became a centre of great importance. The appearance of grandiose monuments under the reign of Amenophis III, at Soleb and Sedeinga, belong to a new stage of construction which continued during the reign of Amenophis IV.

We note thus the interest of a fragmentary scene showing the king standing beneath the sun's rays, which terminate in hands. This representation, which is certainly Amarnan, attests the presence of buildings of the 18th Dynasty. Several foundations from Amenophis IV, the heretic king

Ahkenaton, exist in the neighbourhood of Kerma, such as at Sesebi¹⁰, Tabo¹¹ or, with the ancient name of *Gematon*, at Kawa¹². It is thus not surprising to find at least one or more cult buildings from this period at the site of Doukki Gel.

RESTORATION AND CONSERVATION

Restoration work was undertaken on the stairs of the eastern Deffufa, the palace situated in the interior of the *temenos*, the nearby monumental gateway, and the habitation quarter to the south-east. This work involved the making of 80,000 bricks. This work was primarily undertaken to protect the original masonry which is particularly vulnerable once uncovered, all the more since surveillance of the site remains difficult. It has become necessary to restore to the Deffufa its architectural lines as due to both the passing of time and the plundering that it has suffered it had taken on the appearance of an abandoned hill. From the top of this great temple of the town one can now see the layout of a good part of the town. The clearance of rubble to the west will lead to the rehabilitation of the religious quarter. The results of our research are thus validated and the increasing number of visitors seems a gauge of the interest aroused in the Nubian past (fig. 22).

NOTE ON THE SEAL IMPRINTS DISCOVERED IN 1997-1999

By Brigitte Gratien

Several seal imprints recently discovered in the town are of a new type for Kerma. We once again found a document bearing the imprint of a local seal, a grid pattern in high relief, identical to the 'Kerma' types already published¹³, three imprints bearing fragmentary Egyptian titles or prophylactic signs and a seal mount belonging to this latter category. However, more remarkable were eleven seals dated to the Second Intermediate Period:

- two impressions bearing the name of *nr nfr M3^c-jb-R^c dj 'nh*, framed by two columns of signs¹⁴;
- nine impressions of the same seal, a scarab of type *'nr^c*¹⁵.

The seals from the Hyksôs period are not new in Upper Nubia, but the discovery of imprints, of which some are in the name of a king of the XVth Dynasty, confirms the relations established between the Delta and the kingdom of Kerma in the Second Intermediate Period.

Translated by Annie Grant

Notes:

- 1 Ch. BONNET, "Nouvelles données sur les peintures murales de la chapelle K XI à Kerma. Note d'information", *Académie des Inscriptions et Belles-Lettres, Comptes rendus des séances de l'année 1995, avril-juin, fasc. II, 1995*, pp. 643-650; "The Funerary Traditions of Middle Nubia", *Eighth International Conference for Meroitic Studies, Pre-prints of the main papers and abstracts*, London, July 1996, pp. 2-18; "A-Gruppe und Prä-Kerma; Die Kultur der C-Gruppe; Des Königreich von Kerma", *Sudan, Antike Königreiche am Nil*, Kunsthalle der Hypo-Kulturstiftung, München 2, October 1996 – 6 January 1997, 1996, pp. 37-39, 51-52, 89-95 (translations in French, English and Italian); Ch. BONNET and D. VALBELLE, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Musumeci Editeur, Aoste, 1996, 199 pages; Ch. BONNET and N. FERRERO, "Les figurines miniatures de Kerma (Soudan)", *Sahara*, 8/1996, pp. 61-66; Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1995-1996 et 1996-1997", *Genava*, n.s., vol. XLV, 1997, pp. 97-137; "Le sanctuaire d'Hathor à Sérabit el-Khadim et la topographie urbaine", *Le Sinaï durant l'Antiquité et le Moyen Age, 4000 ans d'histoire pour un désert*, Actes du Colloque tenu à l'UNESCO du 19 au 21 septembre 1997, texts edited by D. VALBELLE and Ch. BONNET, 1998, pp. 44-49; Ch. BONNET and L. CHAIX, "Le royaume de Kerma au Soudan, Architecture et rituels funéraires", *L'archéologue, Archéologie nouvelle*, no 39, Dec. 1998 – Jan. 1999, pp. 27-32; L. CHAIX, "La integración dels animals en les practiques ludiques, magiques o religioses", *Cota Zero*, 1995, pp. 81-88; "Les boeufs à cornes parallèles; archéologie et ethnographie", *Sahara*, 8/1996, pp. 95-97; L. CHAIX, P. JACUMIN, H. BOCHERENS, A. MARIOTTI, "Stable carbon and nitrogen isotopes as dietary indicators of ancient Nubian populations (Northern Sudan)", *Journal of Archaeological Science*, 25/1998, pp. 293-301; L. CHAIX, "Nouvelles données sur l'exploitation du monde animal au Soudan central et septentrional", *CRIPEL*, 17/1998, pp. 79-84; "Une tombe inhabituelle à Kerma, Soudan", in P. ANREITER, L. BARTOSIEWICZ, E. JEREM & W. MEID, (EDS), *Man and the animal world – Studies in Archaeozoology, Archaeology, Anthropology and Palaeolinguistics in memoriam Sandor Bökönyi*, *Archaeolingua*, Budapest, 1998, pp. 147-155; M. HONEGGER, "Kerma: l'agglomération pré-Kerma", in Ch. BONNET & collab., *Les fouilles archéologiques de Kerma (Soudan)*, *Genava*, n.s., vol. XLV, 1998, pp. 113-118; B. PRIVATI, "La nécropole de Kerma; classification de la céramique", *CRIPEL*, 20 (à paraître); Ch. SIMON, "Kerma: quelques résultats de l'étude paléodémographique des squelettes de la nécropole", in Ch. BONNET & collab., "Les fouilles archéologiques de Kerma (Soudan)", *Genava*, n.s. vol. XLIII, 1995, pp. 60-64; "Premiers résultats anthropologiques de la nécropole de Kadrouka, KDK 1, (Nubie soudanaise). Conférence int. des études nubiennes, (Lille 11-17 Sept. 1994). Vol. 2: Découvertes archéologiques", *CRIPEL*, 1997, pp. 37-53; M. HONEGGER, "The Pre-Kerma settlement at Kerma: new elements throw light on the rise of the first Nubian Kingdom", in R. FREED and T. KENDALL, *9th International Conference of the Society for Nubian Studies (Boston 21-26 August 1998)*, in press; M. RING, A. SALEM, K. BAUER, H. GEISERT, A. MALEK, L. CHAIX, C. SIMON, W. DEREK, A. DI RIENZO, G. UTERMANN, A. SAJANTILLA, S. P. ÅBO, M. STONEKING, "MitDNA Analysis of Nile Valley Populations; a Genetic Corridor or Barrier for Migration?", *American Journal of Human Genetics* (in press)
- 2 See the article by M. HONEGGER in this volume
- 3 See, for example N. H. HENEIN, *Mari Girgis, Village de Haute-Egypte, Bibliothèque d'Etude*, vol. XCIV, 1988, pp. 40-41
- 4 See the brief note by B. GRATIEN that follows this report
- 5 Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan)", *Genava*, n.s., vol. XXX, 1982, pp. 45-57
- 6 The average C14 date from one of the posts is around 2375 BC. Analysis by the Laboratory of the ETH at Zurich no. 20153, sample K. 71
- 7 G. REISNER, *Excavations at Kerma*, Part III, Harvard African Studies, vol. V, Cambridge (Mass.), 1923, pp. 135-189
- 8 M. F. L. MACADAM, *The Temples of Kawa*, II, History and Archaeology of the site, London, 1955, text, pp. 114-115, plate 17
- 9 Ch. BONNET, "Les fouilles archéologiques ...", *op. cit.*, 1982, pp. 41-45
- 10 B. PORTER and R. MOSS, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, VII, Nubia, Deserts and Outside Egypt, Oxford, 1962, pp. 172-174
- 11 H. JACQUET, Ch. BONNET, J. JACQUET, "Pnubs and the Temple of Tabo on Argo Island", *The Journal of Egyptian Archaeology*, vol. 55, 1969, pp. 103-111
- 12 M. F. L. MACADAM, *The Temples of Kawa ...*, *op. cit.*, pp. 8-27
- 13 B. GRATIEN, "Nouvelles empreintes de sceaux à Kerma; aperçus sur l'administration de Kouch au milieu du 2^e mill. av. J.C.", *Genava*, n.s., vol. XLI, 1993, p. 28; "Les institutions en Nubie au Moyen Empire", *CRIPEL* 17/2, 1996, pp. 162-163
- 14 Maa-ib-Rê Sheshy, king Hyksôs of the XVth Dynasty is well known from his numerous scarab seals, of which many have been found in Nubia. Two have been found at Kerma in tumulus K X; they have the graphic Maa-ib-Rê on its own.
- 15 This type, widespread in the Hyksôs period (P. NEWBERRY, *Ancient Egyptian Scarabs*, London 1905, pl. 24, 1 to 9; O. TUFNELL, W. WARD, G.T. MARTIN, *Studies on Scarab Seals* II, Warminster, 1984, class 3 C/3E), is known in Nubia and at Kerma (G.A. REISNER, *Excavations at Kerma*, parts IV-V, 1923, pl. 40, 2, n. 69-70).

KERMA: THE NEOLITHIC AND PRE-KERMA OCCUPATION OF THE EASTERN NECROPOLIS

By Matthieu Honegger

The latest work on the prehistory and protohistory of the surroundings of Kerma were focused on the eastern necropolis, a site which has proved to be very important in the study of the ancient settlement. The discoveries made between 1997 and 1999 have thus enriched our understanding of the problems presented when the last report appeared in *Genava*¹. The main focus of our research remains the understanding of the Pre-Kerma settlement, where we continue with a strategy of extensive excavation. However, other centres of interest were progressively extended following the survey undertaken on the site of the ancient cemetery of the town of Kerma. The discovery of several neolithic occupation levels provided the opportunity to establish a chronological framework for these ancient periods, previously almost unknown in the territory of Nubia. Additionally, their state of preservation which was at times exceptional for this region, allowed for the first time a study of the spatial organisation of one of these settlements dating back to the fifth millennium BC. Finally, the unexpected discovery of a Pre-Kerma burial provides a new objective for future seasons of study. If this latter is not isolated and is, as we assume, part of a necropolis, the study of this funerary complex might prove to be of considerable interest in affording the opportunity to make a comparison between the information gained from the world of the dead and that from the excavation of the assumedly contemporary settlement.

THE LOCATION OF THE DISCOVERIES

The ancient necropolis of Kerma is found 5 kilometres to the east of the modern course of the Nile. It is situated on a slight elevation which rises about 2 meters above the surrounding plain. Thanks to the work of the mission of the University of Geneva, it has in large part been preserved from the destruction caused by the considerable expansion of cultivated areas during the last 30 years. During the neolithic and Pre-Kerma periods, the course of the Nile ran further to the east and must have passed close to the site of the necropolis², as is implied by the presence of numerous palaeochannels still visible today (fig. 1). It is possible that the site even formed an island surrounded by two branches of the river. In any case the site must have been particularly favourable for human settlement in view of the number of

phases of occupations discovered. The proximity to water and the fact that the site dominated its surroundings were no doubt crucial advantages at the time. The site was not however always safe from the Nile floods. Stratigraphic information has shown that the Neolithic occupation layers, which were generally water-washed, were often covered by deposits of alluvium brought by the river. One can imagine years of exceptional floods when the water covered right over this site which normally rose above the water. In contrast, in the Pre-Kerma period, there is no indication that the site had been flooded. It seems that the river had by then already moved somewhat to the west.

