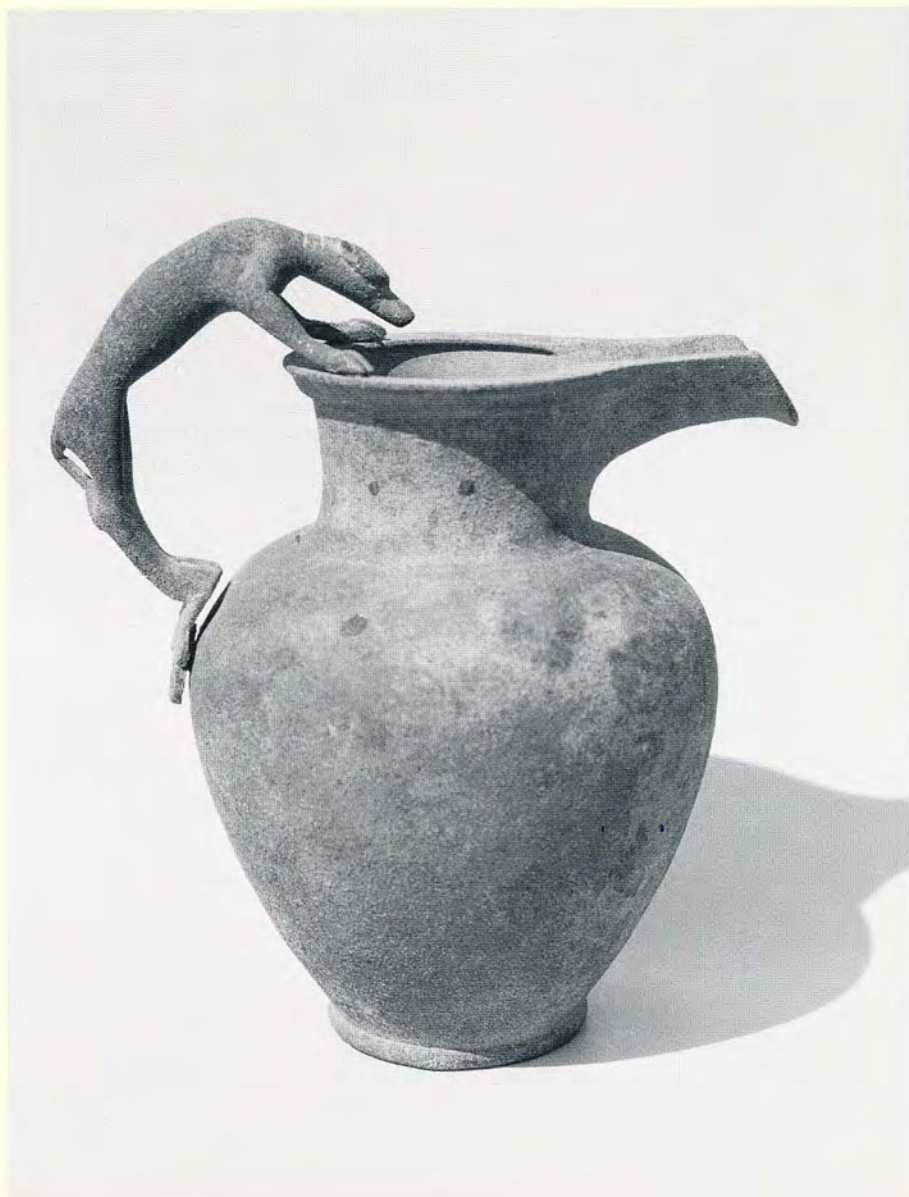


K E R M A

1999-2000 2000-2001

SOUDAN

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GENAVA

2003 | n.s. | XLIX | extrait



à *Christian Simon*I. BONNET *et alii* 2000

Après tant d'années d'investigations, le site de Kerma en amont de la 3^e cataracte réserve encore des surprises aux membres de la Mission de l'Université de Genève au Soudan. La richesse archéologique de cette région paraît décidément inépuisable : occupée dès les époques préhistoriques les plus hautes, elle bénéficie d'une situation géographique particulièrement favorable, centrée sur des terres fertiles naturellement protégées par les déserts environnants. Par étapes, nos recherches se sont étendues et ont permis de recueillir une abondante documentation sur les différentes périodes d'occupation. L'appui des autorités, qui régulièrement visitent nos chantiers, est une source d'encouragement, de même que l'intérêt grandissant de la population locale et de la communauté scientifique envers nos études. C'est pourquoi la mise en valeur des vestiges par d'amples programmes de restauration et de conservation fait également partie de nos préoccupations.

Comme chaque année, nous avons bénéficié des subsides du Fonds national suisse de la recherche scientifique et des Musées d'art et d'histoire de la Ville de Genève, ainsi que d'un fonds privé. C'est également grâce à un subside du Fonds national qu'un ouvrage consacré aux monuments funéraires de la nécropole a pu être publié¹. Nous exprimons toute notre gratitude envers ces instances, ainsi qu'envers le professeur Michel Valloggia, président de la Commission des fouilles de l'Université de Genève, pour son appui constant.

Les deux dernières campagnes de fouilles ont été menées du 4 décembre 1999 au 5 février 2000, puis du 29 novembre 2000 au 5 février 2001. Comme à l'habitude, nos raïs Gad Abdallah, Saleh Melieh, Abdelrazek Omer Nouri et Idriss Osman Idriss ont dirigé les quelque cent cinquante ouvriers sur les quatre ou cinq chantiers en cours. Le directeur général du Service des antiquités, Hassan Hussein Idriss, nous a fait l'honneur de visiter le site. Salah El-Din Mohamed Ahmed, directeur de la Section des fouilles archéologiques du Département des antiquités et des Musées nationaux du Soudan (NCAM), a collaboré tant aux travaux scientifiques qu'aux tâches administratives ; c'est également sous sa responsabilité qu'était conduite la restauration des vestiges du site de Doukki Gel. Il a été remplacé durant quelques jours par l'inspecteur Omran Ali Fatharahman. Quant à l'inspecteur Yassin Mohamed Saïd, il est intervenu pour préparer le plan topographique de Doukki Gel. Que chacun trouve ici l'expression de nos remerciements pour sa disponibilité aussi chaleureuse que diligente.

L'étude de plusieurs établissements pré- et protohistoriques sur l'emplacement de la nécropole s'est poursuivie ; les résultats sont d'autant plus intéressants qu'ils ont permis d'établir un premier cadre chronologique sur la base de datations C¹⁴ et d'un examen de la céramique. Dans la ville antique, les décapages des secteurs nord ont complété l'analyse du système de fortifications bastionné du Kerma Moyen et celle de l'évolution des lignes de défense du Kerma Classique, tandis qu'autour de la deffufa, le temple principal, des recherches stratigraphiques ont aidé à mieux comprendre les états primitifs du quartier religieux occidental. D'autres travaux ont été effectués sur les élévations de ce célèbre monument qui a fait la réputation de Kerma. Dans la nécropole orientale, le dégagement

2. PRIVATI 1999; PRIVATI, sous presse

3. HONEGGER 1999

4. Voir sa bibliographie p. 219

d'un dépôt exceptionnel de bucranes près d'une tombe princière du Kerma Moyen (t 253) s'est achevé. La préparation de l'ouvrage sur les édifices et les rites funéraires fut aussi l'occasion de faire le point sur le développement du cimetière.

Cependant, c'est le site de Doukki Gel, où ont été retrouvés les vestiges d'un temple dédié à Aton, qui a exigé l'investissement le plus lourd. Des centaines de blocs et de fragments de pierres décorés et inscrits ont été inventoriés. Ils témoignent de l'occupation continue du site durant presque deux millénaires; entre le Nouvel Empire et l'époque méroïtique, pas moins de dix sanctuaires se sont succédé dans l'agglomération qui semble avoir pris le relais de la ville antique. Un puits d'époque méroïtique aux maçonneries de briques cuites a pu être partiellement dégagé. Enfin, un vaste programme de conservation et de restauration a été mené à bien sur le temple méroïtique ainsi que sur d'autres bâtiments, en particulier sur la deffufa.

À nouveau, nous avons pu compter sur les compétences d'une équipe fidèle parfaitement au fait des impératifs de nos recherches. Ainsi, Béatrice Privati a présenté plusieurs études approfondies sur la céramique Kerma². Matthieu Honegger³ a apporté de nouvelles informations sur les cultures néolithiques et pré-Kerma, il donne ci-après un aperçu de ses découvertes. Thomas Kohler a assuré le suivi des chantiers de la ville antique et dessiné les vestiges mis au jour. Marion Berti a contribué tant aux travaux d'investigations sur le terrain qu'à l'élaboration de la documentation destinée à la publication. Il en va de même d'Alfred Hidber, qui s'est beaucoup investi dans les restitutions architecturales des temples funéraires. La couverture photographique, y compris celle des blocs inventoriés sur le site de Doukki Gel, a été assurée par Pascal Kohler-Rummler. Nous avons également bénéficié de la présence de Françoise Plojoux, de Gérard Deuber et d'Alain Peillex, d'autant plus bienvenue que certains vestiges posaient de délicats problèmes de relevés. Dominique Valbelle, épigraphiste de la mission, a pris une part très active à l'étude de Doukki Gel; elle a été secondée par Marc Bundi qui avec constance a dessiné les centaines de blocs inscrits ou décorés. Quant à Louis Chaix, il a achevé les relevés métriques des milliers de bucranes de la tombe t 253. Ana Sofia Fonseca a fait un stage d'étude sur les chantiers. Relevons enfin le travail administratif et de documentation effectué à Genève par Nora Ferrero et Patricia Berndt. Que tous trouvent ici l'expression de notre vive reconnaissance.

Nous ne saurions rédiger cette chronique sans évoquer la perte dramatique de notre ami Christian Simon, membre actif de la mission depuis plus de vingt ans, à qui ces lignes sont dédiées. De par ses qualités de cœur, son humour et sa tranquille modestie, il était aimé de tous et chacun ici a douloureusement ressenti son absence. Au fil des ans, Christian a récolté, dans la nécropole orientale notamment, un extraordinaire *corpus* de matériel qu'il a su exploiter de manière originale, donnant ainsi à l'étude des sépultures une nouvelle dimension. Les analyses de ce chercheur averti étaient d'autant plus précieuses qu'elles s'appuyaient sur un champ d'investigations très étendu. La liste de ses travaux concernant le Soudan montre bien à quel point nous lui sommes redevables⁴.