Despite the presence of several thousand burials from the Kerma civilisation, whose installation had seriously disturbed the earlier levels, the surveys revealed a series of sites, in different states of preservation, spread over the period between the fifth millennium and the beginning of the third millennium BC. No fewer than eleven sites yielding neolithic material were located on the site of the ancient cemetery itself or in its immediate surroundings. Sometimes they were located stratigraphically at a depth of up to a meter. But more often they were found on the surface in areas that were eroded, the later deposits having disappeared through wind erosion or destruction due to the expansion of the areas of cultivation. Some Pre-Kerma pottery also attested the presence of occupation of this period. Some pottery was found ten or so metres from the settlement during excavation, indicating the considerable extent of this habitation. Other pottery was found much further away, to the north of the necropolis and indicated the presence of an occupation earlier or later than the settlement.

THE NEOLITHIC OCCUPATION

The remains of these settlements are characterised by the presence of hearths accompanied by faunal remains and potsherds. The material is always to a greater or lesser extent encrusted with calcium, which shows a humid environment. The hearth structures are eroded and the occupation levels are always water-washed, a consequence of the floods responsible for the inundation of the site. Despite this partial destruction caused by the river, the state of preservation of these sites was exceptional in the context of

Period	Occupation	Dating evidence	Date
Kerma	Cemetery	Chronology based on c. 40 C14 dates and imported Egyptian ceramics	Between 1450 and 2450 BC
Pre-Kerma	Town	ETH-18829: 4365 ± 55 B.P. ETH-18828: 4400 ± 55 B.P.	c. 3000 BC
	Tomb	Grave goods characteristic of the late fourth/early third millennium BC	?
Neolithic	Settlement	Pottery with neolithic and Pre-Kerma characteristics	?
Neolithic	Settlement	B 6626: 5670 ± 30 B.P. CRG 770: 5670 ± 75 B.P.	c. 4500 BC
Neolithic	Settlement	ETH 14935: 5770 ± 65 B.P. ETH-18827: 5815 ± 60 B.P.	c. 4650 BC

2. The chronology of the occupations located at the site of the necropolis

Sudanese prehistory. Until the present time, the Neolithic sites excavated yielded material, often scattered on the surface, but almost never revealed structures still in situ, excepting hearths³. In this context, the perspectives offered by the discovery of these sites are of utmost interest. The study of the lithic and ceramic material, the radiocarbon dating of several hearth deposits, and the stratigraphic information all contribute to the construction of a chronological and cultural framework which serves as a reference for the region.

At this moment in time, we know that the site had been occupied during at least three distinct phases during the Neolithic period (fig. 2). Two are well-dated and are placed in the fifth millennium BC. They are found beneath the Pre-Kerma settlement and also on the surface to the south, at a place where erosion has caused the disappearance of almost 50 cm of alluvium. It is at this site that the excavations this winter revealed, in addition to the usual hearths, a series of postholes describing huts and short palisades (fig. 3 and 4). The stratigraphic information and the presence of a characteristic pottery make their attribution to the Neolithic certain. The huts, of which three were found, are of a diameter equivalent to those of the Pre-Kerma settlement. However, they do not have the same regularity and their shape more often approaches an oval than a perfect circle. Some test pits dug in the surroundings show that this occupation level could in future seasons be investigated over a large area. The third Neolithic occupation is less well preserved. The stylistic study indicates that it was probably a later habitation as the pot forms and their decoration already evoke characteristics frequently found on Pre-Kerma pottery.

All the sites discovered yielded faunal remains in small or large numbers. The first identifications showed the presence

of cattle and domestic ovicaprines (sheep or goat)⁴. To the north of the necropolis, an isolated hearth with pottery was accompanied by the remains of fish, notably *Siluridae*. These discoveries provide information on the way of life during the period. The populations must have practised fishing and animal husbandry, but for the moment we lack finds that allow us to know the role played by agriculture. Was there a complementarity between population groups, some practising animal husbandry with others concentrating more on agriculture? Or should we rather envisage a community with a mixed economy? These questions have implications for the type of habitations present at the necropolis. Are they seasonal settlements for fishing and animal husbandry, the site then abandoned in periods of high water? Or are they villages occupied throughout the year, situated close to cultivated fields? Further test digging and the excavation of more of the habitation site recently discovered should provide at least partial answers to these questions.

THE PRE-KERMA SETTLEMENT AND BURIAL

The opening of new areas in the middle of the settlement discovered more than ten years ago⁵ provides today a picture extending over almost a hectare (fig. 4). The known structures include 281 storage pits as well as many constructions indicated by postholes. These latter are from around 50 circular huts which must have served as houses and, in the case of the smaller ones, possibly grain stores. Two rectangular buildings, quite different from each other, were also identified; the larger building had been reconstructed three times on the same site⁶. These two buildings must have had a different use from the huts; this may have been related to the administrative or religious systems of the community. Numerous palisades were also erected

with wooden posts. Some of these seem to demarcate divisions of the interior habitation area, but the majority were situated on the periphery of buildings and could constitute an encircling fortification. The fact that through many rebuildings these palisades were arranged in parallel rows leads us to suppose that they fulfilled a defensive function. To the north-east of the excavation they formed vast oval structures 20 metres wide by 25 to 30 metres long. These could have been large bastions related to one of the entrances of the town, following a model known in the ancient city of Kerma⁷. However, the form of these structures also evokes a cattle enclosure. Cattle rearing without doubt played a central role in the Pre-Kerma and Kerma societies. Thus it is not possible to exclude this possibility and it is also possible that these palisades had at the same time played the role of both enclosure and fortification. Finally, at the south-west of the settlement, a fairly extensive area was distinguished from the surrounding land by the fact that it was heaped up with earth. It is still difficult to know if this was related to collapsed buildings or to a terracing whose function is as yet unknown.

Two radiocarbon dates were obtained from samples taken from storage pits (fig. 2). They placed the Pre-Kerma occupation around 3000 BC, which is five centuries earlier than the Kerma civilisation. It is not possible to determine the duration of the settlement on the basis of these two dates. However, recuttings and superimpositions of the structures, notable the huts and the pits, lead us to propose a period of two centuries at the most.

In general, the preservation of the Pre-Kerma occupation level was rather poor, although it varied according to particular location. In the south, the layer was completely eroded and the lower Neolithic levels were found at the surface. To the north, the remains were better preserved and it was possible to observe the succession of layers resulting from the destruction of the settlement. Microscopic analysis showed that the sediments covering the original surface were composed of the remains of collapsed cob walls⁸. The buildings and the palisades must thus have been constructed from a framework of wood covered in earth. The discovery of several fragments of wattle reinforces this hypothesis. In section, we observed just above this destruction level the clearly visible traces of ploughing. They may have resulted from the cultivation of this area following the abandonment of the settlement, but it is also possible that the area had been turned over thoroughly when the area was functioning as the necropolis of Kerma. The removal of soil to erect the tumuli, the digging of trenches for the bucharia placed in front of the tombs as well as the various activities related to the funeral ceremonies had probably considerably disturbed the underlying soil.

During the clearing of a new sector on the western edge of the excavations, a tomb appeared on the surface. Partially destroyed by the insertion of two Middle Kerma tombs, it contained the skeleton of an adult female in flexed position, lying on her right side with her head to the east. There were abundant grave goods accompanying the corpse: these included a quartz palette and a copper pin with a square cross section. These two objects are frequently found in A-Group tombs⁹, although they are unknown in those of the Kerma civilisation. They place this grave at about 3000 BC, that is during the Pre-Kerma period. It is not, however, possible to be certain that it is strictly contemporary with the settlement found just beside the tomb: it could be that it is of a slightly earlier or later date. A radiocarbon dating is being carried out which will clarify this question. The remaining grave goods associated with this tomb consisted of a copper awl still embedded in its wooden handle; fragments of malachite placed under the palette and two grinders placed just beside; a comb and a polishing stone; a carefully polished sandstone bowl and a mortar in elephant ivory.

This burial is unlikely to have been isolated and it is very probable that it was part of a cemetery. It remains to define the extent of the cemetery and to determine whether or not it was contemporary with the nearby settlement. It could seem surprising that this tomb was found at surface level while those of the Kerma civilisation were in pits that were sometimes over two metres deep. Were the Pre-Kerma burials placed on the ground surface or were they placed in a shallow pit and then covered with a mound¹⁰? The area slightly to the south heaped up with earth could possibly be related to this phenomenon.



The richness of the discoveries made in recent years raises numerous questions which direct our research to address new problems while still maintaining the programme of excavations already established. Extensive clearing of the Pre-Kerma settlement will be continued in order to establish its layout. Survey work indicates that the site extends over at least two hectares, but it could cover an even bigger area. The area cleared at present is far from sufficient to determine the complexity of the settlement and establish the extent to which it showed analogies with the ancient city of Kerma.

The construction of a chronology for the periods prior to the Kerma civilisation is another focus of research. Surveys and analyses will continue with the aim of filling in the numerous gaps in the sequence of occupation. We will look particularly at the first part of the third millennium BC,

which sees the transition from Pre-Kerma to the Kerma civilisation. One objective is to know precisely when the settlement was abandoned and to determine if it is possible that the occupation of the site of the ancient necropolis continued right up to the beginning of the Ancient Kerma period.

Finally, two new problems emerged with the discovery of the Neolithic occupation and the Pre-Kerma tomb. The exploitation of these unexpected remains will allow us to enrich our understanding of a Sudanese archaeology that was until now unknown.

Translated by Annie Grant

Notes:

- 1 M. HONEGGER, "Kerma: L'agglomération Pré-Kerma", *Genava*, n.s., vol. LV, 1997, pp. 113-188
- 2 See on this subject the study of B. MARCOLONGO, N. SURIAN, "Kerma: les sites archéologiques de Kerma et de Kadruka dans leur contexte géomorphologique", *Genava*, n.s., vol. XLV, 1997, pp. 199-123
- 3 For an indication of the problems of preservation of prehistoric sites, cf. J. REINOLD, "Conservation et préservation des sites archéologiques", in *Actes du VII^e congrès international d'études nubiennes* (Genève, 3-8 September 1990), 1992, vol. 1, pp. 187-192
- 4 Study in progress, Louis Chaix
- 5 The first discoveries are related in Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes 1986-1987 et de 1987-1988", *Genava*, n.s., vol. XXXVI, 1988, pp. 5-20
- 6 The reconstruction of two other rectangular structure was proposed the last report (HONEGGER, *op. cit.*, note 1). Their existence is, however, now in question, as some of their walls consisted of alignments of posts of the Middle Kerma period, situated to the north of some tombs.
- 7 For a description of these structures found in the town of Kerma, cf. Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1991-1992 et de 1992-1993", *Genava*, n.s., vol. XLI, 1993, pp. 1-18; ID., "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1995-1996 et de 1996-1997", *Genava*, n.s., vol. XLV, 1997, pp. 97-112
- 8 M. GUÉLAT, "Analyse micromorphologique de deux échantillons (fouilles 1996-97), Rapport préliminaire", September 1998 (unpublished)
- 9 H. A. NORDSTRÖM, "Neolithic and A-Group sites", *The Scandinavian joint expedition to Sudanese Nubia*: 3:1, Uppsala, 1972; B. B. WILLIAMS, "The A-Group royal cemetery at Qustul: cemetery L", *The University of Chicago Oriental Institute Nubian Expedition*; 3:1, Chicago, 1986
- 10 An analogous situation seems to exist in the Neolithic cemeteries of Kadruka, situated 20 kilometres to the south of Kerma, cf. J. REINOLD, communication to *Table ronde sur les synchronies en Egypte et au Soudan*, Institut de Papyrologie et d'Égyptologie de l'Université de Lille, 31 October 1998.

KERMA: THE INSCRIPTIONS

By Dominique Valbelle

The 1997-98 and 1998-99 seasons brought a promising harvest of epigraphic and iconographic information. A fragment of an Egyptian statue of the Middle Kingdom was found in the Classic Kerma necropolis, near tumulus K X, but it was primarily the Meroitic temple of Doukki Gel that provided the main contributions. These were divided between a new collection of fragmentary Egyptian statues of the Middle Kingdom and architectural elements from the temple that is under excavation. It is still too soon to provide a complete assessment of this material, but some groups have already emerged at this stage of the excavations.

THE MIDDLE KINGDOM STATUES

The most ancient monuments found on the site of the Meroitic temple are some fragmentary statues from the Middle Kingdom. They belong to the same categories as those found by G.A. Reisner in the eastern Deffufa and more particularly in the Classic Kerma necropolis¹ where a new fragment was recovered from the surface close to K X in 1998. The five fragments found at Doukki Gel belong to private statues. Two of them are seated, and a third is in the position of a scribe. They were buried close to each other in the vestibule and the hypostyle chamber, and their location can be compared with that of other monuments from the Middle Kingdom found in various Napatan and Meroitic temples in Nubia - Semna², Tabo³, Kawa⁴, and Gebel Barkal⁵. However, each example needs to be examined separately, as each of these sites has a specific history.

These and the other Kerma statues are from monuments made in Egypt for Egyptians. There is no indication in the surviving inscriptions that they were intended for any Nubian sanctuary. Thus one of the statues (fig. 1 and 2) represents the 'director of sealed things, director of the administrative district, Ren[|]seneb'. These two titles were current in Egypt during the Middle Kingdom⁶. However the first of these - *imy-r hmt*⁷ - is found on another Kerma statue, that of the Nomarch Ameny⁸ and on the stela of Antef⁹ which dates to the 33rd year of Amenemhat III; the title is frequently held by the men sent by the king on missions to the border regions and beyond¹⁰. They may thus have been brought to Kerma by these men during official missions, and then ultimately reused in various parts of the site.

The presence of these statues in a Meroitic temple at Kerma implies several comments. The abundant Middle Kingdom Egyptian statues at Kerma, whatever the circumstances and the date of their arrival, constitutes a cult material that was reused as much in the Classic Kerma periods as in the Napatan and Meroitic periods. At the current stage of excavations it is not possible to link these Middle Kingdom statues with one archaeological level rather than another. They were found in disturbed layers that might belong either to the basement of the last temple or to the rubble of its abandonment; thus they might have been buried as sacred objects after use, as at Semna, or have been erected in the rooms of the temple, as at Tabo. Nor do we yet know the date of the earliest building at the site of Doukki Gel.

THE ARCHITECTURAL ELEMENTS

Amongst the many blocks and fragments of blocks found up till now in the excavated part of the Meroitic temple, several distinct groups can be more or less precisely identified at present. They each correspond to one or several monuments constructed, either successively on the temple site itself, or in its immediate surroundings. At the time of their discovery some were scattered in the rubble, some were reused in the walls of the Napatan temple, and some formed the paving of the third room.

The New Kingdom elements

The oldest re-used blocks are attributable, by their decoration, to the New Kingdom. Some might date to the beginning of the XVIIIth Dynasty. However, the most remarkable group is incontestably 'Amarnian'. They display the usual measurements of the talatat¹¹. They were all reused in the paving. The most characteristic signs found on these blocks are:

- sunrays figures terminated by hands that descend towards the faces of the royal family or altars heaped with offerings on which were set oil lamps (fig. 3);
- cartouches of kings and of Aton;
- exaggerated silhouettes, enveloped in transparent linen.

Some inscriptions and decorative elements that were less distinctive might date to a different period within the New Kingdom.

The Napatan elements

It is not always easy to distinguish the decorative fragments from Middle Kingdom monuments, especially the Ramessid monuments, from some of the decorative fragments carefully executed during the XXVth Dynasty. However, some elements re-used in the stonework of the Napatan temple had certainly been worked during one of the reigns of the Kush dynasty. One of the elements discovered this year bore an incomplete cartouche beginning with the signs š3 h3 (fig. 4) which could record the name of the king Shabaka or that of his successor Shabataqa.

Another block preserved the upper part of two cartouches containing epithets particularly common in the Third Intermediate Period: *stp.n jmn* and *[mry] jmn*. However, several palaeographic characteristics were also reminiscent of the Napatan period. These epithets were very adaptable in the royal protocol according to the cult places where they were engraved; it is difficult to attribute them to a particular sovereign in the absence of one of the latter's names. Since this block had been re-used in the Napatan temple, it must have been sculpted at the very latest during one of the first reigns of this period.

Meroitic decorative elements

The Meroitic temple was mainly built from mud brick and red brick. However, cursive graffiti and some decorative elements provided evidence for this last stage in the reconstruction of the sanctuary. The most significant was without doubt a fragment of a sandstone plaque from a naos or a stele, representing a king offering to the ram-headed god Amon a cartouche in which the outline of the goddess Maât can be made out, which could correspond to *nb-m3^c1-r^c*, the name born by Amanitenmomide and Amanishataqermo (?)¹². The king is on his knees on a kind of platform while the god is squatting on a lotus, carrying a crook.

The god of the temple

Although it is too early to draw detailed conclusions from these first epigraphic elements, taking into account their richness, their state of preservation and their proximity to other temples, many observations clearly point to the god which is the master of the site. It is difficult to be definite before the Amarnian period: two very fine tall plumes preserved on a block that might have been sculpted earlier

could as likely be part the coiffure of a queen as that of a god. The faces and cartouches of the Amarnian blocks had been systematically hammered.

Several datable inscriptions, some from the New Kingdom and others from the Napatan period, revealed that the patron of the sanctuary from which they came was no other than Amon. Although their original location cannot be certain as the majority were re-used, they provide a coherent documentation that confirms the small Meroitic fragment. Amon is evidently not the only divinity represented on the walls of the temple: a hawk-headed god, a Nubian Horus, is also present in several places.

Despite their fragmentary state, these epigraphic and iconographic documents will, once they have all been recovered, provide an extremely valuable collection of information on the history of the site during a period, particularly the New Kingdom and perhaps the Third Intermediate Period, that remains relatively unknown throughout this region of Nubia, and for which there is also little indication on the corresponding Egyptian politics.

Translated by Annie Grant

Notes:

- 1 D. VALBELLE, "The cultural significance of iconographic and epigraphic data found in the Kingdom of Kerma", *Ninth International Conference of Nubian Studies*, Boston, August 1998
- 2 PM VII, p. 149 and J. VERCOUTTER, *RdE* 27, p. 225-228
- 3 PM VII, p. 180
- 4 PM VII, p. 184
- 5 PM VII, p. 216
- 6 W.A. WARD, *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom*, Beirut, 1982, no. 364 (read *jmy-r sq3w.t*) and no. 411 (*jmy-r gs-pr*), p. 52
- 7 P. VERNUS, "Observations sur le titre *jmy-r3 hmt* 'directeur du Trésor'", in S. ALLAM (ed.), *Grund und Boden in Alt-ägypten*, Tübingen, p. 251-260
- 8 Boston MFA 14, 725; G.A. REISNER, *HAS* VI, fig. 344, p. 525
- 9 G.A. REISNER, *HAS* V, p. 126-127 and 132-134; *HAS* VI, p. 511-512
- 10 D. VALBELLE and C. BONNET, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Paris, 1996, p. 18-19; M. ABD EL-MAKSOUË, *Tell Heboua (1981-1991)*, Paris, 1998, p. 271
- 11 R. VERNIEUX and M. GONDRAN, *Aménophis IV et les pierres du soleil*, Paris, 1997, p. 37-41
- 12 J. VON BECKERATH, *Handbuch der ägyptischen Königsnamen*, *MÄS* 20, 1984, p. 313-314

ARCHAEOLOGICAL EXCAVATIONS AT KERMA (SUDAN): PRELIMINARY REPORT ON THE 1997-1998 AND 1998-1999 CAMPAIGNS

By Charles Bonnet

With a history of nearly 25 years at the site of Kerma, the University of Geneva Mission to Nubia was once again able, thanks to the support of both the authorities and the local population, to undertake two new seasons of excavations. Particular attention was given to restoration work to preserve the remains already uncovered. This development of the site, together with the appearance of a work in Arabic on our recent investigations led, a group of government officials to decide to create at the site a museum and a study centre to promote the Kerma civilisation. Thus, on 10 May 1998, the first foundation stone was laid with the patronage of three ministers, most particularly his Excellence Mohamed Taher Eila and his assistant, M. Sir El-Khatim Mohamed Fadel.

As in the previous years, we were supported by grants from the Swiss National Fund for Scientific Research and the Museum of Art and History. The Mayor and the Municipal Council of Satigny also contributed to financing the excavations through the award of a 'prize for merit'. These various grants, which also included a private donation, are essential and we should like to thank each of these authorities for their generosity and loyalty. I am also grateful to Professor Michel Valloggia, President of the Excavations Commission of the University of Geneva, for the interest that he has shown in this work, and also to Mme Danielle Buysens, the editor of the journal *Genava*.

The excavations took place from 7 December 1997 to 6 February 1998 and from 1 December 1998 to 6 February 1999. The Rais Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nouri and Idriss Osman Idriss ably directed 150 workmen on five different sites. Our task was considerably helped by the support of the Director General of the Antiquities Service, M. Hassan Hussein Idriss and the Director of Museums, M. Siddig Gasm El-Sid. Both the assistant inspector, M. Salah el-Din Mohamed Ahmed, Director of Sudanese Archaeological Excavations, and his replacement for 15 days M. Ali El-Mirghani, devoted themselves with enthusiasm to the research.

The discovery of three Neolithic horizons beneath the layers of the **pre-Kerma settlement** is particularly interesting and is discussed by Matthieu Honegger below. In the **ancient town**, the discovery of the remains of a line of forti-

fications dated to the Middle Kerma period (2050-1750 BC) has considerably enriched our analysis of the development of the town; in some sectors our excavation techniques were modified in order to investigate these ancient layers and to reconstruct the defensive system (fig. 1). In the middle of the **eastern necropolis** some large royal tombs, also dated to the Middle Kerma period, were excavated and we opened a new area (CE 27) in the most ancient zone of the cemetery (c. 2400-2300 BC). As a part of our study of the religious buildings of the cemetery, the funerary chamber of tumulus K III was also cleared. At **Doukki Gel**, some extremely interesting discoveries were made at the site of two superimposed temples of the Napatan and Meroitic periods; their masonry included very many decorated and inscribed stones. Finally, our restoration programme continued at the western Deffufa and it now has a staircase allowing safe access to the upper terrace.