Les établissements néolithiques et pré-Kerma

Nous aimerions saluer une découverte essentielle concernant l'habitat néolithique repéré lors de la saison 1999-2000 dans un niveau daté vers 4500 av. J.-C. Les derniers dégagements ont fait apparaître différentes structures : groupes de foyers protégés, huttes, palis-



sades – dont les relations sont parfaitement cohérentes. C’est là un pas décisif pour la préhistoire du Soudan car, jusqu’ici, l’habitat était attesté surtout par des épandages de matériel. D’autres établissements et des cimetières pré- et protohistoriques ont été repérés lors de la prospection menée par M. Honegger entre 10 et 20 km à l’est des rives du Nil. Pour ce qui est de l’époque pré-Kerma (vers 3000 av. J.-C.), signalons un ensemble établi un peu à l’écart de l’agglomération, constitué d’une hutte et d’un enclos construits avec de solides poteaux implantés presque à égale distance. Non loin se trouvait une tombe contemporaine de ces structures. Enfin, un site pré-Kerma relativement récent (vers 2600 av. J.-C.) a également été découvert ; ainsi, peu à peu, se comble la chronologie jusqu’au Kerma Ancien (vers 2450 av. J.-C.).

La ville antique

Il est probable que la zone urbaine s’étendait sur une presqu’île, ou peut-être une île, et que les bras du Nil découpèrent des chenaux qui pouvaient être modifiés artificiellement selon les besoins. Des terrasses de limon alluvionnaire ont été utilisées aux fins de protéger la ville d’éventuelles incursions ennemies. C’est ainsi qu’au nord, par exemple, un immense bastion mesurant près de 50 m par 40 m a été aménagé à partir d’une terrasse naturelle. Tout autour ont été retrouvés les restes d’aménagements en bois, en pierre et en terre. Un fossé profond d’au moins 3 m contournait le dispositif fortifié. Sur la terrasse



s'élevait un mur épais de plusieurs mètres, presque entièrement érodé. alors qu'au centre, plusieurs trous de poteaux permettent de restituer encore quelques constructions en bois. À l'ouest, un dispositif plus petit bordait le bastion central (fig. 2).

Une autre terrasse a pu être délimitée au nord-ouest (fig. 3); d'abord isolée de la ville par un fossé, elle fut reliée à d'anciennes fortifications à la suite de comblements. Cette situation a favorisé le développement d'une importante voie d'accès vers le noyau urbain : une porte de très grandes dimensions est aménagée sur la terrasse et remplace l'ancien cheminement au travers du fossé. Plusieurs fois transformée, cette porte faisait partie de la ligne de bastions la plus septentrionale. Ces travaux d'envergure datent de la fin du Kerma Moyen (vers 1800 av. J.-C.) et surtout du Kerma Classique (1750-1450 av. J.-C.).

Le visiteur qui pénétrait dans la ville par cette porte était sous constante surveillance grâce aux nombreux ouvrages militaires édifiés de part et d'autre de la voie. L'étude de ces derniers est particulièrement difficile en raison de l'emploi de la *galous* (mottes de terre préparée) comme matériau de construction ; il ne reste généralement de ces ouvrages que des formes arrondies aux contours imprécis. Plusieurs bastions semi-circulaires, d'un diamètre compris entre trois et quatre mètres, ont néanmoins pu être suivis sur des bases plus anciennes du Kerma Moyen. Une autre série de bastions, d'un diamètre moindre – environ 0,80 à 1 m –, se rattache à une impressionnante structure rectangulaire



5. DENVER 1978, pp. 186-187

de 11×8 m, aux angles flanqués d'une tourelle ; les bastions sont en fait pris dans le massif qui, vu ses dimensions, devait s'élever sur plusieurs mètres (fig. 4). Des traces d'un badigeon ocre rouge ont été observées sur les angles et dans la porte ouverte au sud-ouest. Une affectation liée à la défense paraît la plus plausible pour cette énigmatique construction, qui était peut-être une tour de garde. La découverte d'un manche de dague en ivoire dans l'entrée pourrait témoigner en faveur de cette hypothèse. Le plan n'est pas sans évoquer ceux de certaines fermes fortifiées ou maisons-tours du bassin de la Volta en Afrique de l'Ouest⁵, au Togo ou au Burkina Faso. Toutefois, ce genre de rapprochement soulève beaucoup de questions qu'on ne saurait aborder ici, et ce d'autant que l'écart chronologique est de plusieurs millénaires. D'autres constructions punctuaient le tracé de la voie qui aboutissait vers une porte étroite et allongée appartenant au front de la ville du Kerma Moyen.

Il nous reste à faire état d'un dernier système défensif repéré à proximité du grand bastion situé au nord, dans la zone centrale de la ville. Il s'agit d'une série de fondations circulaires d'un diamètre d'environ 3 à 3,50 m, établies plus ou moins sur le même alignement à 0,50 ou 1 à 2 m d'intervalle (fig. 5). De telles juxtapositions avaient déjà été étudiées sur le côté ouest de l'enceinte de la ville du Kerma Moyen. Cette nouvelle ligne se trouve en avant du « quadrilatère » formé par l'enceinte du début du Kerma Moyen. Nous avons tenté de reconstituer cet ensemble qui paraît bien correspondre à un mur de protection

5. Kerma | Un mur formé de tours rapprochées et consolidé à l'aide de pieux



6. BARRY 1999, p. 73 ; D'ESME 1931, pl. 90, 92 et 93 ; GUIDONI 1995, fig. 239 et 240

flanqué de tours assez rapprochées. D'autres fondations de même nature apparaissent en avant ou en arrière de cette ligne. Une fois encore, on est frappé par les analogies avec les techniques de construction en usage aux époques sub-récentes ; nous pensons notamment aux murs d'un village Moundang au Tchad (région de Léré)⁶, mais l'on pourrait citer bien d'autres exemples.

Proches de ces vestiges ont encore été dégagés près de trente-cinq fours étroits, quelquefois voûtés, disposés en batterie sur deux rangées (fig. 6). La céramique utilitaire date cet ensemble du Kerma Moyen. On relèvera la quasi-absence de moules à pain d'offrandes alors que ceux-ci étaient très nombreux dans les fours similaires mis au jour il y a quelques années à l'est de la ville. En revanche, une grande quantité d'ossements de bovidés a été récoltée ; ils attestent la préparation de la viande sur place mais peu d'entre eux ont été brûlés.

Nos dégagements de surface ont également touché le quartier nord-ouest de la ville. Le plan des habitations (M 182, M 183, M 184, M 185 et M 186) bordant une rue s'avancant en direction du Nil a pu être reconnu. Curieusement, celle-ci aboutit à un système de fermeture formé de deux structures arrondies se faisant face. Les tessons de céramique inventoriés dans les couches successives peuvent être datés du Kerma Moyen final et du Kerma Classique.

6. Kerma | Fours du Kerma Moyen disposés en batterie

La deffufa et les bâtiments qui l'entourent à l'intérieur du *temenos* ont fait l'objet d'une étude de fond en vue d'une publication. Après avoir mené des recherches stratigraphiques au nord-ouest, nous avons procédé à un décapage élargi qui nous a permis d'affiner notre analyse des premiers niveaux d'occupation dans le secteur occidental. Ainsi, un portique monumental à double colonnade a pu être restitué pour une période ancienne se situant au tout début du Kerma Moyen. Les vestiges de structures en bois dans les niveaux du Kerma Ancien (2300-2050 av. J.-C. dans la ville antique) sont plus difficiles à interpréter; une entrée latérale dans le complexe religieux primitif est attestée par des séries de poteaux dessinant deux structures en demi-cercle et un cheminement vers le centre du quartier.

Quant à la deffufa, l'analyse de ses élévations a montré que le dernier chantier de construction s'est déroulé assez rapidement. Les bâtiments antérieurs furent arasés à environ 2,50 m pour servir de soubassement au nouveau massif de maçonneries monté par tranches d'une épaisseur de 3 m à 3,50 m. Les quatre tranches du corps principal et les cinq tranches de l'avant-corps – ou « pylône » – au sud sont recouvertes d'un niveau d'attente ou de réglage marqué par une couche d'enduit. Pour prévenir tout écrasement et assurer une meilleure cohésion de la brique crue, des chaînages de bois ont été disposés au milieu des tranches de maçonneries. D'autres éléments de bois de moindres dimensions (poutres ou planches) ont encore été disposés à l'horizontale contre les parois ou enfoncés dans le massif. Nous avons déjà étudié un tel système de chaînage dans l'un des temples funéraires de la nécropole et relevé la diversité de ses composants⁷.

La nécropole orientale

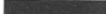



La fouille de la tombe princière t 253 (CE 25) est enfin terminée. Il aura fallu pas moins de quatre saisons pour dégager la fosse (2 m de profondeur pour un diamètre d'environ 12 m) et surtout pour achever le relevé de l'extraordinaire dépôt effectué en bordure sud du tumulus. Celui-ci se composait en effet d'environ 4500 frontaux de bovidés disposés en croissant sur plusieurs rangs. Certains se caractérisaient par des cornes verticales et parallèles, une particularité obtenue par déformation progressive, alors que d'autres présentaient des traces de peinture à l'ocre rouge.

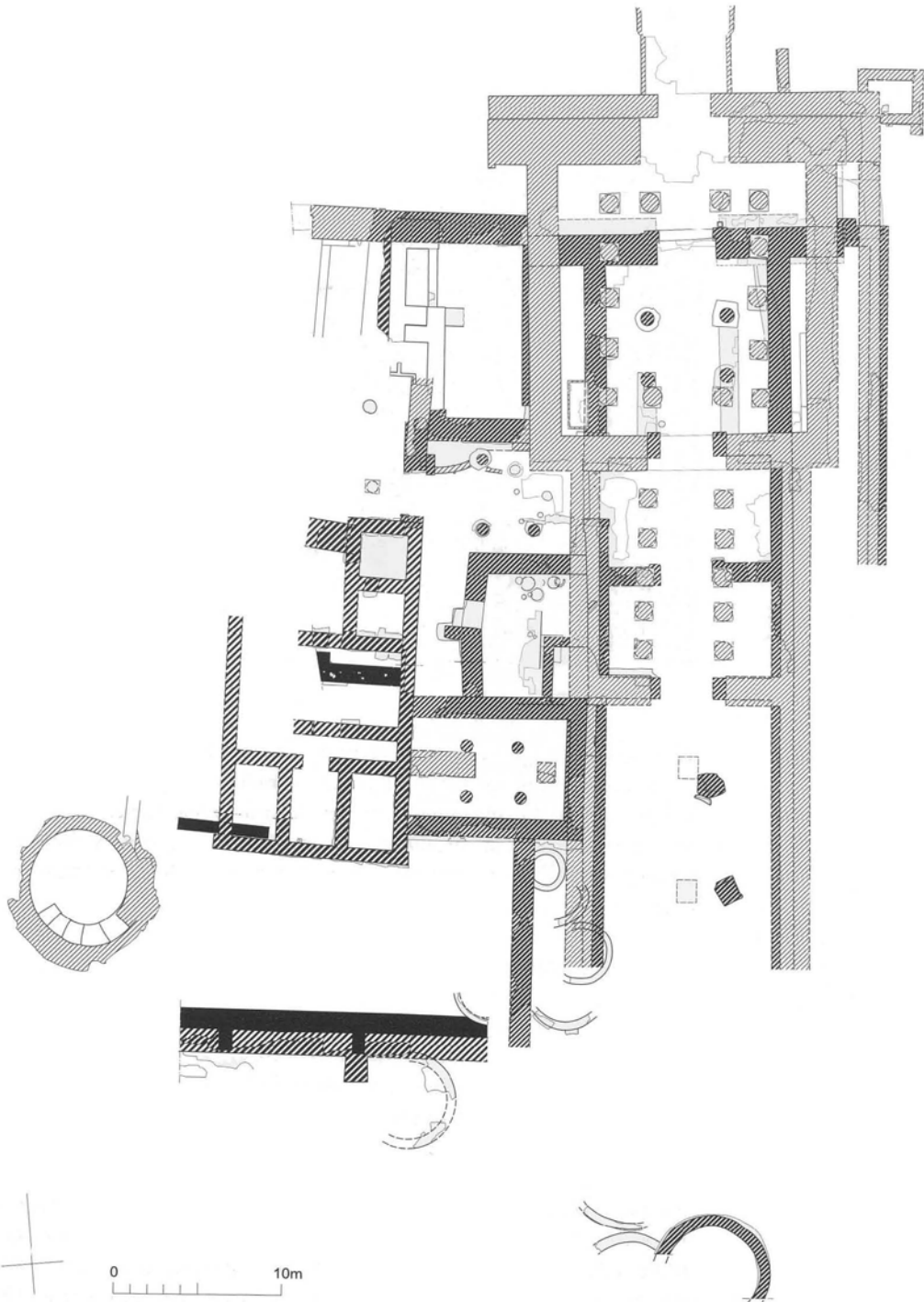
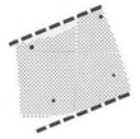
Le site de Doukki Gel