It goes without saying that the good progress made at each of the sites was entirely due to the skill and alertness of the members of the Mission. I should like to record here my very considerable gratitude. Mme Beatrice Privati was able to propose a new ceramic chronology that forms the basis of the dating of the Kerma cultures. Martin Honegger took complete responsibility for the investigation of the pre-Kerma and Neolithic sites. In the ancient town, Thomas Kohler took charge of the supervision of the restoration work while Pascale Kohler-Rummler was responsible for the photographic record. In addition to her work in connection with the restoration of the archaeological finds, Marion Berti drew the funerary chamber of K III, the Ancient and Middle period tombs and several objects. Salah el-Din Mohamed Ahmed worked at the site of Doukki Gel. Louis Chaix and Christian Simon continued their analysis of the animal and human remains, offering further thoughts that provided sometimes unexpected insights into some of our problems. Alfred Hidber, Marc Bundi, Françoise Plojoux and Anne Smits contributed to the excavations of the town or the necropolis, and Nicola Surian undertook the geomorphological study of the Kerma basin. Finally, we should like to thank both Dominique Valbelle, the Mission's epigraphist, whose contribution to the study of the relationship between Egypt and Kerma during the historical periods is essential to our work, and Nora Ferrero for her work on the documentation and her careful editing.

Several members of the Mission presented papers on the subject of the pre-Kerma period, the Kerma pottery, administration and trade and the inscriptions and their significance for the Nubian cultures, on the occasion of the International Conference on Nubian Studies held in Boston in August 1998. The publication of several articles will inform both specialists and a less well-informed public of our aims and the progress of our research¹.

THE NEOLITHIC AND PRE-KERMA SETTLEMENTS

Further excavation within the pre-Kerma settlement confirmed the importance of these deposits and also revealed traces of earlier occupation, belonging to several Neolithic phases. We added to the stratigraphic information, both horizontal and vertical, and consistent dates were obtained by means of C14 analysis². The discovery of postholes belonging to a palisade or a round house were exceptional finds in a 5th millennium context. A number of hearths were found close to structures. Archaeological material is scarce in these layers which had been washed by inundations from the Nile and was confined to potsherds and animal bones.

The plan of the pre-Kerma settlement shows a striking picture of the fortification system of double or triple enclosures. Study of the sediments showed the presence of daub walls, doubtless supported on interlacing branches. New storage pits were located and, taking account of the areas where Middle Kerma tombs had been dug, we estimate that there were around 500 of these. The first pre-Kerma tomb was found in the last season, and contained a remarkable collection of material, including an ivory vessel, a palette, a mortar, pottery roulettes and bronze points.

THE ANCIENT TOWN

An important discovery relating to the urbanisation of the ancient town revealed several phases of development that surface cleanings had left generally inaccessible; our initial decision had been to undertake large-scale horizontal excavations in order to gain rapidly an overall picture of the town and its organisation. Thus the Ancient and Middle Kerma layers had remained virtually unknown, as to excavate them would have required the destruction of later foundations or a proliferation of test pits within these complex buildings. However, by chance, we found that in the south-eastern quarter, part of the Middle Kerma defensive system had been maintained into later periods, and this allowed us to study in detail sections of bastioned walls from this period, and two gateways. The eastern façade

seems likely to have formed part of a rectangular enclosure around 200 metres long by 120 metres wide. In contrast, the western façade had been continuously modified, probably because large residential buildings and the main river-side gates were built on this side. It was thus difficult to reconstruct the plan here (fig. 2).

The Middle Kerma construction techniques were shown to be very different from those of the Classic Kerma period and we had to develop a new approach to their study. These bastioned walls were essentially built of 'galous' or 'tof'³ and not of mud brick. These lumps of mud, of variable shape and thickness, could be used in different ways, in rectilinear or curvilinear foundations or simply through successive additions until a large wall had been achieved. When the mud lumps were very large, a silt mortar was used for better cohesion. Although it was easy to distinguish the consistency and yellow colour of this material, the limits of these structures were very difficult to determine as they did not have a clearly defined shape. On the other hand, the use of 'galous' necessitated the construction of more elaborate foundations to prevent the walls sliding. Mud brick was used in some structures to consolidate an edge, or define the centre line or some architectural detail. In the same way wood, either in the form of posts or planks built into the wall, formed part of the walls. Restorations using posts, like the exterior palisades, showed that there was a mixed architectural form whose details remain to be analysed (fig. 3).

We determined the position of several fortified sections thanks to circular structures that served as the bases of bastions of variable proportions. The majority of these structures were built in pits which reached up to 4 metres in diameter with a depth of 0.50 to 1 metre. The cavity was filled up with silt, strongly compacted and washed, then covered with a circular foundation entirely made from 'galous', around which a solid mass of earth formed a large plinth. It was on these that the semi-circular or bi-convex walls of the bastions were finally built. The reserves of silt that formed part of these structures had not escaped the *sebbakhins* and a number of them had been dug out. It was while recovering the damaged pieces that we gradually found and were able to reconstruct several parts of the east and west of the southern fortifications, which provide the first image of the town which was contemporary with the Egyptian Middle Kingdom (fig. 4).

Several entrances were also located in parts of the enclosure, confirming the line of the bastions and giving us useful information on the roadways. These entrances were usually formed from two elongated walls, from 8 to 20 metres long and 1.50 to 6 metres wide. The passageway measured between 1 and 1.50 metres and was thus rela-

tively narrow. Behind the walls, it was possible in some cases to see the remains of a room which must have been used for the guards; some of the soldiers were probably stationed on top of the walls.

These preliminary observations show the complexity of the problems that such a study brings, for this type of construction, the origin of many architectural forms in Africa, requires much more analysis. If the regular restorations, such as those using mud or wooden posts in order to strengthen the structures or to adapt them to new demands for defensive arrangements, are taken into account one can better understand the limits of our approach.

We have already commented on the discovery, between the houses M 115 and M 46, of an eastern gate, characterised by a large bastion that was enlarged several times and surmounted by a rectangular tower. On the other side a second tower was discovered, which could be slightly older in date. The road, after turning in the direction of the great roundhouse, ended at one of the main gates of the Middle Kerma town, defended by an amazing chicane of wood and, possibly, 'galous' (fig. 5). In removing the upper layers, traces of various constructions were found, very often modified and difficult to interpret. They consisted mainly of postholes of different types and period. A large number of cattle and small livestock hoof prints suggested proximity to an animal enclosure. The traces pointed towards the exterior in the direction of a small narrow opening in the northern wall of the gate.

These successive phases were also found in the gate near the south-eastern corner of the eastern side. Its two narrow elongated walls were modified for the first time in the Middle Kerma period, and then again in later periods. In front of this entrance there was a tower from which to watch the comings and goings along a narrow road bounded by walls. Behind rose an enormous set of fortifications faced with fired brick masonry and edged with a ditch. In its final state, a buttressed wall formed additional fortified tenaille that protected the traffic in the area of the urban centre (fig. 6).

Surface excavation of the area a little to the north, near houses M 166 and M 167, revealed that another Middle Kerma gate defined the sector and the main street. This latter continued along the same axis to a control post established in the Classic Kerma period. A vast area seems to have been used for administrative activities, attested by the discovery amongst the rubble layers of many Middle Kingdom and Classic Kerma seal imprints⁴. In the north of this sector was a large building which must have been used for the storage of valuable goods. Houses M 166 and M 167,

like those near the other entrances to the town, perhaps belonged to one or another of the dignitaries in charge of surveillance and the organisation of the movement of merchandise (fig. 7, 8).

In the north-west of the religious quarter, vast potters workshops had destroyed the majority of the remains and in those layers studied it was not possible to trace the Middle Kerma enclosure. Accumulations of ashes, often bearing the impressions of vessels fired at low temperatures, occupied a large area and had certainly accelerated the process of wind erosion. However, on the western side we found roadways that had developed alongside the Middle Kerma fortifications. These new plots created around the town as it expanded were also fortified; thus a network of bastioned walls was established beside the ditch that defended the eastern entrance already discussed (fig. 9). House M 181, a fine construction of the late Middle Kerma and Classic Kerma periods, can also be associated with a dignitary of the kingdom. Its classic plan consisted of a large courtyard opening on either side onto elongated buildings. Its enclosure wall was set at an angle with successive offsets of segments from 2 to 3 metres long. Houses M 179 and 180 were furnished with interior courtyards and spacious rooms; to the south there was usually a garden or an area for kitchens and silos.

THE SECONDARY SETTLEMENT

The research carried out in the religious complex, which was probably devoted to the funerary cult of royalty or persons of importance, was focused on the completion of the stratigraphic analysis. The overall plan of the settlement, which was at first rectangular, had developed in the same way as the main settlement. The defensive system, with its scaled-down bastions was augmented by other constructions whose circular foundations were located all along the edges of the settlement (fig. 10).

THE EASTERN NECROPOLIS

New excavations were undertaken in the eastern necropolis in order to continue the study of the complex topo-chronology of the inhumation. Although the important tombs were laid out on a north-west/south-east axis, and then in the Classic Kerma period on a south-west axis, a series of tombs had collected near to them, and, according to the space available, gradually formed a group of their own. In order to clarify this trend and better understand the funerary rituals, two areas were cleared, one in the Ancient Kerma sector (CE 27) and the other in the Middle Kerma

sector (CE 25). It should be noted that the acronym CE 26 now replaces CE 14b, which is attributed to a zone outside the necropolis, situated to the extreme north (fig. 11).

Our aim was to test the pottery classification proposed by Mme B. Privati for the earliest phase of Ancient Kerma, and to verify the homogeneity of the material and the funerary customs of this part of the cemetery. Thus we investigated a long strip of land linking sectors CE 1 and CE 2. When we first worked in this area, almost 20 years ago, the superstructures of the tombs were still very well preserved and it was easy to distinguish between those made from concentric circles of black stones and those constructed from dressed stele surrounding the pits⁵. Today, alas, all surface remains have been completely flattened by motor vehicles. We were thus able to clear the area until the burial pits or other negative features appeared. The first surprise was the discovery of a hearth which contained Neolithic sherds and lithic material; the main contemporary deposits were several hundred metres away.

Twenty seven tombs were excavated in this new sector **CE 27**. To the east of small oval graves, upturned bowls from funerary ceremonies were sometimes preserved in fragments; their numbers varied between two and six. Some of the bowls had slipped into the fill of the ditch, probably as a result of the excavations of tomb robbers, and were well-preserved. Very many of these tombs had originally been marked out by a circle of seven stele, held in place with silt and a pile of white quartz pebbles. In one case, a deposit was laid to the north of a grave (**t 281**) in a narrow and shallow cavity; it consisted of a calcite bracelet and three flint blades that still bore the traces of the adhesive used to fix them to handles. There were four large postholes from a small building, 2.30 metres by 2.60 metres, related to one or other of the neighbouring tombs (**t 273, t 278, t 279, t 280**). The ends of the two northern posts had been burnt in order to make them more resistant to termite attack or damp. If this building was a funerary chapel, then it would be the oldest religious building found at Kerma⁶ (fig. 12).

This series of tombs was relatively homogeneous. The dead were in a contracted position, more rarely flexed, and were placed in narrow graves (between 1.20 - 1.50 metres and 1.60 - 1.70 metres); some were wrapped in a finely tanned sheep skin. Leather covers, laid in the grave or spread over the corpse, are frequently found in later tombs but have only been found from this period on four occasions. The corpses were clothed in a loincloth; two wore leather nets on their heads. Very rarely, they wore a pair of sandals. These inhumations yielded very few grave goods, but the beautiful stone bracelet showed that objects of quality existed. One tomb (**t 267**) contained two corpses. One was

a robust male of 45 years, lying in contracted position on his right side, his head to the east and his hands in front of his face. The other, also male, was 15 years old; his unusual position - head to the north, legs bent and arms around the head of the first skeleton - seems to suggest that he had been sacrificed. The dimensions of this double grave (2.14 metres by 1.38 metres) indicate the beginning of a hierarchisation within this modest cemetery. From this perspective it is interesting to note that several of the burials that surrounded this tomb were those of relatively elderly women, between 50 and 60 years old (**t 266, t 268, t 269, t 270**). We plan to extend the excavation of this burial area, as we have not yet found all the criteria required for classification and further analysis is necessary (fig. 13, 14, 15).

We now have much better knowledge of the middle part of the necropolis, occupied in the Middle Kerma period as the work undertaken to reveal the pre-Kerma remains considerably enlarged sector CE 12 in the direction of sector CE 11; a vast area could thus be studied. Three royal tumuli, measuring nearly 20 to 30 metres in diameter, situated on the west side, at the edge of sector **C 25** had for a long time attracted our attention. These graves seem, in the current state of our knowledge, to be from the Middle Kerma I period, that is around 2000 BC. The kingdom at this period was enjoying a period of prosperity and the trade with Egypt, if one can judge from the fragments of imported pottery, was developing. Despite the certain robbing of these royal tombs, we decided to excavate at least one in order to study some of the structural details; eight other neighbouring burials were also investigated in this sector (**t 238 to t 245**) (fig. 16, 17).

The excavation of the royal tomb (**t 253**) took place over two seasons, not surprisingly given the extraordinary size of the grave: 11.70 meters in diameter with a depth of over 2 metres! It was under a mound of silt, 25 metres in diameter, covered in several rows of small black stones of ferruginous sandstone. The burial chamber had been almost completely emptied but the position of the bones of three individuals indicated that they were not far from their original positions. The principal burial was an adult male; he was accompanied by a woman of between 20 and 25 years whose remains were to the west, and by an adolescent of 15 years placed to the north of the funerary bed. The reconstructed dimensions of the bed were around 2 metres long by 1.30 metres wide. The feet of the bed had square sections with sides of 0.10 metres; the wood was still visible, but reduced to a powder. It was thus a piece of furniture of very good dimensions, embellished, as is often the case, with a decoration of bone plaques engraved with eye motifs. On the perimeter, the cavity bore traces of posts from a small structure in square wood 2.64 - 2.74 metres by 3.04 - 3.28 metres. The posts had 8 to 10 cm sides. This

would seem to be a kind of dais, which could only have been used for a very short period during funerals.

Without doubt, this royal tomb once contained very abundant and rich grave goods, of which the only remains were hundreds of potsherds from the usual Middle Kerma vessels and Egyptian-made jars. There were also many animal bones (from 22 sheep, 2 goats and 2 dogs). There was a circular stone of yellow sandstone and two fired clay offering tables with four compartments, one of which contained many small animals (birds?) schematically modelled. These three objects must originally have been placed flat on the top of the tumulus.

The most spectacular element of this tomb remains, however, the deposition to the south of the mound of several thousand bucrania forming an enormous crescent. Some of them had deformed horns, curving forwards, and others bore traces of red ochre on their frontals or their horns. The metrical analysis of this exceptional assemblage will be undertaken by Louis Chaix in future years.

As for the other, also very disturbed, tombs in this sector, they also yielded a very comparable material, with large storage jars, the very characteristic red bowls with black borders and imported ceramics. Sheep and goats were placed beside the corpse, which was often lying on a bed. Human sacrifices are also indicated by many double inhumations. Finally, we should note that to the south of tumulus 238, there were 378 bucrania, many of which also had deformed horns.

THE FUNERAL CHAMBER OF TUMULUS K III

The large 90 meter diameter tumulus excavated by G. Reisner⁷ in the 1920s can be associated with the eastern Deffufa, the funerary temple, known as K II, which is situated in the centre of the southern extremity of the cemetery. To coincide with the publication of a book on the religious buildings of the cemetery, it seemed appropriate to clear again the royal funerary chamber and to study the preserved masonry in order to verify some of our hypotheses and better understand the movements between the cult building and the tomb. Thus the end of the sacrificial corridor which gave access to the chamber was also cleaned and redrawn. Two large fragments of a statue of a crocodile shaped in quartz and then glazed were discovered there; this sculpture perhaps marked the entrance to the corridor, in which over a hundred human sacrifices were placed.

The funerary vault was constructed in two stages. The vault having no doubt shown signs of weakness, low support

walls were added along the side walls. The bands of yellow painted on plaster (0.40 m high) which decorated the walls had had to be repainted onto the retaining walls. In one of these two parts of a stele were reused. The construction of the vault had no doubt been undertaken during the lifetime of the king, as these restorations must have been carried out before the tomb was closed (fig. 18).

THE SITE OF DOUKKI GEL

The excavation of the **Classic Meroitic temple**, which was undertaken during both the last two seasons, is still far from complete, as the monument extends to at least 55 meters in length. The southern extremity can be found under 'kôm des bodegas', the extraordinary mound, over 5 metres high, of offertory bread moulds, the origin of the reputation of this site. Unfortunately, this sector has been considerably exploited by the *sebbakhins* to fertilise their fields, and the archaeological layers have been destroyed to quite a depth (fig. 19).

The entrance pylon, 25 metres wide, was completely excavated; it was constructed from a core of mud brick faced with fired bricks. On the external face, a wall formed an extra thickness to each of the two piers, perhaps completed by framework of stone masonry. In front of the gateway, very many fragments of a coating painted 'a fresco' together with several reliefs sculpted in sandstone were found in the destruction layers. One can only regret that the decoration was so poorly preserved, for those pieces of a reasonable size attested to an interesting iconography (figures bigger than natural size, with bodied painted in red ochre, elements of friezes, prophylactic signs etc.). Innumerable fragments, scattered throughout the temple, were covered with a yellow coating, a coating that was also found on fired bricks or blocks of stone to emphasis certain architectural elements (fig. 20).

Square foundations allows us to locate the position of the 14 columns that supported the roof of the courtyard peristyle. Several large fragments of sandstone bases were lying here and there, their impressions still visible on the foundations. They perhaps first supported an almost square hypostyle room (12 metres by 11 meters), but had then been thoroughly robbed and there were only a few bricks from the foundations and fragments of column shafts of sandstone painted in yellow. We were less well informed about the following rooms as their walls had been dismantled; however, the presence of a base of grey granite from an alter or *naos*, and the situation of a more ancient chapel, set perpendicularly to the temple on the western side, allowed us to put forward certain hypotheses.

In the temple B 500 of Gebel Barkal, at the back of the hypostyle room, there was a sort of vestibule, which had a plinth of granitic stone, in this case to the name of Taharka, while to the west was a chapel, also placed at a perpendicular axis to the temple. The chapel is attributed to the reign of Rameses II. At Kerma, the stone chapel is dug into the ground at a clearly lower level than that of the Meroitic temple; however, restoration in fired brick proved that the chapel was still being used into the Meroitic period, a period in which it was no doubt reconstructed, as its pillars and the thickness of the walls were modified. The plan of temple B 500 suggests that the sanctuary of our Meroitic temple could well be found beyond the *naos*, but this is yet to be verified.

The dating of the temple remains difficult, as does its attribution to a precise reign. The considerable use of fired brick, the technique of decoration together with the ceramics, place it in the 1st century BC. A supplementary clue is given by a beautiful fragment of a sculpted sandstone plaque, representing a kneeling king, offering his cartouche to the ram-headed god Amon. This relief, found in the vestibule, seems to belong to a small chapel or a stele, and confirms an occupation during the classic period. We should also note the base of a sandstone statuette of an extended figure, whose hands are placed on the sheath of his sword, and which also dates to the same Meroitic period.

Under the destruction levels an **earlier temple** was discovered, characterised by an very elongated plan. The architects of the classic period seem to have taken advantage of this building as the ancient walls of mud bricks had been cut into at the time of the new construction. It is possible that part of these ancient buildings had been maintained during the work as the walls of the Meroitic temple were arranged around the body of the earlier building, preserving some of the facades. This latter was very well constructed with a mixed architecture of mud brick for the walls and stone for the doors or the pillars. It was built against the much earlier stone chapel.

The pylon was elongated (19 metres) and not very thick (1.9 metres). Here we see one of the characteristics of the mud brick cult buildings such as the temple of Kawa known as the 'eastern palace'¹⁸. The threshold of the double door was made from large reused blocks behind which were the two granite bearings for the pivots; on the western side, a sheet of folded bronze eased the movement of the door pivot. One then entered into a small square room with four columns; two circular bases were still *in situ*, but they had been restored many times. The one on the western side had been surrounded by a circle of reused stones, while on the eastern side the stones were arranged in a square. The

architect's marking out lines engraved on the surfaces of the bases did not correspond to the orientation of the building, indicating that the bases were not in their original positions. The only remains of the other pillars were a small amount of sand from the foundations and a few water worn traces of the settings.

The next two rooms were wider than they were deep. Only the door of the first was preserved under the foundations of Meroitic fired brick. The second was however located by the base of one of its uprights. It was the negative of the first construction course which indicated a partition, almost in the continuation of the side wall of the perpendicular chapel.

Along the western side walls of the ancient temple, other walls showed a connection with an important building belonging to a vast religious complex which stretched in this direction, but, in the present state of our research this remains in practice *terra incognita*. A door led from the second room of the temple to this other building, whose walls had been repaired in the Meroitic period with fired bricks. Between this and the chapel the remains of a small courtyard and a vestibule were again found. Several ovens of a domestic type were found here, and animal bones and numerous moulds showed that they had been used for cooking food and bread offerings. Two of these ovens seem to have been reserved for the smelting of bronze; on the base, in burnt silt, a rounded conduit was preserved surrounding a central darkened area on which could be distinguished traces of ore and smoke. In the fill fragments, a straight nozzle and a sort of joint in fired clay were found. Finally a fragment of crucible still containing metal had been abandoned in the same place (fig. 21).

This workshop is perhaps associated with the manufacture of small objects, the statuettes of Osiris found in quantity in the temple, the heads of rams with sun discs and even pins with decorated shaft, of which many moulds were found. The presence of this workshop in the religious quarter, under the protection of the *temenos*, is not surprising as we have already found the chamber of a kiln used to make much more ancient objects in bronze at the foot of the Deffufa¹⁹, and we were astonished by the restricted space afforded. The relationship between the chapel and the workshop remains to be analysed.