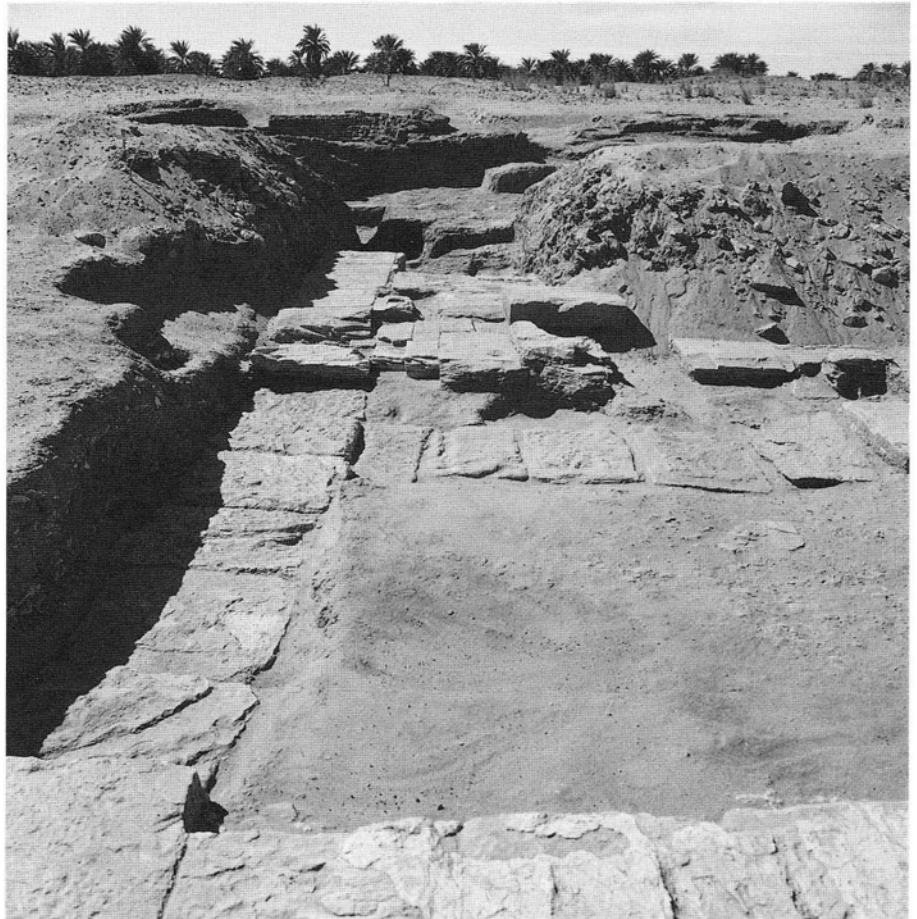
Les différentes investigations menées sur le site de Doukki Gel ont principalement porté sur la zone des temples, mettant notamment en évidence les vestiges de l'époque amarnienne. Des vestiges postérieurs, de même que l'enceinte du complexe architectural ont été également étudiés lors de ces deux campagnes.

Un temple d'Aton

La poursuite des fouilles des temples napatéen et méroïtique au sud a permis de constater que les sanctuaires avaient été complètement détruits. Un socle de granit a pourtant été mis au jour, qui donne une idée de l'ampleur du bâtiment de culte. Rappelons qu'un pré-

-  Etats du début de la 18^e dynastie
-  Etat amarnien
-  Etat napatéen
-  Etat méroïtique





8. BONNET 1999, pp. 70-74

9. BONNET *et alii*, sous presse

mier socle, de naos ou de barque, avait été retrouvé dans l'axe d'une chapelle en pierre établie perpendiculairement au temple (fig. 7). C'est lorsque nous avons voulu compléter le plan de cette chapelle, dont il manquait la limite occidentale, que sont apparues les fondations d'un nouveau temple qui semble pouvoir être associé à une série de petits blocs décorés et inscrits, remployés dans le pavement du temple napatéen⁸. En effet, l'emploi d'une grande quantité de plâtre pour jointoyer les maçonneries de pierre, la présence de blocs de module régulier (52 × 27 × 22 cm) et de céramique du Nouvel Empire sont autant d'éléments qui plaident pour une attribution de l'édifice au règne d'Akhenaton et de Nefertiti (1353-1336 av. J.-C.).

Cette découverte est essentielle car elle prouve que le souverain hérétique avait développé un programme de construction en amont de la 3^e cataracte, comme le laissait soupçonner le nom ancien de Kawa, *Gematon*, situé plus au sud encore. La proximité de la ville de Sésébi, fondée par Aménophis IV-Akhenaton, offre une source de comparaisons fort utile ; à 60 km seulement en aval, l'ensemble archéologique a conservé des vestiges importants qui restent encore à exploiter. Le site de Doukki Gel a pris ainsi une nouvelle dimension et nous avons tout mis en œuvre pour en faciliter l'analyse. Nous avons concentré nos efforts à l'emplacement du temple d'Akhenaton dont l'un des angles avait été retrouvé lors de l'avant-dernière saison⁹. La tâche s'est avérée difficile car le terrain était bouleversé par une exploitation systématique des blocs de pierre après l'époque méroïtique.

7. Doukki Gel | Plans schématiques des temples du Nouvel Empire, d'époques napatéenne et méroïtique

8. Doukki Gel | Fondations du temple d'Akhenaton



10. VERGNIEUX 1999, pp. 4-6

Plus récemment, des *sebbakhin* ont aussi tiré parti des structures en terre pour fertiliser les champs. Cependant, il subsistait encore des fondations imposantes qui ont pu être dégagées partiellement (fig. 8).

Le sanctuaire et ses annexes occupent une surface réduite d'environ 19 m par 11 m. Nous ne disposons pas du plan complet de ce secteur dont seule la moitié a été fouillée mais les données sont suffisantes pour restituer un sanctuaire tripartite précédé par un vestibule. En avant de celui-ci ont encore été reconnues deux pièces carrées. Le monument était établi sur de larges tranchées remplies de sable fin, occupées du reste que partiellement par les grands blocs de grès. Ces derniers étaient liés avec un mortier de limon mélangé à une quantité d'éclats de grès. À leur surface, et plus rarement en profondeur, étaient placés des blocs de plus petit module liés avec une abondance de plâtre. Leur position est réglée par des lignes d'architecte gravées sur les pierres des fondations. Appelés *talatat* depuis le début du XIX^e siècle par les villageois de Karnak, ces petits blocs disposés en carreaux et boutisses sont caractéristiques des constructions souvent hâtives réalisées au cours du règne d'Akhenaton¹⁰.

Le pavement du sanctuaire et de l'allée centrale est partiellement préservé : il est constitué de grandes dalles que nous n'avons pu suivre que sur une surface très réduite. Il en va de même des négatifs en plâtre de maçonneries faites de *talatat* qui sont apparus au nord dans l'allée ; il faudra élargir nos sondages pour pouvoir les interpréter. Toujours dans

9. Doukki Gel | Temple d'Akhenaton : fondation et mur antérieur en briques crues



l'aire du sanctuaire, deux murs en briques crues fort bien aménagés et dotés sur l'un des côtés d'un enduit blanc ont également été localisés (fig. 9). Ils pourraient appartenir, avec deux blocs de fondation, à un état antérieur. Grâce à un sondage effectué à l'angle sud-ouest du temple, nous avons pu constater que le mur méridional en briques crues se prolongeait vers l'ouest.

Un dépôt de fondation de Thoutmosis IV

Le nettoyage de ces vestiges de briques et celui de la tranchée de fondation de l'angle du temple se sont poursuivis en fin de saison. À notre surprise, plusieurs plaquettes de faïence en forme de cartouche et des perles tubulaires étaient déposées le long d'une limite de maçonneries, dans une bande de limon durci et de sable. Deux des plaquettes et quelques perles étaient prises dans le mortier des blocs de fondation du temple d'Akhenaton, ce qui indique qu'une partie du dépôt avait été dérangée lors du chantier de construction du temple. L'une des plaquettes ainsi que les perles étaient même cassées. Nous avons inventorié quinze cartouches de faïence, dont douze portent les noms de Thoutmosis IV et trois ceux de Thoutmosis III, mais les objets retrouvés en place montrent bien qu'il s'agit d'un seul et même dépôt. Les perles sont toutes du même type (fig. 10).

10. Doukki Gel | Dépôt de fondation avec plaquettes (et perles) de faïence aux noms de Thoutmosis IV et Thoutmosis III



Nous avons ainsi la certitude que le temple d'Akhenaton reprend l'emplacement d'un monument antérieur de la XVIII^e dynastie, peut-être fondé par Thoutmosis IV, ou à la construction duquel ce pharaon a participé. On relèvera qu'un bloc de remploi, retrouvé à quelques mètres dans le montant d'une porte d'époque napatéenne, mentionne la titulature d'Aménophis II, le prédécesseur de Thoutmosis IV. Il paraît clair qu'un vaste programme architectural est entrepris à Doukki Gel au début du Nouvel Empire. Des assiettes et des vases renversés le long du mur en briques crues, au sud, pourraient indiquer que le chantier d'époque amarnienne ne fait que modifier une situation préétablie. Cependant, nous avons plutôt l'impression, mais cela demande à être vérifié, que le nouveau temple détruit une bonne part des murs antérieurs.

Les vestiges napatéens et méroïtiques

La fouille a été menée en avant du sanctuaire d'Akhenaton sur plus de vingt mètres de longueur. Il est certain que le monument se prolongeait dans cette direction mais la profondeur des vestiges et surtout les innombrables reconstructions postérieures compliquent singulièrement l'analyse. En effet, si certains murs, faits de briques crues et de pierres, suivent l'orientation en biais du sanctuaire amarnien, des tracés plus orthogonaux en rapport avec les temples voisins sont attestés au moins dès les temps napatéens. Il est possible d'associer plusieurs structures napatéennes et méroïtiques à ces deux temples voisins (fig. 11). On distingue ainsi des murs épais qui semblent correspondre à un temple prenant la succession des lieux de culte du Nouvel Empire et de la XXV^e dynastie. On doit noter la présence d'une seconde chapelle transversale mettant en relation les temples à l'époque napatéenne par des portes latérales ; trois bases de colonnes restituent une première image du plan de la chapelle. Les maçonneries ont été restaurées durant la période méroïtique classique, si l'on en juge par un large emploi de la brique cuite et par le matériel céramique.



maçonneries de briques ou des blocs fragmentaires rangés très grossièrement et entourés de mortier de limon très dur ont été repérés : ils sont encore en place. À l'extrémité nord ont également été observées les dalles d'un sol dont le niveau très profond nous assure que l'aménagement est ancien. Peut-être faut-il penser à un *dromos* ? Outre des murs de briques crues bien construits et deux bases de colonnes, il est intéressant de relever que l'un de ces murs était constitué de briques crues liées au plâtre. Ces maçonneries très dégradées doivent appartenir à la phase amarnienne.

Une allée dallée du Nouvel Empire

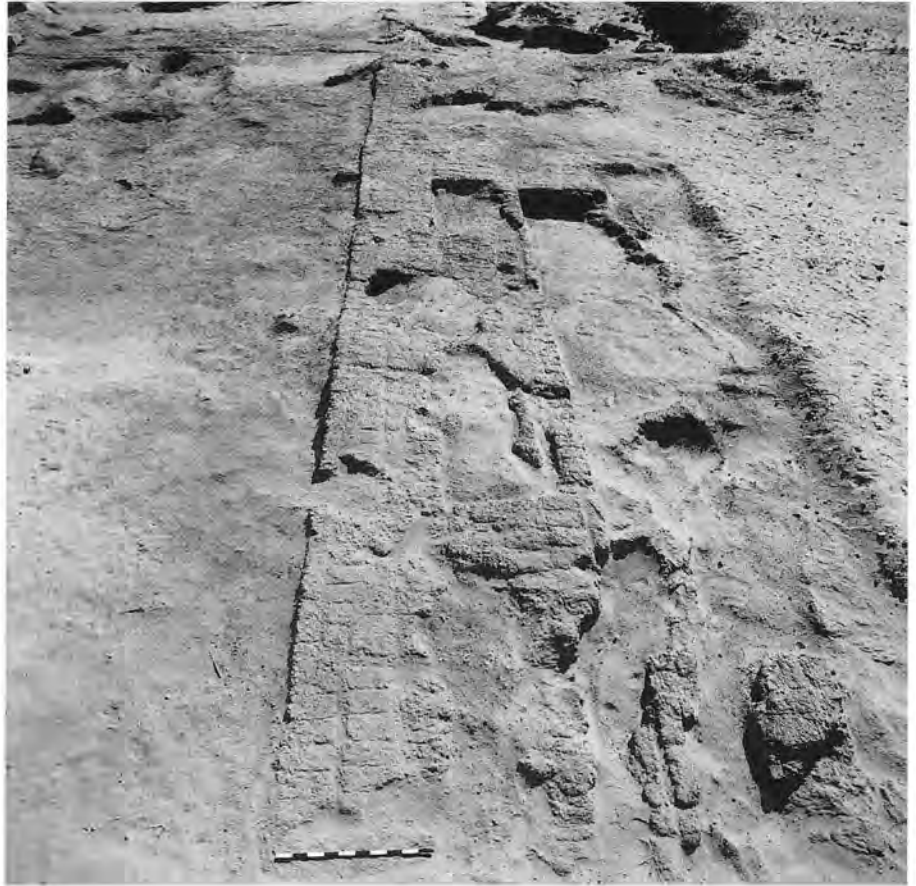
Les opérations liées à la préparation du mortier destiné à nos restaurations sont à l'origine de la découverte, devant les temples étudiés ces dernières années, à une faible profondeur, d'un sol de dalles de grès jaune minutieusement ajustées (fig. 12). La qualité de ce que nous considérons comme une allée est surprenante malgré une forte usure de la surface des pierres. On peut supposer qu'à une époque ancienne, cette allée donnait accès à un temple ou un palais, mais son origine sous le grand temple méroïtique pose des problèmes de chronologie. Sur les bords du pavement, des terres tassées contenaient des tessons de céramique du Nouvel Empire. L'élargissement du secteur dégagé répondra sans doute à ces questions, d'autant que des tertres sont présents à l'est et pourraient convenir à des bâtiments religieux arasés.



Le puits méroïtique

Au sud du complexe, une structure circulaire de 6 m dans l'œuvre et de 8 m de diamètre extérieur a été creusée très près des vestiges que nous attribuons en l'état à Thoutmosis IV (fig. 13). Nous n'avons pu la dégager que sur un peu plus d'un mètre de profondeur. Le mur extérieur est constitué d'une maçonnerie de briques crues souvent placées de chant alors que le parement intérieur est en briques cuites. Celles-ci sont disposées de manière à former un décor que l'éclairage frisant fait particulièrement bien ressortir : à une rangée de briques posées à plat succède une rangée où deux briques de chant alternent avec deux briques à plat. Du côté méridional, plusieurs gros blocs remployés recouverts d'un pavement de blocs de grès constituent les premiers degrés d'un escalier de plus d'un mètre de largeur.

Le dégagement des parties hautes a livré un matériel assez pauvre, mais la forte proportion de moules à pain, d'un type tardif, et des tessons méroïtiques classiques fournit une indication sur la datation du monument. Son remplissage intérieur était presque entièrement constitué de sable, sans doute éolien. Quelques tessons de céramique peinte proviennent aussi des remblais et confirment la datation méroïtique. Il est probable que cette splendide structure soit un puits, bien que sa situation contre le sanctuaire d'un temple soit inhabituelle. Le nettoyage complet des couches de sable est indispensable pour savoir si ce puits servait à observer les variations de la nappe phréatique ou à augmenter le volume



d'eau nécessaire aux boulangeries périphériques. On pourrait aussi envisager l'hypothèse que cette structure corresponde à une *noria* ou *saqqhia* utilisée pour l'alimentation en eau des cultures agricoles.

L'enceinte du complexe architectural de Doukki Gel

Un peu au sud du sanctuaire d'Akhenaton, un segment d'enceinte a fait l'objet d'un décapage soigneux sur dix-huit mètres de longueur (fig. 14). Les alignements de briques crues laissent entrevoir plusieurs phases de construction : la présence de redans paraît assurée, une caractéristique qui rappelle les murs des villes fortifiées du Nouvel Empire établies en aval de la 3^e cataracte. Toutefois, cette enceinte n'a pas la massivité de ces autres exemples : on a en fait juxtaposé deux enceintes relativement étroites (1,25 m puis 1,35 m) qui n'appartiennent pas au même chantier puisque les redans sont repris dans la maçonnerie du deuxième état. Quelques balayages de surface ont suffi pour suivre le tracé de ces murs qui semblent avoir encore été renforcés plus tard. L'angle sud-ouest se trouve à près de soixante mètres et le retour vers le nord est plus long encore, il semble même se poursuivre assez loin.

11. MORROT 2000, pp. 74-90

12. BONNET 1999, pp. 74

13. MACADAM 1955, vol. II, pp. 41-44 et pp. 188-198

rien paraissait moins bien établi et l'absence de points d'appui dans cette région semblait avoir favorisé des soulèvements jusqu'au règne de Thoutmosis III. La réorganisation administrative du territoire en deux provinces sous les pharaons Aménophis II ou Thoutmosis IV est une indication utile pour comprendre comment est effectuée la collecte des taxes et du tribut¹¹. Certes, il faudra démontrer que nous ne sommes pas en présence d'un *temenos* seulement, mais bien des murs d'une ville prenant le relais de la ville antique et de sa deffufa. Des prospections partielles ont montré que des vestiges archéologiques s'étendent à deux cents mètres vers le nord, la chronologie de ces murs de briques crues devra donc être étudiée.

Le matériel archéologique

Le matériel archéologique recueilli ces deux saisons est exceptionnel. Près de six cents blocs ou fragments inscrits et décorés ont été inventoriés ; bien entendu, ils n'offrent pas tous le même intérêt, certaines pièces mineures ayant été conservées uniquement à des fins de collation et de reconstitution. Beaucoup de blocs ont malheureusement été retaillés. Leur dégagement a demandé un temps considérable, certains se délitait complètement et nécessitaient des relevés sur place, d'autres pouvaient être consolidés puis collés. Ce matériel est aujourd'hui déposé dans un nouveau magasin, ce qui permet de poursuivre les travaux de relevé et de photographie.

À l'emplacement du sanctuaire d'Akhenaton un grand nombre d'appliques en faïence et de moules a été préservé. Ces objets ont certainement été fabriqués sur place, dans le petit atelier voisin situé au nord de la chapelle transversale¹². Un matériel en faïence de même genre avait été recueilli à Kawa dans le temple A de Toutankhamon¹³, ainsi que dans le temple de Taharqa. Une recherche plus approfondie permettra sans doute de dater plus précisément ce décor. On peut encore ajouter à cet inventaire plusieurs stèles fragmentaires et de magnifiques pièces de sculpture appartenant à des statues du Moyen ou du Nouvel Empire égyptien, sans compter la céramique abondante.

Le cimetière méroïtique

Ces deux dernières saisons de fouilles ont montré une fois encore l'importance du cimetière méroïtique établi dans la ville antique. Si un certain nombre de descenderies sont apparues lors de nos décapages, peu d'entre elles ont pu être suivies en profondeur jusqu'au caveau. De telles investigations impliqueraient en effet la destruction des structures datant de l'époque Kerma, déjà bien érodées par le passage, ainsi qu'une augmentation des amas de déblais, ce qui compliquerait encore davantage nos analyses de surface. Une recherche spécifique sur ces sépultures devra être envisagée dans le futur. Toutefois, des découvertes de surface et certains dégagements plus profonds, en particulier dans les fossés, nous ont permis d'étudier quelques tombes, apportant ainsi une documentation cohérente avec les trouvailles antérieures. Dans le secteur nord par exemple, la majorité des inhumations peut être datée du Méroïtique classique grâce aux tessons des grosses jarres à bière orangées qui jonchent le sol.