In the vestibule, close to the granite plinth, the rather unhomogeneous rubble layers yielded several fragments of Middle Kingdom Egyptian statues. These monuments, of which there were five, must have been erected in the sanctuary. A large area still needs to be excavated at this location and we shall then probably be able to complete this inven-

tory. Other deeper and more ancient layers exist but these are poorly preserved and require particularly meticulous excavation. An occupation in the New Kingdom is shown by the ceramic material, amongst which is a high proportion of bread moulds. Thus bakeries were built in this period of colonisation to supply the sanctuaries, and no doubt also breweries, if we can judge by certain characteristic vessels.

One of the most surprising aspects of our two campaigns is certainly the iconographic and epigraphic contribution provided by 120 decorated and inscribed blocks found in the foundations of these two temples. They were from several periods and confirmed the richness of this site. In the central aisle of the ancient temple, trenches dug to exploit the alluvium had disturbed a pavement of reused blocks which had remained more or less in place. This collection demonstrated the diversity of the monuments, and the diversity of the worked sandstone.

Mme D. Valbelle's report below on the first analysis of this material shows several phases of construction, both during the 25th Dynasty and at the end of the New Kingdom, a period for which there are many problems of interpretation in the Nubian regions. The remains dated to the 7th or early 6th century BC show that our first temple must be from a later period as these stones are reused in the foundations. This first temple is thus Napatan and may have been occupied until the 1st century BC, as there is an inscription in Meroitic cursive script engraved on the eastern door post of the entrance.

The reused stones also provided much additional information. They seem to reinforce the idea that there was a fairly systematic occupation of the territory by the Egyptians, who, despite numerous uprisings, progressively took control of the country. Certainly from the arrival of Thutmosis II's troops one can be sure that there was frequent traffic along the Nile or more directly towards Kurgus through the eastern desert. But even if the Nubian princes were partially Egyptianised, they retained a certain autonomy. Thutmosis II and particularly Thutmosis III established a cult to Amon at Gebel Barkal, which became a centre of great importance. The appearance of grandiose monuments under the reign of Amenophis III, at Soleb and Sedeinga, belong to a new stage of construction which continued during the reign of Amenophis IV.

We note thus the interest of a fragmentary scene showing the king standing beneath the sun's rays, which terminate in hands. This representation, which is certainly Amarnan, attests the presence of buildings of the 18th Dynasty. Several foundations from Amenophis IV, the heretic king

Ahkenaton, exist in the neighbourhood of Kerma, such as at Sesebi¹⁰, Tabo¹¹ or, with the ancient name of *Gematon*, at Kawa¹². It is thus not surprising to find at least one or more cult buildings from this period at the site of Doukki Gel.

RESTORATION AND CONSERVATION

Restoration work was undertaken on the stairs of the eastern Deffufa, the palace situated in the interior of the *temenos*, the nearby monumental gateway, and the habitation quarter to the south-east. This work involved the making of 80,000 bricks. This work was primarily undertaken to protect the original masonry which is particularly vulnerable once uncovered, all the more since surveillance of the site remains difficult. It has become necessary to restore to the Deffufa its architectural lines as due to both the passing of time and the plundering that it has suffered it had taken on the appearance of an abandoned hill. From the top of this great temple of the town one can now see the layout of a good part of the town. The clearance of rubble to the west will lead to the rehabilitation of the religious quarter. The results of our research are thus validated and the increasing number of visitors seems a gauge of the interest aroused in the Nubian past (fig. 22).

NOTE ON THE SEAL IMPRINTS DISCOVERED IN 1997-1999

By Brigitte Gratien

Several seal imprints recently discovered in the town are of a new type for Kerma. We once again found a document bearing the imprint of a local seal, a grid pattern in high relief, identical to the 'Kerma' types already published¹¹, three imprints bearing fragmentary Egyptian titles or prophylactic signs and a seal mount belonging to this latter category. However, more remarkable were eleven seals dated to the Second Intermediate Period:

- two impressions bearing the name of *nṯr nfr M3^c-jb-R^c dj^c nḥ*, framed by two columns of signs¹²;
- nine impressions of the same seal, a scarab of type *c^cnr^c*¹³.

The seals from the Hyksôs period are not new in Upper Nubia, but the discovery of imprints, of which some are in the name of a king of the XVth Dynasty, confirms the relations established between the Delta and the kingdom of Kerma in the Second Intermediate Period.

Translated by Annie Grant

Notes:

- 1 Ch. BONNET, "Nouvelles données sur les peintures murales de la chapelle K XI à Kerma, Note d'information", *Académie des Inscriptions et Belles-Lettres, Comptes rendus des séances de l'année 1995, avril-juin*, fasc. II, 1995, pp. 643-650; "The Funerary Traditions of Middle Nubia", *Eighth International Conference for Meroitic Studies, Pre-prints of the main papers and abstracts*, London, July 1996, pp. 2-18; "A-Gruppe und Prä-Kerma; Die Kultur der C-Gruppe; Des Königreich von Kerma", *Sudan, Antike Königreiche am Nil*, Kunsthalle der Hypo-Kulturstiftung, München 2, October 1996 - 6 January 1997, 1996, pp. 37-39, 51-52, 89-95 (translations in French, English and Italian); Ch. BONNET and D. VALBELLE, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Musumeci Editeur, Aoste, 1996, 199 pages; Ch. BONNET and N. FERRERO, "Les figurines miniatures de Kerma (Soudan)", *Sahara*, 8/1996, pp. 61-66; Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan). Rapport préliminaire sur les campagnes de 1995-1996 et 1996-1997", *Genava*, n.s., vol. XLV, 1997, pp. 97-137; "Le sanctuaire d'Hathor à Sérabit el-Khadim et la topographie urbaine", *Le Sinaï durant l'Antiquité et le Moyen Age, 4000 ans d'histoire pour un désert*, Actes du Colloque tenu à l'UNESCO du 19 au 21 septembre 1997, texts edited by D. VALBELLE and Ch. BONNET, 1998, pp. 44-49; Ch. BONNET and L. CHAIX, "Le royaume de Kerma au Soudan, Architecture et rituels funéraires", *L'Archéologue, Archéologie nouvelle*, no 39, Dec. 1998 - Jan. 1999, pp. 27-32; L. CHAIX, "La intégration des animaux en les pratiques ludiques, magiques o religieuses", *Cota Zero*, 1995, pp. 81-88; "Les boeufs à cornes parallèles; archéologie et ethnographie", *Sahara*, 8/1996, pp. 95-97; L. CHAIX, P. IACUMIN, H. BOCHERENS, A. MARIOTTI, "Stable carbon and nitrogen isotopes as dietary indicators of ancient Nubian populations (Northern Sudan)", *Journal of Archaeological Science*, 25/1998, pp. 293-301; L. CHAIX, "Nouvelles données sur l'exploitation du monde animal au Soudan central et septentrional", *CRIPEL*, 17/1998, pp. 79-84; "Une tombe inhabituelle à Kerma, Soudan", in P. ANREITER, L. BARTOSIEWICZ, E. JEREM & W. MEID, (EDS), *Man and the animal world - Studies in Archaeozoology, Archaeology, Anthropology and Palaeolinguistics in memoriam Sandor Bokönyi*, Archaeolingua, Budapest, 1998, pp. 147-155; M. HONEGGER, "Kerma: l'agglomération pré-Kerma", in Ch. BONNET & collab., *Les fouilles archéologiques de Kerma (Soudan)*, *Genava*, n.s., vol. XLV, 1998, pp. 113-118; B. PRIVATI, "La nécropole de Kerma; classification de la céramique", *CRIPEL*, 20 (à paraître); Ch. SIMON, "Kerma: quelques résultats de l'étude paléodémographique des squelettes de la nécropole", in Ch. BONNET & collab., "Les fouilles archéologiques de Kerma (Soudan)", *Genava*, n.s. vol. XLIII, 1995, pp. 60-64; "Premiers résultats anthropologiques de la nécropole de Kadrouka, KDK 1, (Nubie soudanaise). Conférence int. des études nubiennes, (Lille 11-17 Sept. 1994). Vol. 2: Découvertes archéologiques", *CRIPEL*, 1997, pp. 37-53; M. HONEGGER, "The Pre-Kerma settlement at Kerma: new elements throw light on the rise of the first Nubian Kingdom", in R. FREED and T. KENDALL, *9th International Conference of the Society for Nubian Studies (Boston 21-26 August 1998)*, in press; M. RING, A. SALEM, K. BAUER, H. GEISERT, A. MAIER, L. CHAIX, C. SIMON, W. DEREK, A. DI RIENZO, G. UTERMANN, A. SAJANTILLA, S. P. ÅÅBO, M. STONEKING, "MitDNA Analysis of Nile Valley Populations: a Genetic Corridor or Barrier for Migration?", *American Journal of Human Genetics* (in press)
- 2 See the article by M. HONEGGER in this volume
- 3 See, for example N. H. HENEIN, *Mari Girgis. Village de Haute-Egypte*, *Bibliothèque d'Etude*, vol. XCIV, 1988, pp. 40-41
- 4 See the brief note by B. GRATIEN that follows this report
- 5 Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan)", *Genava*, n.s., vol. XXX, 1982, pp. 45-57
- 6 The average C14 date from one of the posts is around 2375 BC. Analysis by the Laboratory of the ETH at Zurich no. 20153, sample K. 71
- 7 G. REISNER, *Excavations at Kerma*, Part III, Harvard African Studies, vol. V, Cambridge (Mass.), 1923, pp. 135-189
- 8 M. F. L. MACADAM, *The Temples of Kawa*, II, History and Archaeology of the site, London, 1955, text, pp. 114-115, plate 17
- 9 Ch. BONNET, "Les fouilles archéologiques...", *op. cit.*, 1982, pp. 41-45
- 10 B. PORTER and R. MOSS, *Topographical Bibliography of Ancient Egyptian Hieroglyphic Texts, Reliefs and Paintings*, VII, *Nubia, Deserts and Outside Egypt*, Oxford, 1962, pp. 172-174
- 11 H. JACQUET, Ch. BONNET, J. JACQUET, "Pnubs and the Temple of Tabo on Argo Island", *The Journal of Egyptian Archaeology*, vol. 55, 1969, pp. 103-111
- 12 M. F. L. MACADAM, *The Temples of Kawa ...*, *op. cit.*, pp. 8-27
- 13 B. GRATIEN, "Nouvelles empreintes de sceaux à Kerma: aperçus sur l'administration de Kouch au milieu du 2^e mill. av. J.C.", *Genava*, n.s., vol. XLI, 1993, p. 28; "Les institutions en Nubie au Moyen Empire", *CRIPEL* 17/2, 1996, pp. 162-163
- 14 Maa-ib-Rê Sheshy, king Hyksôs of the XVth Dynasty is well known from his numerous scarab seals, of which many have been found in Nubia. Two have been found at Kerma in tumulus K X; they have the graphic Maa-ib-Rê on its own.
- 15 This type, widespread in the Hyksôs period (P. NEWBERRY, *Ancient Egyptian Scarabs*, London 1905, pl. 24, 1 to 9; O. TUFNELL, W. WARD, G.T. MARTIN, *Studies on Scarab Seals II*, Warminster, 1984, class 3 C/3E), is known in Nubia and at Kerma (G.A. REISNER, *Excavations at Kerma*, parts IV-V, 1923, pl. 40, 2, n 69-70).