Le pillage de ces tombes aux époques ancienne ou plus récente est généralement sévère. C'est ainsi que les deux caveaux de bonnes dimensions (CO 147 et 154) établis en briques crues dans les fossés du Kerma Classique ne comportaient plus un seul ossement en place.



15. Kerma | Bol caréné fragmentaire décoré de têtes d'Hathor



16. Kerma | Aiguière en bronze d'époque méroïtique dont l'anse est constituée du corps d'un chien

Cependant, trois récipients ont été retrouvés intacts dans l'un des angles peu perturbés de la tombe CO 154 : un arybale décoré sur le haut de la panse par des fleurs, un *unguentarium* en verre à large base de 17,5 cm de haut, et un bol brunissé à lèvre refermée. La tombe CO 147 contenait les restes perturbés d'un homme adulte ; dans le remplissage, quatre bols fragmentaires étaient dispersés dont un, caréné, décoré de signes *ankh*, de plantes et de cornes, s'inscrit dans la belle série des récipients peints du début de notre ère jusqu'au IV^e siècle.

Mais le mobilier le plus exceptionnel provient de la tombe CO 144 dont la descenderie orientée ouest-est a presque entièrement disparu. Le caveau, dont la voûte était encore partiellement conservée, était bouleversé. Le sujet de sexe masculin, âgé de plus de quarante ans, était en *décubitus* dorsal, les bras le long du corps, la tête à l'est ; une partie des ossements manquait. Dans le remplissage ont encore été récoltés quelques ossements d'un deuxième individu ainsi que le bassin d'un enfant. L'inventaire du mobilier restant se compose d'une bague en bronze au chaton décoré d'une tête de bélier, d'une pince à épiler en fer, d'une petite jarre rouge et de plusieurs fragments de bols carénés d'époque classique, dont un se distingue par une représentation de têtes d'Hathor de belle qualité (fig. 15). Pourtant, l'objet le plus remarquable se trouvait pratiquement à la surface du sol, en parfait état de conservation. Il s'agit d'une aiguière en bronze dont l'anse est constituée par le corps allongé d'un chien. Cette pièce d'exception a sans doute été produite par l'un des meilleurs ateliers de la vallée du Nil (fig. 1 et 16).

Conservation et restauration

Il a fallu préparer pas moins de 30'000 briques cuites pour entreprendre la restauration du temple méroïtique de Doukki Gel ; elles sont d'un module supérieur à celui en usage



17. Doukki Gel | Le temple méroïtique
après restauration

actuellement. 40'000 briques crues ont complété nos besoins en matériaux. Un important chantier de restauration a ainsi pu se dérouler sous la direction de Salah El-Din Mohamed Ahmed. Les fragiles vestiges du grand temple méroïtique sont aujourd'hui protégés; c'est depuis le haut du «kom des bodegas» formé par l'amoncellement des moules à pain rejetés à l'époque méroïtique, que l'on saisit le mieux l'importance du monument (fig. 17).

Examinant le massif de la deffufa occidentale, nous avons dû nous rendre à l'évidence : les dégradations continues que subit le monument pourraient provoquer la chute de pans entiers de maçonneries. L'érosion éolienne et les milliers d'oiseaux ont en effet sérieusement miné les parties hautes, sans parler des visiteurs indécents qui escaladent les parois et arrachent des briques crues pour le plaisir de les voir exploser quinze mètres plus bas. Des mesures d'urgence s'imposaient, en particulier au sud-est de l'avant-corps, où les fissures s'étaient élargies de manière inquiétante. C'est ainsi que nous avons dû nous résoudre à monter un énorme soubassement sur près de huit mètres de hauteur qui, s'il altère quelque peu la célèbre silhouette, est à même d'empêcher l'écroulement des maçonneries en surplomb. D'autre part, l'augmentation du nombre des touristes nous a incités à mettre en place des circuits de visite. Plusieurs habitations ont ainsi été restituées dans le quartier où se trouvera l'entrée principale du site. Ces habitations sont implantées de part et d'autre de l'une des voies d'accès menant au *temenos*. Le grand bâtiment administratif établi à proximité de la porte orientale et des « boulangeries » a également fait l'objet d'une restitution qui redonne tout son intérêt à un espace où se déroulaient les opérations liées au trafic des marchandises : scellement ou descellement de ballots, paniers ou récipients contenant des produits parfois en provenance de terres lointaines. Dans le quartier religieux, la mise en valeur des vestiges du palais, des portiques et d'une chapelle facilite la compréhension d'un complexe architectural qui s'est développé durant sept à huit cents ans. Enfin, les contacts pris avec l'architecte Abdallah M. Sabbar se sont concrétisés par l'élaboration d'un projet de musée de site et d'un ensemble touristique installé le long du côté oriental du champ de fouilles.

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Crédits des illustrations

Marion Berti, fig. 2 | Marion Berti, Gérard Deuber, Françoise Plojoux, Salah El-Din Mohamed Ahmed, fig. 7 | Pascale Kohler-Rummler, fig. 1, 3-6, 8-17

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1. Cf. HONEGGER 1999

2. L'érosion éolienne est le facteur naturel de destruction des sites archéologiques le plus important dans la région. Cependant, l'extension des surfaces cultivées représente aujourd'hui la principale menace pour le patrimoine archéologique.

3. Cf. HONEGGER 1999, pp. 80-81

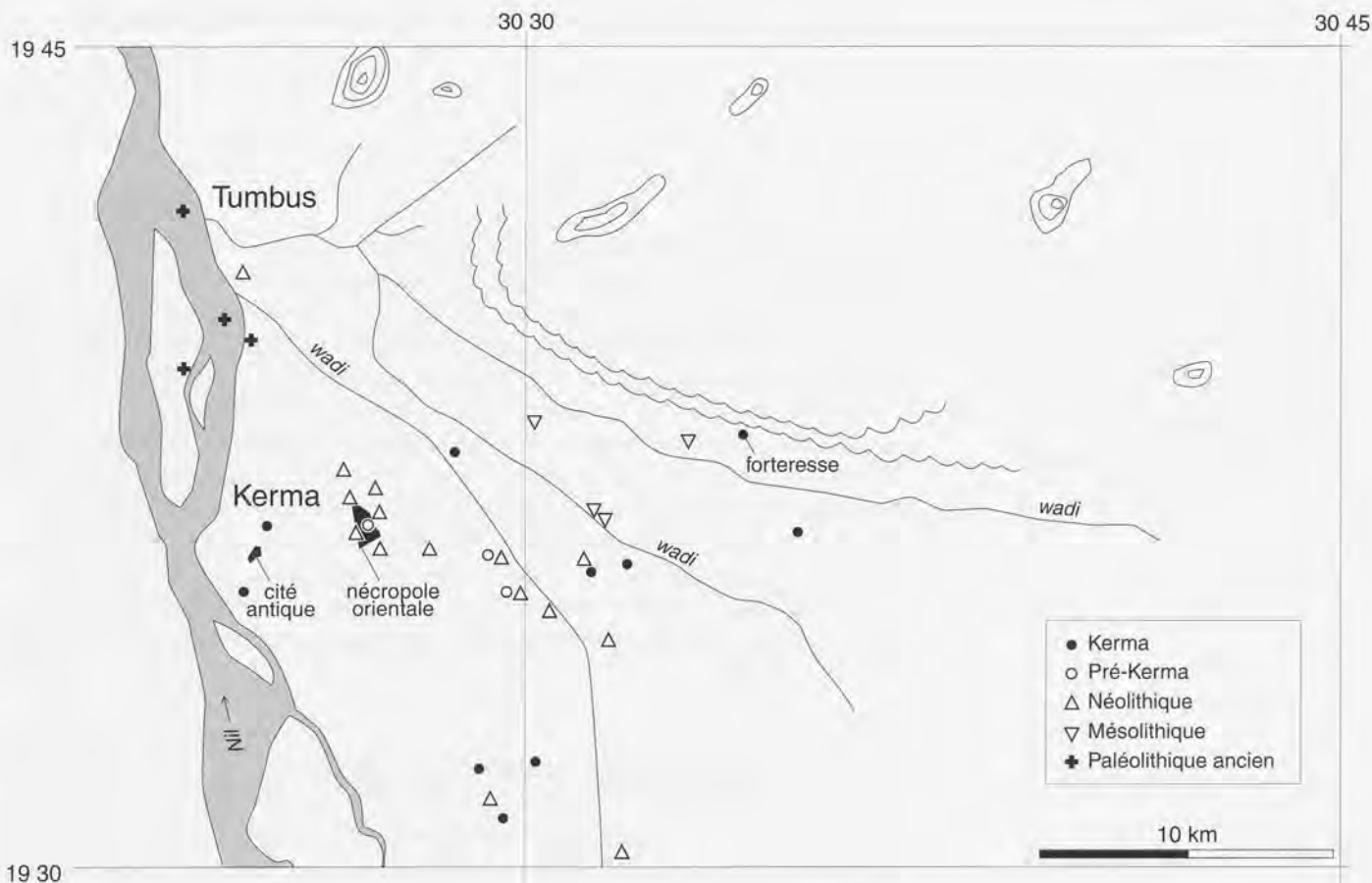
Durant les deux dernières campagnes de fouilles de la mission de l'Université de Genève, les travaux sur les périodes antérieures à la civilisation de Kerma se sont poursuivis sur l'emplacement de la nécropole orientale. Ce lieu demeure privilégié pour l'étude des établissements du néolithique et du pré-Kerma, non seulement par sa position topographique et géographique¹, mais surtout par le fait que les tumulus funéraires du Kerma ont contribué à protéger les sites plus anciens de l'érosion éolienne². Parallèlement à ces recherches, un projet de prospection archéologique a été lancé depuis l'année dernière sur un territoire de vingt-deux kilomètres sur trente-cinq, situé sur la rive droite du Nil aux alentours de la cité de Kerma (fig. 1). Ce nouveau projet répond à la nécessité de répertorier et de fouiller les sites archéologiques localisés dans la plaine alluviale, qui sont de plus en plus menacés de destruction par l'extension des surfaces agricoles en direction du désert. Il devrait également permettre d'atteindre l'un de nos principaux objectifs, qui consiste à établir un cadre chronologique et culturel de référence pour la préhistoire récente de la Haute-Nubie (fig. 2).

Habitat et nécropole pré-Kerma

La fouille de l'établissement pré-Kerma se poursuit dans la partie occidentale de l'agglomération, qui représente la dernière surface pouvant être exploitée par nos moyens d'investigation. Rappelons qu'en direction de l'est, la limite de la zone habitée semble avoir été atteinte, tandis que vers le sud et le sud-est, l'érosion a entraîné la disparition de plusieurs dizaines de centimètres de sédiments, détruisant les vestiges pré-Kerma et faisant apparaître des structures remontant au néolithique³. Enfin, au nord, la couche archéologique est bien mieux préservée, mais elle est recouverte par une importante épaisseur de sable éolien qui rend illusoire la conduite de décapages manuels sur de vastes surfaces.

En 1999, la découverte d'une sépulture pré-Kerma dans les secteurs occidentaux permettait d'envisager la présence d'une nécropole bordant l'agglomération. La mise au jour en 2001 d'une seconde inhumation de la même époque tend à confirmer cette première impression. Il sera néanmoins difficile de restituer une image représentative de l'ensemble de ce cimetière, car il doit avoir en grande partie disparu. Les deux tombes sont en effet situées très près de la surface et ont été particulièrement exposées aux destructions causées par l'érosion et par l'implantation des sépultures de la civilisation de Kerma. À l'origine, les corps inhumés ne semblent pas avoir été insérés dans une fosse ; ils ont probablement été directement déposés à la surface du sol avant d'être recouverts d'un tertre en terre. Un tel dispositif les rend particulièrement vulnérables aux dégradations.

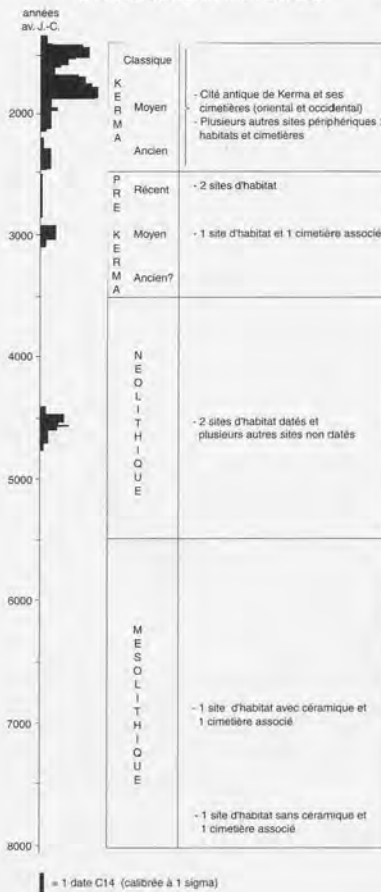
La rareté des trous de poteaux et la présence de tombes dans le secteur occidental suggèraient que la limite de l'habitat avait aussi été atteinte de ce côté-ci de l'agglomération. Or, l'extension des décapages a révélé, lors de la dernière campagne, des vestiges d'ar-



chitecture démontrant que l'établissement pré-Kerma se poursuit en direction de l'ouest, même si la densité de l'occupation est bien plus faible que dans la zone centrale des fosses de stockage. Ces vestiges se matérialisent par deux nouvelles structures signifiées par des trous de poteaux. La première correspond à une grande hutte de six mètres de diamètre, parfaitement circulaire, dont les poteaux sont très régulièrement espacés (fig. 3). Son entrée a pu être identifiée ; elle s'ouvre en direction du sud, soit à l'opposé du sens du vent dominant. L'espace interne n'a pas révélé de poteau central ou d'aménagement particulier, si ce n'est la présence de quatre petites dépressions circulaires, réparties par groupes de deux. Peu profondes, elles évoquent un dispositif de calage de céramique, probablement des jarres servant à stocker des denrées. À quelques mètres de cette hutte, une seconde structure moins régulière, légèrement ovale, composée de poteaux bien plus espacés, pourrait éventuellement correspondre à un petit enclos à bétail. Son accès se signale par une zone de circulation, caractérisée par de nombreuses empreintes de pieds et par quelques enfoncements de sabots de bovidés. La datation d'un échantillon de charbon trouvé en surface est en cours d'analyse pour vérifier si ce lieu de passage est bien contemporain de l'occupation pré-Kerma. Si le sol d'origine est bel et bien conservé dans ce secteur, ce qui semblerait être le cas, la profondeur d'implantation des poteaux de la hutte et de l'enclos légèrement ovale serait alors connue avec précision. Celle-ci atteindrait une dimension étonnamment réduite, de l'ordre de vingt à trente centimètres.

1. Carte de la région de Kerma avec l'emplacement des sites repérés lors de la prospection réalisée pendant la campagne 2000-2001

Chronologie des occupations identifiées dans la région de Kerma entre le 8ème et le 2ème millénaire av. J.-C.



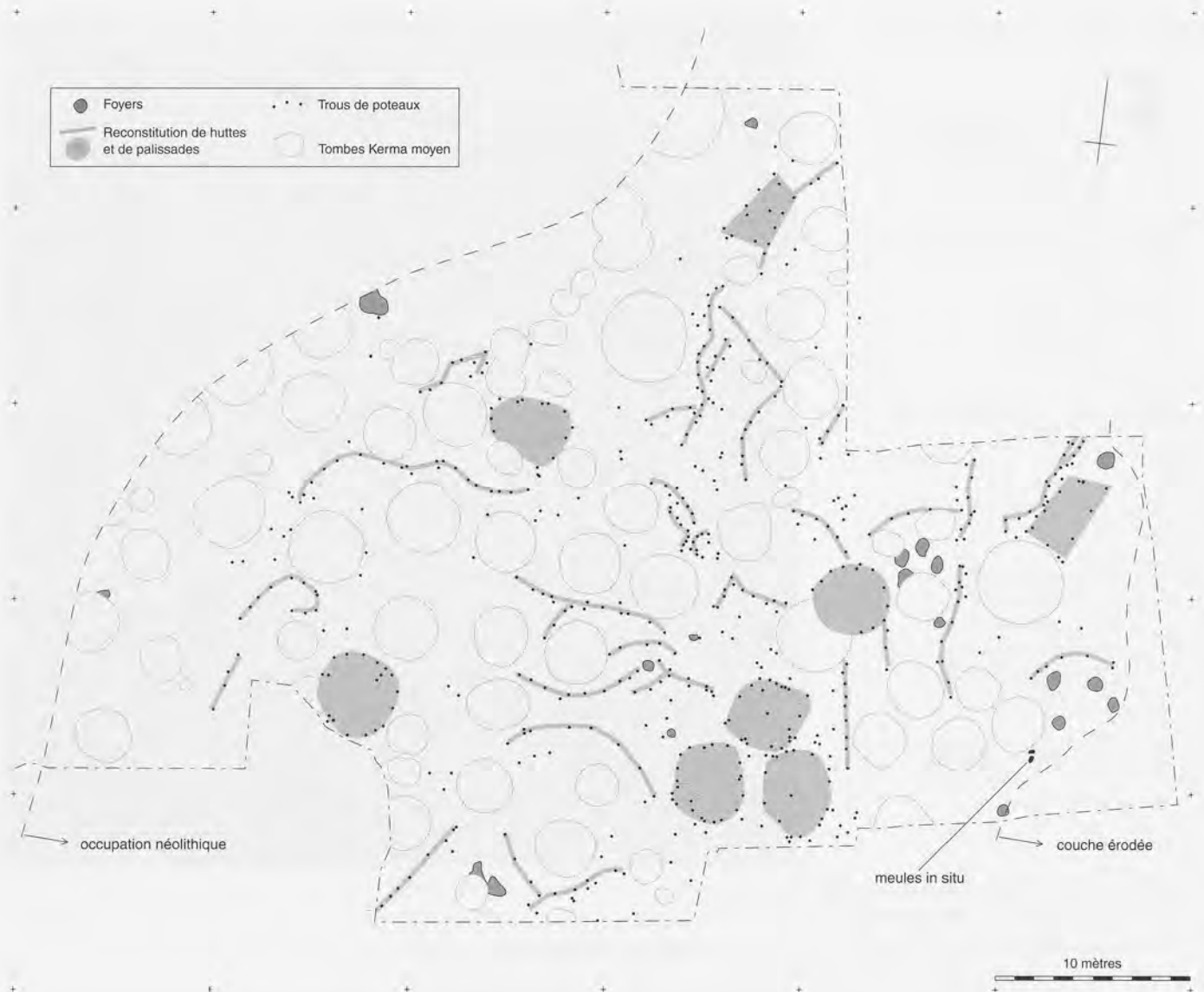
Habitat du néolithique

Au sud-est de l'agglomération pré-Kerma, les décapages se sont poursuivis dans les secteurs où l'érosion fait apparaître un niveau sous-jacent du néolithique, remontant au milieu du V^e millénaire av. J.-C. (fig. 4). Selon les endroits, la sédimentation n'est pas toujours propice à l'identification des trous de poteaux, car la présence de niveaux sableux rend la lecture du terrain difficile. Il n'est donc pas certain que l'on ait pu saisir l'intégralité des vestiges architecturaux. Cependant, la surface ouverte en 2001, située à l'extrémité orientale de l'établissement connu, était particulièrement bien conservée et a révélé des alignements de poteaux dont la lecture est évidente (fig. 5). On a également identifié plusieurs foyers, ainsi que deux meules *in situ*. De la céramique, des éclats de silex et des ossements de faune étaient également présents en surface. Leur position dans l'habitat est cependant peu significative, dans la mesure où l'endroit a été lessivé par d'anciennes crues du Nil qui ont emporté ou déplacé la majorité des artefacts qui jonchaient alors le sol.

Dans son organisation générale, cet établissement ne présente pas la même cohérence que l'agglomération pré-Kerma, mais il faut remarquer que l'on ne dispose pour l'instant

2. Tableau chronologique des occupations identifiées dans la région de Kerma entre le VIII^e et le II^e millénaire av. J.-C. Les datations au radiocarbone, calibrées à 1 *sigma*, sont présentées sous la forme d'un histogramme pondéré. Seules les datations réalisées sur des échantillons de charbon de bois figurent ici, soit vingt-huit au total.

3. Hutte de six mètres de diamètre située dans la partie occidentale de l'agglomération pré-Kerma



4. Plan de l'habitat du néolithique situé au sud-est de l'agglomération pré-Kerma, sous les tombes de la nécropole orientale de Kerma

d'une surface réduite limitant la compréhension de l'ensemble. L'architecture, matérialisée par des trous de poteaux, se caractérise par des palissades de longueur réduite, par des huttes de forme ovale dont le diamètre avoisine les quatre mètres et par deux bâtiments rectangulaires, la reconstitution de l'un d'entre eux ne faisant aucun doute (fig. 5). Les palissades créent des divisions à l'intérieur de l'espace habité; selon les cas, elles forment des sortes de petites cours en relation avec les huttes.

Les foyers, au nombre de dix-huit, ne se répartissent pas toujours de manière très claire par rapport à l'habitat. Trois d'entre eux se trouvent à la périphérie des palissades et des huttes. Ils pourraient appartenir à une occupation légèrement plus récente que le reste des vestiges dégagés. À l'extrémité orientale, où la conservation est meilleure, ils s'organisent de façon plus cohérente par rapport à l'architecture. On peut y reconnaître deux groupes de quatre à cinq foyers, qui se trouvent, à chaque fois, au sud d'une courte palissade décrivant un arc



4. Il s'agit des sites du néolithique repérés sur l'emplacement de la nécropole orientale ou dans ses environs immédiats (HONEGGER 1999) et d'un gisement du paléolithique ancien (CHAIX *et alii* 2000).