KERMA: THE NEOLITHIC AND PRE-KERMA OCCUPATION OF THE EASTERN NECROPOLIS

By Matthieu Honegger

The latest work on the prehistory and protohistory of the surroundings of Kerma were focused on the eastern necropolis, a site which has proved to be very important in the study of the ancient settlement. The discoveries made between 1997 and 1999 have thus enriched our understanding of the problems presented when the last report appeared in *Genava*¹. The main focus of our research remains the understanding of the Pre-Kerma settlement, where we continue with a strategy of extensive excavation. However, other centres of interest were progressively extended following the survey undertaken on the site of the ancient cemetery of the town of Kerma. The discovery of several neolithic occupation levels provided the opportunity to establish a chronological framework for these ancient periods, previously almost unknown in the territory of Nubia. Additionally, their state of preservation which was at times exceptional for this region, allowed for the first time a study of the spatial organisation of one of these settlements dating back to the fifth millennium BC. Finally, the unexpected discovery of a Pre-Kerma burial provides a new objective for future seasons of study. If this latter is not isolated and is, as we assume, part of a necropolis, the study of this funerary complex might prove to be of considerable interest in affording the opportunity to make a comparison between the information gained from the world of the dead and that from the excavation of the assumedly contemporary settlement.

THE LOCATION OF THE DISCOVERIES

The ancient necropolis of Kerma is found 5 kilometres to the east of the modern course of the Nile. It is situated on a slight elevation which rises about 2 meters above the surrounding plain. Thanks to the work of the mission of the University of Geneva, it has in large part been preserved from the destruction caused by the considerable expansion of cultivated areas during the last 30 years. During the neolithic and Pre-Kerma periods, the course of the Nile ran further to the east and must have passed close to the site of the necropolis², as is implied by the presence of numerous palaeochannels still visible today (fig. 1). It is possible that the site even formed an island surrounded by two branches of the river. In any case the site must have been particularly favourable for human settlement in view of the number of

phases of occupations discovered. The proximity to water and the fact that the site dominated its surroundings were no doubt crucial advantages at the time. The site was not however always safe from the Nile floods. Stratigraphic information has shown that the Neolithic occupation layers, which were generally water-washed, were often covered by deposits of alluvium brought by the river. One can imagine years of exceptional floods when the water covered right over this site which normally rose above the water. In contrast, in the Pre-Kerma period, there is no indication that the site had been flooded. It seems that the river had by then already moved somewhat to the west.

Despite the presence of several thousand burials from the Kerma civilisation, whose installation had seriously disturbed the earlier levels, the surveys revealed a series of sites, in different states of preservation, spread over the period between the fifth millennium and the beginning of the third millennium BC. No fewer than eleven sites yielding neolithic material were located on the site of the ancient cemetery itself or in its immediate surroundings. Sometimes they were located stratigraphically at a depth of up to a meter. But more often they were found on the surface in areas that were eroded, the later deposits having disappeared through wind erosion or destruction due to the expansion of the areas of cultivation. Some Pre-Kerma pottery also attested the presence of occupation of this period. Some pottery was found ten or so metres from the settlement during excavation, indicating the considerable extent of this habitation. Other pottery was found much further away, to the north of the necropolis and indicated the presence of an occupation earlier or later than the settlement.

THE NEOLITHIC OCCUPATION

The remains of these settlements are characterised by the presence of hearths accompanied by faunal remains and potsherds. The material is always to a greater or lesser extent encrusted with calcium, which shows a humid environment. The hearth structures are eroded and the occupation levels are always water-washed, a consequence of the floods responsible for the inundation of the site. Despite this partial destruction caused by the river, the state of preservation of these sites was exceptional in the context of

Period	Occupation	Dating evidence	Date
Kerma	Cemetery	Chronology based on c. 40 C 14 dates and imported Egyptian ceramics	Between 1450 and 2450 BC
Pre-Kerma	Town	ETH-18829: 4365 ± 55 B.P. ETH-18828: 4400 ± 55 B.P.	c. 3000 BC
	Tomb	Grave goods characteristic of the late fourth/early third millennium BC	?
Neolithic	Settlement	Pottery with neolithic and Pre-Kerma characteristics	?
Neolithic	Settlement	B 6626: 5670 ± 30 B.P. CRG 770: 5670 ± 75 B.P.	c. 4500 BC
Neolithic	Settlement	ETH 14935: 5770 ± 65 B.P. ETH-18827: 5815 ± 60 B.P.	c. 4650 BC

2. The chronology of the occupations located at the site of the necropolis

Sudanese prehistory. Until the present time, the Neolithic sites excavated yielded material, often scattered on the surface, but almost never revealed structures still in situ, excepting hearths¹. In this context, the perspectives offered by the discovery of these sites are of utmost interest. The study of the lithic and ceramic material, the radiocarbon dating of several hearth deposits, and the stratigraphic information all contribute to the construction of a chronological and cultural framework which serves as a reference for the region.

At this moment in time, we know that the site had been occupied during at least three distinct phases during the Neolithic period (fig. 2). Two are well-dated and are placed in the fifth millennium BC. They are found beneath the Pre-Kerma settlement and also on the surface to the south, at a place where erosion has caused the disappearance of almost 50 cm of alluvium. It is at this site that the excavations this winter revealed, in addition to the usual hearths, a series of postholes describing huts and short palisades (fig. 3 and 4). The stratigraphic information and the presence of a characteristic pottery make their attribution to the Neolithic certain. The huts, of which three were found, are of a diameter equivalent to those of the Pre-Kerma settlement. However, they do not have the same regularity and their shape more often approaches an oval than a perfect circle. Some test pits dug in the surroundings show that this occupation level could in future seasons be investigated over a large area. The third Neolithic occupation is less well preserved. The stylistic study indicates that it was probably a later habitation as the pot forms and their decoration already evoke characteristics frequently found on Pre-Kerma pottery.

All the sites discovered yielded faunal remains in small or large numbers. The first identifications showed the presence

of cattle and domestic ovicaprines (sheep or goat)⁴. To the north of the necropolis, an isolated hearth with pottery was accompanied by the remains of fish, notably *Siluridae*. These discoveries provide information on the way of life during the period. The populations must have practised fishing and animal husbandry, but for the moment we lack finds that allow us to know the role played by agriculture. Was there a complementarity between population groups, some practising animal husbandry with others concentrating more on agriculture? Or should we rather envisage a community with a mixed economy? These questions have implications for the type of habitations present at the necropolis. Are they seasonal settlements for fishing and animal husbandry, the site then abandoned in periods of high water? Or are they villages occupied throughout the year, situated close to cultivated fields? Further test digging and the excavation of more of the habitation site recently discovered should provide at least partial answers to these questions.

THE PRE-KERMA SETTLEMENT AND BURIAL

The opening of new areas in the middle of the settlement discovered more than ten years ago⁵ provides today a picture extending over almost a hectare (fig. 4). The known structures include 281 storage pits as well as many constructions indicated by postholes. These latter are from around 50 circular huts which must have served as houses and, in the case of the smaller ones, possibly grain stores. Two rectangular buildings, quite different from each other, were also identified; the larger building had been reconstructed three times on the same site⁶. These two buildings must have had a different use from the huts; this may have been related to the administrative or religious systems of the community. Numerous palisades were also erected

with wooden posts. Some of these seem to demarcate divisions of the interior habitation area, but the majority were situated on the periphery of buildings and could constitute an encircling fortification. The fact that through many rebuildings these palisades were arranged in parallel rows leads us to suppose that they fulfilled a defensive function. To the north-east of the excavation they formed vast oval structures 20 metres wide by 25 to 30 metres long. These could have been large bastions related to one of the entrances of the town, following a model known in the ancient city of Kerma⁷. However, the form of these structures also evokes a cattle enclosure. Cattle rearing without doubt played a central role in the Pre-Kerma and Kerma societies. Thus it is not possible to exclude this possibility and it is also possible that these palisades had at the same time played the role of both enclosure and fortification. Finally, at the south-west of the settlement, a fairly extensive area was distinguished from the surrounding land by the fact that it was heaped up with earth. It is still difficult to know if this was related to collapsed buildings or to a terracing whose function is as yet unknown.

Two radiocarbon dates were obtained from samples taken from storage pits (fig. 2). They placed the Pre-Kerma occupation around 3000 BC, which is five centuries earlier than the Kerma civilisation. It is not possible to determine the duration of the settlement on the basis of these two dates. However, recuttings and superimpositions of the structures, notable the huts and the pits, lead us to propose a period of two centuries at the most.

In general, the preservation of the Pre-Kerma occupation level was rather poor, although it varied according to particular location. In the south, the layer was completely eroded and the lower Neolithic levels were found at the surface. To the north, the remains were better preserved and it was possible to observe the succession of layers resulting from the destruction of the settlement. Microscopic analysis showed that the sediments covering the original surface were composed of the remains of collapsed cob walls⁸. The buildings and the palisades must thus have been constructed from a framework of wood covered in earth. The discovery of several fragments of wattle reinforces this hypothesis. In section, we observed just above this destruction level the clearly visible traces of ploughing. They may have resulted from the cultivation of this area following the abandonment of the settlement, but it is also possible that the area had been turned over thoroughly when the area was functioning as the necropolis of Kerma. The removal of soil to erect the tumuli, the digging of trenches for the buchrana placed in front of the tombs as well as the various activities related to the funeral ceremonies had probably considerably disturbed the underlying soil.

During the clearing of a new sector on the western edge of the excavations, a tomb appeared on the surface. Partially destroyed by the insertion of two Middle Kerma tombs, it contained the skeleton of an adult female in flexed position, lying on her right side with her head to the east. There were abundant grave goods accompanying the corpse; these included a quartz palette and a copper pin with a square cross section. These two objects are frequently found in A-Group tombs⁹, although they are unknown in those of the Kerma civilisation. They place this grave at about 3000 BC, that is during the Pre-Kerma period. It is not, however, possible to be certain that it is strictly contemporary with the settlement found just beside the tomb; it could be that it is of a slightly earlier or later date. A radio-carbon dating is being carried out which will clarify this question. The remaining grave goods associated with this tomb consisted of a copper awl still embedded in its wooden handle; fragments of malachite placed under the palette and two grinders placed just beside; a comb and a polishing stone; a carefully polished sandstone bowl and a mortar in elephant ivory.

This burial is unlikely to have been isolated and it is very probable that it was part of a cemetery. It remains to define the extent of the cemetery and to determine whether or not it was contemporary with the nearby settlement. It could seem surprising that this tomb was found at surface level while those of the Kerma civilisation were in pits that were sometimes over two metres deep. Were the Pre-Kerma burials placed on the ground surface or were they placed in a shallow pit and then covered with a mound¹⁰? The area slightly to the south heaped up with earth could possibly be related to this phenomenon.

■

The richness of the discoveries made in recent years raises numerous questions which direct our research to address new problems while still maintaining the programme of excavations already established. Extensive clearing of the Pre-Kerma settlement will be continued in order to establish its layout. Survey work indicates that the site extends over at least two hectares, but it could cover an even bigger area. The area cleared at present is far from sufficient to determine the complexity of the settlement and establish the extent to which it showed analogies with the ancient city of Kerma.