5. Le mobilier provenant de deux de ces affleurements a déjà fait l'objet d'une première étude (CHAIX *et alii* 2000).

6. Au sujet du déplacement du cours du Nil, cf. MARCOLONGO/SURIAN 1997

de cercle. Cette dernière semble avoir joué le rôle de coupe-vent, destiné à protéger les foyers. Deux meules *in situ* ont été découvertes à proximité de l'un de ces ensembles.

Cet établissement du néolithique est prometteur et sa fouille se poursuivra lors de la prochaine campagne dans les secteurs nord-orientaux, qui paraissent les mieux conservés. Il s'agit ici du premier village néolithique du Soudan livrant des vestiges architecturaux clairement structurés. À ce jour, les recherches sur les habitats de cette époque avaient livré tout au plus quelques foyers accompagnés d'artefacts. L'état de conservation des sites fouillés n'avait pas permis de reconnaître une architecture en bois et de percevoir une organisation d'ensemble.

Prospection archéologique

Les premières prospections dans la région de Kerma se sont avérées particulièrement fructueuses. En plus des dix-huit sites déjà repérés précédemment⁴, vingt-deux nouveaux gisements ont été découverts. Le plus ancien remonte au paléolithique ancien et correspond à quatre affleurements d'une plage de galets située en bordure du Nil. Ils livrent des outils en silex taillés et des restes de faune remontant à un million d'années environ (fig. 1)⁵.

Les sites datant du mésolithique sont localisés du côté du désert, en bordure de la plaine alluviale. Ils devaient longer d'anciens bras du Nil, lorsque celui-ci coulait à l'est de son lit actuel⁶. Deux gisements n'ont livré que quelques artefacts et semblent correspondre à des habitats très érodés. Les deux autres découvertes sont plus intéressantes. Il s'agit de deux habitats assez proches l'un de l'autre, associés à chaque fois à une petite nécropole. Le premier est assez mal conservé, à en juger par l'absence de couche archéologique et par l'état des tombes, dont les squelettes apparaissent directement à la surface du sol. La zone de l'habitat paraît cependant peu perturbée. La densité des artefacts y est assez élevée et décrit une aire bien circonscrite. On y trouve des outils en silex, des nucléus et des

5. Vue de l'habitat du néolithique avec deux palissades et un bâtiment rectangulaire. Les structures circulaires marquent l'emplacement des tombes de la civilisation de Kerma



7. L'étude de la faune provenant des sites de la région de Kerma est conduite par L. Chaix, Muséum d'histoire naturelle de Genève.

8. Cf. GARCEA 1996

9. Cf. BONNET 1986, pp. 17-18

10. Les autres prospections réalisées dans le bassin de Kerma, au sud de notre zone d'étude, signalent pourtant la présence de nombreux cimetières du néolithique (REINOLD 1993, WELSBY 1997).

déchets de débitage. Des petites meules et des molettes sont également présentes. Par contre, les ossements de faune font défaut; ils ont dû être réduits en poussière par l'action érosive du vent. Il est possible qu'il en soit de même pour la céramique, si celle-ci était déjà en usage à l'époque.

Le deuxième habitat est nettement mieux conservé; la couche archéologique est assez épaisse et livre de nombreux artefacts (silex taillés, céramique, charbon de bois, matériel de mouture et ossements de faune). Les observations préliminaires réalisées sur la faune visible en surface indiquent que les espèces représentées se composent notamment d'animaux sauvages de milieu aquatique (hippopotame, silure, tortue, crocodile)⁷. Quelques tessons de céramique décorée permettent de rapprocher cette occupation de l'horizon *Early Khartoum*, ce qui nous situe globalement entre la seconde moitié du VIII^e millénaire et le VI^e millénaire av. J.-C.⁸. Les tombes bordant l'habitat sont assez bien conservées, même si certains squelettes apparaissent en surface. Dans quelques cas, la superstructure de pierres couvrant l'inhumation est encore en place (fig. 6). Composée de galets de grès nubien disposés en cercles concentriques, elle évoque un dispositif couramment observé sur les tumulus funéraires de la civilisation de Kerma. Ces deux sites du mésolithique se trouvent à proximité de zones cultivées et sont menacés de destruction à moyen terme. Ils devraient faire l'objet d'une fouille au cours des prochaines années.

Les sites datant du néolithique sont les plus nombreux: sept gisements viennent s'ajouter aux dix-sept emplacements déjà repérés sur la nécropole orientale ou dans ses environs immédiats. Ils correspondent à des habitats, mais ils sont très érodés et ne livrent que quelques objets et des restes de foyers. De manière générale, leur état de conservation est moins bon que celui des sites de la nécropole orientale. En dehors du cimetière déjà connu d'Ashkan près de Tumbus⁹, aucun autre ensemble funéraire du néolithique n'a été identifié dans la région de Kerma¹⁰.

Deux nouveaux habitats pré-Kerma ont été reconnus à quatre kilomètres à l'est de l'agglomération fouillée depuis plusieurs années. Tous deux sont plus récents que cette der-

6. Aménagement de surface en pierres indiquant l'emplacement d'une sépulture sur le site du mésolithique livrant de la céramique. Le diamètre de la structure atteint environ un mètre.

11. Cf. BONNET *et alii* 1990, BONNET/REINOLD 1993

12. Notamment dans les zones du bassin de Kerma prospectées plus au sud (REINOLD 1993)

nière. Le premier couvre quelques hectares, mais il a été en grande partie détruit par des cultures. De nombreux artefacts gisaient néanmoins à la surface (céramique, silex taillé, matériel de mouture, ossements de faune). Un sondage de deux cents mètres carrés, réalisé à proximité de deux foyers apparemment peu perturbés, n'a livré aucune structure telles que des fosses ou des trous de poteaux. Le mobilier s'est avéré nettement moins abondant que celui récolté en surface. L'autre site est localisé à quelques centaines de mètres plus au sud. Un foyer était encore préservé ainsi que de rares artefacts, mais les cultures avaient déjà recouvert presque l'intégralité du gisement.

Quelques occupations de la civilisation de Kerma ont été identifiées. Il s'agit de deux groupes de tombes implantés dans le désert et de trois habitats mal conservés. Ces découvertes viennent compléter la liste des nombreux autres sites connus pour cette période : les gisements actuellement en cours de fouille (cité antique et nécropole orientale), les interventions de sauvetage réalisées dans la ville moderne et encore les cimetières et la forteresse repérés lors de prospections antérieures¹¹.

Aucun gisement important postérieur à la civilisation de Kerma n'a été repéré durant la dernière campagne. Seul un site chrétien très érodé a été localisé. Il se peut que ces établissements récents soient peu nombreux du côté du désert. C'est du moins ce que semble indiquer la répartition des sites connus de ces périodes, qui se concentrent surtout le long du cours actuel du Nil.

Les occupations du néolithique, tout comme celles plus tardives du pré-Kerma, ne sont pas situées aussi près du désert que les gisements du mésolithique (fig. 1). Entre le VIII^e et le III^e millénaire av. J.-C., le cours du Nil s'est déplacé en direction de l'ouest, dictant l'implantation des sites à sa proximité. Ce phénomène de translation du fleuve, qui implique un déplacement au cours du temps des sites archéologiques d'est en ouest, a déjà été observé ailleurs¹². Pour la période correspondant à la civilisation de Kerma, cette règle n'est plus applicable, car les sites ne sont plus localisés uniquement le long d'un ancien cours du fleuve ; ils occupent toute la plaine alluviale et s'étendent même au-delà.

Cadre chronologique et culturel

Les périodes pré- et protohistoriques sont pour l'instant mal connues en Haute-Nubie et un cadre chronologique de référence fait cruellement défaut. À l'heure actuelle, les comparaisons avec d'autres ensembles datés ne peuvent être établies qu'avec des régions lointaines – Basse-Nubie et Soudan central – à défaut de références locales solides. La multiplication des datations au radiocarbone, de même que l'étude typologique de la céramique et de l'industrie lithique provenant des différents gisements connus, devraient permettre, à moyen terme, de dresser un tableau de l'évolution culturelle de la société depuis le VIII^e millénaire av. J.-C. jusqu'au début de la civilisation de Kerma.

C'est ainsi que les anciennes datations réalisées sur des sites de la civilisation de Kerma ont été réévaluées et que de nouvelles analyses sont régulièrement lancées. Après avoir procédé à de nombreux tests, il s'est avéré que le matériau utilisé pour les analyses au carbone 14 jouait un rôle important dans la qualité des résultats. Le charbon de bois livre les données les plus fiables, tandis que les matières organiques provenant des sépultures ayant subi un processus de momification naturelle (cuir, ossements) fournissent des datations médiocres, en général trop récentes. Ce constat nous a conduits à ne retenir que les

13. La céramique de ces deux sites présente des analogies avec les tessons pré-Kerma de l'île de Saï, dont la datation s'inscrit dans un intervalle similaire (MEURILLON 1997).

dates réalisées sur des échantillons de charbon de bois. L'image qui en ressort est parfaitement cohérente (fig. 2). Les datations permettent de cerner les phénomènes avec une précision de un à deux siècles.

Tous les sites ne sont pas datés et notre chronologie présente encore bien des lacunes, mais les premiers résultats sont prometteurs. Deux habitats néolithiques de la nécropole orientale remontent aux environs de 4 500 av. J.-C. Ils sont suivis d'un long hiatus qui se termine vers 3 000 av. J.-C. avec l'agglomération pré-Kerma. À partir de cette date, la continuité des occupations est assurée jusqu'à la fin de la civilisation de Kerma. Les deux habitats pré-Kerma récemment découverts s'inscrivent dans un intervalle compris entre 2 800 et 2 500 av. J.-C., soit juste avant le Kerma ancien qui débute peu après 2 500 av. J.-C.

L'étude préliminaire du mobilier, notamment de la céramique, permet de préciser la définition des ensembles culturels proposés. Le néolithique présente encore trop de lacunes pour pouvoir être subdivisé en phases. Par contre, il est possible de proposer une partition en trois étapes pour le pré-Kerma, dont les deux plus récentes sont aujourd'hui documentées. L'agglomération de la nécropole orientale est ainsi attribuée au pré-Kerma moyen, tandis que les deux habitats situés plus à l'est appartiennent au pré-Kerma récent¹³. La céramique nous incite à envisager une continuité stylistique entre le pré-Kerma moyen et le Kerma ancien. En effet, des éléments importants comme les vases rouges à bord noir, les décors au *rippled*, les motifs de lignes incisées ou imprimées et les impressions successives au peigne évoluent sans rupture entre les trois ensembles culturels connus. Il est encore trop tôt pour traduire ces observations en termes de peuplement. Mais dans l'état actuel de nos connaissances, tout porte à croire que la civilisation de Kerma puise ses origines dans les traditions locales du pré-Kerma, sans qu'il soit nécessaire d'envisager un apport extérieur déterminant.