The construction of a chronology for the periods prior to the Kerma civilisation is another focus of research. Surveys and analyses will continue with the aim of filling in the numerous gaps in the sequence of occupation. We will look particularly at the first part of the third millennium BC.

which sees the transition from Pre-Kerma to the Kerma civilisation. One objective is to know precisely when the settlement was abandoned and to determine if it is possible that the occupation of the site of the ancient necropolis continued right up to the beginning of the Ancient Kerma period.

Finally, two new problems emerged with the discovery of the Neolithic occupation and the Pre-Kerma tomb. The exploitation of these unexpected remains will allow us to enrich our understanding of a Sudanese archaeology that was until now unknown.

Translated by Annie Grant

Notes:

- 1 M. HONEGGER, "Kerma: L'agglomération Pré-Kerma", *Genava*, n.s., vol. LV, 1997, pp. 113-188
- 2 See on this subject the study of B. MARCOLONGO, N. SURIAN, "Kerma: les sites archéologiques de Kerma et de Kadruka dans leur contexte géomorphologique", *Genava*, n.s., vol. XLV, 1997, pp. 199-123
- 3 For an indication of the problems of preservation of prehistoric sites, cf. J. REINOLD, "Conservation et préservation des sites archéologiques", in *Actes du VII^e congrès international d'études nubiennes* (Genève, 3-8 September 1990), 1992, vol. 1, pp. 187-192
- 4 Study in progress, Louis Chaix
- 5 The first discoveries are related in Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes 1986-1987 et de 1987-1988", *Genava*, n.s., vol. XXXVI, 1988, pp. 5-20
- 6 The reconstruction of two other rectangular structure was proposed the last report (HONEGGER, *op. cit.*, note 1). Their existence is, however, now in question, as some of their walls consisted of alignments of posts of the Middle Kerma period, situated to the north of some tombs.
- 7 For a description of these structures found in the town of Kerma, cf. Ch. BONNET, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1991-1992 et de 1992-1993", *Genava*, n.s., vol. XLI, 1993, pp. 1-18; *Id.*, "Les fouilles archéologiques de Kerma (Soudan), Rapport préliminaire sur les campagnes de 1995-1996 et de 1996-1997", *Genava*, n.s., vol. XLV, 1997, pp. 97-112
- 8 M. GUÉLAT, "Analyse micromorphologique de deux échantillons (fouilles 1996-97), Rapport préliminaire", September 1998 (unpublished)
- 9 H. A. NORDSTRÖM, "Neolithic and A-Group sites", *The Scandinavian joint expedition to Sudanese Nubia: 3:1*, Uppsala, 1972; B. B. WILLIAMS, "The A-Group royal cemetery at Qustul: cemetery L", *The University of Chicago Oriental Institute Nubian Expedition; 3:1*, Chicago, 1986
- 10 An analogous situation seems to exist in the Neolithic cemeteries of Kadruka, situated 20 kilometres to the south of Kerma, cf. J. REINOLD, communication to *Table ronde sur les synchronies en Egypte et au Soudan*, Institut de Papyrologie et d'Égyptologie de l'Université de Lille, 31 October 1998.

KERMA: THE INSCRIPTIONS

By Dominique Valbelle

The 1997-98 and 1998-99 seasons brought a promising harvest of epigraphic and iconographic information. A fragment of an Egyptian statue of the Middle Kingdom was found in the Classic Kerma necropolis, near tumulus K X, but it was primarily the Meroitic temple of Doukki Gel that provided the main contributions. These were divided between a new collection of fragmentary Egyptian statues of the Middle Kingdom and architectural elements from the temple that is under excavation. It is still too soon to provide a complete assessment of this material, but some groups have already emerged at this stage of the excavations.

THE MIDDLE KINGDOM STATUES

The most ancient monuments found on the site of the Meroitic temple are some fragmentary statues from the Middle Kingdom. They belong to the same categories as those found by G.A. Reisner in the eastern Deffufa and more particularly in the Classic Kerma necropolis¹ where a new fragment was recovered from the surface close to K X in 1998. The five fragments found at Doukki Gel belong to private statues. Two of them are seated, and a third is in the position of a scribe. They were buried close to each other in the vestibule and the hypostyle chamber, and their location can be compared with that of other monuments from the Middle Kingdom found in various Napatian and Meroitic temples in Nubia – Semna², Tabo³, Kawa⁴, and Gebel Barkal⁵. However, each example needs to be examined separately, as each of these sites has a specific history.

These and the other Kerma statues are from monuments made in Egypt for Egyptians. There is no indication in the surviving inscriptions that they were intended for any Nubian sanctuary. Thus one of the statues (fig. 1 and 2) represents the 'director of sealed things, director of the administrative district, Ren[iseneb]'. These two titles were current in Egypt during the Middle Kingdom⁶. However the first of these – *jmy-r hmt*⁷ – is found on another Kerma statue, that of the Nomarch Ameny⁸ and on the stèle of Antef⁹ which dates to the 33rd year of Amenemhat III; the title is frequently held by the men sent by the king on missions to the border regions and beyond¹⁰. They may thus have been brought to Kerma by these men during official missions, and then ultimately reused in various parts of the site.

The presence of these statues in a Meroitic temple at Kerma implies several comments. The abundant Middle Kingdom Egyptian statues at Kerma, whatever the circumstances and the date of their arrival, constitutes a cult material that was reused as much in the Classic Kerma periods as in the Napatian and Meroitic periods. At the current stage of excavations it is not possible to link these Middle Kingdom statues with one archaeological level rather than another. They were found in disturbed layers that might belong either to the basement of the last temple or to the rubble of its abandonment; thus they might have been buried as sacred objects after use, as at Semna, or have been erected in the rooms of the temple, as at Tabo. Nor do we yet know the date of the earliest building at the site of Doukki Gel.

THE ARCHITECTURAL ELEMENTS

Amongst the many blocks and fragments of blocks found up till now in the excavated part of the Meroitic temple, several distinct groups can be more or less precisely identified at present. They each correspond to one or several monuments constructed, either successively on the temple site itself, or in its immediate surroundings. At the time of their discovery some were scattered in the rubble, some were reused in the walls of the Napatian temple, and some formed the paving of the third room.

The New Kingdom elements

The oldest re-used blocks are attributable, by their decoration, to the New Kingdom. Some might date to the beginning of the XVIIIth Dynasty. However, the most remarkable group is incontestably 'Amarnian'. They display the usual measurements of the talatat¹¹. They were all reused in the paving. The most characteristic signs found on these blocks are:

- sunrays figures terminated by hands that descend towards the faces of the royal family or altars heaped with offerings on which were set oil lamps (fig. 3);
- cartouches of kings and of Aton;
- exaggerated silhouettes, enveloped in transparent linen.

Some inscriptions and decorative elements that were less distinctive might date to a different period within the New Kingdom.

The Napatan elements

It is not always easy to distinguish the decorative fragments from Middle Kingdom monuments, especially the Ramessid monuments, from some of the decorative fragments carefully executed during the XXVth Dynasty. However, some elements re-used in the stonework of the Napatan temple had certainly been worked during one of the reigns of the Kush dynasty. One of the elements discovered this year bore an incomplete cartouche beginning with the signs *š3 b3* (fig. 4) which could record the name of the king Shabaka or that of his successor Shabataqa.

Another block preserved the upper part of two cartouches containing epithets particularly common in the Third Intermediate Period: *stp.n jmn* and *[mry] jmn*. However, several palaeographic characteristics were also reminiscent of the Napatan period. These epithets were very adaptable in the royal protocol according to the cult places where they were engraved; it is difficult to attribute them to a particular sovereign in the absence of one of the latter's names. Since this block had been re-used in the Napatan temple, it must have been sculpted at the very latest during one of the first reigns of this period.

Meroitic decorative elements

The Meroitic temple was mainly built from mud brick and red brick. However, cursive graffiti and some decorative elements provided evidence for this last stage in the reconstruction of the sanctuary. The most significant was without doubt a fragment of a sandstone plaque from a naos or a stele, representing a king offering to the ram-headed god Amon a cartouche in which the outline of the goddess Maât can be made out, which could correspond to *nb-m3^ct-r^c*, the name born by Amanitenmomide and Amanishataqermo (?)¹². The king is on his knees on a kind of platform while the god is squatting on a lotus, carrying a crook.

The god of the temple

Although it is too early to draw detailed conclusions from these first epigraphic elements, taking into account their richness, their state of preservation and their proximity to other temples, many observations clearly point to the god which is the master of the site. It is difficult to be definite before the Amarnian period: two very fine tall plumes preserved on a block that might have been sculpted earlier

could as likely be part the coiffure of a queen as that of a god. The faces and cartouches of the Amarnian blocks had been systematically hammered.

Several datable inscriptions, some from the New Kingdom and others from the Napatan period, revealed that the patron of the sanctuary from which they came was no other than Amon. Although their original location cannot be certain as the majority were re-used, they provide a coherent documentation that confirms the small Meroitic fragment. Amon is evidently not the only divinity represented on the walls of the temple: a hawk-headed god, a Nubian Horus, is also present in several places.

Despite their fragmentary state, these epigraphic and iconographic documents will, once they have all been recovered, provide an extremely valuable collection of information on the history of the site during a period, particularly the New Kingdom and perhaps the Third Intermediate Period, that remains relatively unknown throughout this region of Nubia, and for which there is also little indication on the corresponding Egyptian politics.

Translated by Annie Grant

Notes:

- 1 D. VALBELLE, "The cultural significance of iconographic and epigraphic data found in the Kingdom of Kerma", *Ninth International Conference of Nubian Studies*, Boston, August 1998
- 2 PM VII, p. 149 and J. VERCOUTTER, *RdE* 27, p. 225-228
- 3 PM VII, p. 180
- 4 PM VII, p. 184
- 5 PM VII, p. 216
- 6 W.A. WARD, *Index of Egyptian Administrative and Religious Titles of the Middle Kingdom*, Beirut, 1982, no. 364 (read *jmy-r šd3w.t*) and no. 411 (*jmy-r gs-pr*), p. 52
- 7 P. VERNUS, "Observations sur le titre *jmy-r3 hmt* 'directeur du Trésor'", in S. ALLAM (ed.), *Grund und Boden in Alt-ägypten*, Tübingen, p. 251-260
- 8 Boston MFA 14, 725; G.A. REISNER, *HAS* VI, fig. 344, p. 525
- 9 G.A. REISNER, *HAS* V, p. 126-127 and 132-134; *HAS* VI, p. 511-512
- 10 D. VALBELLE and C. BONNET, *Le sanctuaire d'Hathor, maîtresse de la turquoise*, Paris, 1996, p. 18-19; M. ABD EL-MAKSOUË, *Tell Héboua (1981-1991)*, Paris, 1998, p. 271
- 11 R. VERNIEUX and M. GONDRAN, *Aménophis IV et les pierres du soleil*, Paris, 1997, p. 37-41
- 12 J. VON BECKERATH, *Handbuch der ägyptischen Königsnamen*, *MÄS* 20, 1984, p. 313-314