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Crédits des illustrations

Auteur, fig. 1-6

1. VALBELLE 1999
2. BONNET 2001, p. 209
3. VALBELLE/BONNET, sous presse

Chacune des deux dernières campagnes de fouilles sur le site de Doukki Gel a apporté une très riche documentation épigraphique, étonnamment complémentaire l'une par rapport à l'autre, sur les différents bâtiments religieux qui se sont succédé à partir de la XVIII^e dynastie dans le périmètre de la ville égyptienne. Les indices chronologiques reconnus en 1998-1999¹ se sont vus confirmés et de nouvelles périodes ont été illustrées. Les édifices anciens étant surtout identifiables grâce aux remplois qui ont été faits de leurs blocs dans des monuments ultérieurs, on constate des regroupements bien déterminés dans le cadre de ces remplois. Ainsi les *talatat* décorées ont été presque toutes mises au jour, jusqu'à présent, dans les sols et les maçonneries du temple napatéen, tandis que les fondations du temple d'Akhénaton correspondant en étaient quasiment dépourvues. En revanche, celles-ci ont livré de multiples fragments et blocs provenant de bâtiments du début de la XVIII^e dynastie, certains d'entre eux ayant été retaillés aux dimensions des *talatat*, ce qui n'a guère été observé ailleurs jusqu'à présent. Selon les hasards de la fouille et de la conservation, ces différentes constructions sont encore plus ou moins précisément datées et sont parfois représentées, à l'heure actuelle, par un seul bloc ou fragment de bloc.

Le travail consiste actuellement à déterminer peu à peu, dans les six cents blocs et fragments retrouvés à ce jour, des ensembles monumentaux à l'aide de tous les critères disponibles – matériaux, caractéristiques architecturales, nature, style, contenu des reliefs et des inscriptions, restes de polychromie, etc. C'est surtout lorsqu'ils comprennent un ou plusieurs éléments décorés où subsiste tout ou partie d'un nom royal que ces ensembles peuvent être précisément datés. Mais d'autres indices permettent de proposer des attributions qui devront être confirmées ultérieurement.

Blocs et fragments antérieurs à l'époque amarnienne

Divers fragments de grès gris clair comportent un décor en léger relief assez caractéristique du règne de Thoutmosis III, quoique le nom de fils de Rê de ce souverain – Menkhéperrê – n'ait été jusqu'ici retrouvé que sur trois plaquettes de faïence appartenant à un dépôt de fondation de Thoutmosis IV². Plusieurs mentions incomplètes du nom de roi de Haute- et Basse-Égypte – Djéhoutymès – appartiennent à cette même série. À de rares exceptions près, tel ce fragment de pilier retaillé en base de colonne découvert l'an passé dans la chapelle transversale (fig. 1), ils ont tous été mis au jour dans le secteur du temple d'Akhénaton, manifestement construit sur l'emplacement d'un monument antérieur. Plusieurs reliefs proviennent de piliers. Deux éléments d'une liste d'offrandes sont particulièrement remarquables (fig. 2). D'autres reliefs sont sculptés dans un style très proche bien qu'un peu moins fin. Un éclat restitue le début du nom de fils de Rê de Thoutmosis III ou IV, puisque seuls les signes *rc* et *mn* sont conservés à l'intérieur du cartouche. Divers fragments d'un linteau et un éclat ont conservé les noms d'Amenhotep II (fig. 3). Les grands conquérants de la première partie du Nouvel Empire ont donc indiscutablement participé à la mise en œuvre d'un ou plusieurs sanctuaires, sans doute déjà dédiés à Amon³.



Talatat décorées

1. Fragment de pilier thoutmoside figurant le visage d'un Horus sur deux faces, puis retaillé ultérieurement en base de colonne, mis au jour dans la chapelle transversale (bloc 183)

2. Fragment de relief thoutmoside figurant une liste d'offrandes (bloc 412)

Le lot le plus important de *talatat* décorées découvertes jusqu'à présent sur le site de Doukki Gel vient des dallages du temple napatéen perturbés par les *sebbakhin*. Les nouveaux blocs confirment que le décor consiste surtout en grandes scènes figurant Akhénaton, Néfertiti et les princesses, de part et d'autre d'autels chargés d'offrandes diverses destinées à Aton dont les rayons confèrent la vie aux uns et aux autres. Un bloc porte les cartouches intacts du dieu sous la « première forme du nom didactique » : « Vivant est

4. MURNANE 1995, doc. 5, p. 30; bibliographie p. 245

5. Voir, en dernier lieu, VERGNEUX 1999, pp. 169-174

6. Sur le début du règne, voir GABOLDE 1998, pp. 24-30. La plus ancienne attestation connue des nouveaux cartouches royaux se trouve sur les stèles frontières X et K d'Amarna portant la «première proclamation» et commémorant la fondation de la ville. Elle est datée de l'an 5, le quatrième mois de la saison *peret*, le 13^e jour.



3. Fragments d'un linteau aux noms d'Amenhotep II, réemployés dans un montant de porte napatéenne (raccord 348)

4. *Talatat* portant les cartouches intacts d'Aton (bloc 191)

Rê-Horakhty qui se réjouit dans l'horizon, en son nom de Chou qui est dans l'Aton» (fig. 4). Cette forme du nom se rencontre pour la première fois dans l'inscription des carrières du Gebel Silsileh⁴ et il n'est en usage que jusqu'à l'an 9 du règne⁵. Les noms et les visages martelés des souverains (fig. 5), ainsi que les silhouettes conservées, étant révélateurs de la réforme initiée par le couple à partir de l'an 5⁶, il est vraisemblable que la construction du temple d'Akhénaton à Doukki Gel se situe entre ces deux dates.

Un certain nombre de segments d'inscriptions sont conservés sur des *talatat* complètes ou fragmentaires. Plusieurs d'entre elles nous apportent notamment des éléments d'infor-



7. GARFI/KEMP 1987, pp. 103-114; MALLINSON 1989, pp. 115-142

8. BLACKMAN 1937, pp. 147-148 et pl. XIII, J-5 et XVI, 3

9. ROEDER 1969

5. Visage martelé de Néfertiti (bloc 173)

6. Bloc aux noms de Séthi I^{er} (bloc 144)

mation sur le nom du temple, la disposition du décor et l'épaisseur des murs de refend. Ces informations sont encore trop partielles pour être pleinement exploitées, mais la poursuite de la fouille devrait apporter des compléments au cours des prochaines campagnes. On doit rappeler que la découverte de *talatat* décorées à proximité immédiate des vestiges architecturaux de temples d'époque amarnienne est exceptionnelle. Habituellement, les égyptologues disposent soit des fondations conservant parfois des *talatat* non décorées ou leur empreinte – comme à Amarna⁷ ou dans le temple d'Aton de Sésébi⁸ – soit de *talatat* décorées employées dans des monuments ultérieurs sur le site même – comme à Karnak – ou sur d'autres sites – comme Hermopolis⁹ où ont été retrouvées les *talatat* provenant des sanctuaires d'Amarna. En dehors du temple d'Akhénaton à Kerma, seul le



Gempaaton de Karnak-Est permet cette association¹⁰. La découverte de blocs antérieurs à l'époque amarnienne retaillés aux dimensions des *talatat* est une pratique non attestée ailleurs jusqu'à présent.

Témoignages ramessides

Plusieurs blocs et fragments peuvent être attribués à des monuments d'époque ramesside dont nous ignorons encore la situation et l'importance. Le plus ancien est aussi le mieux daté, puisqu'il porte les restes des noms de roi de Haute- et Basse-Égypte et de fils de Rê de Séthi I^{er} (fig. 6). Il provient du fond du temple napatéen, ainsi qu'une *talatat* regravée sous la XX^e dynastie, sans doute durant le règne de Ramsès III. Nous avons émis l'hypothèse, l'an passé¹¹, que quelques pierres portant des inscriptions peu profondes et peintes en jaune, mises au jour dans les parties antérieure et centrale du temple napatéen, aient pu appartenir à une construction de la XIX^e dynastie, peut-être du règne de Siptah dont le nom de couronnement semble partiellement conservé sur l'une d'elles. Aucun élément nouveau ne nous permet pour l'instant de confirmer ou d'infirmer cette proposition.

Monuments de la XXV^e dynastie, napatéens et méroïtiques

Les deux dernières campagnes ont apporté des compléments épigraphiques et iconographiques à notre connaissance des temples de la XXV^e dynastie, napatéen et méroïtique. Ainsi, divers fragments de tambours de colonnes ont notamment restitué le toponyme *pr-nbs*/Pnoub, tandis que deux blocs assemblés livraient le cartouche de Néferibrê, nom de couronnement d'Arikamanonite¹². Rappelons que ce souverain énumère, sur la stèle qu'il a érigée dans le temple de Kawa, les étapes de son couronnement dans les temples d'Amon résidant dans la Montagne-Pure (Napata), d'Amon de Gematon et d'Amon de Pnoub. En outre nous disposons maintenant de sept fragments du monument au nom de Nebmaâtrê dont le premier élément avait été signalé voici deux ans¹³. Enfin, plusieurs noms de souverains ou de reines apparaissent dans des reliefs ou sur des objets.

Stèles

Des fragments plus ou moins grands de stèles figurent parmi les documents épigraphiques recueillis à Doukki Gel depuis plusieurs années. La plupart, difficilement exploitables en raison de leurs dimensions modestes ou de leur état de conservation, semblent surtout du I^{er} millénaire avant notre ère. La partie supérieure d'une grande stèle d'époque napatéenne a été découverte, cette saison, dans une seconde chapelle transversale¹⁴. D'autre part, diverses stèles privées du Nouvel Empire gisaient dans des dépôts sans doute antérieurs à l'aménagement du temple d'Akhénaton¹⁵. Les unes et les autres démontrent l'existence, avant et après la période amarnienne, d'un culte à Amon dont quelques indices avaient déjà été relevés précédemment¹⁶.

Statues et statuettes

Une vingtaine de nouveaux fragments de statuettes en pierres dures ont été recueillis au cours des deux dernières campagnes. La majorité d'entre elles se trouvaient dans le fond

10. REDFORD 1984, pp. 92-94 et pp. 102-122

11. BONNET *et alii*, sous presse

12. VALBELLE/BONNET, sous presse

13. VALBELLE 1999, p. 85, fig. 5

14. BONNET 2001, p. 210 et p. 214

15. Cf. VALBELLE/BONNET, sous presse

16. VALBELLE 1999, p. 86

du temple napatéen et datent du Moyen Empire. Cependant, une tête d'homme en pierre de *bekhen* rubéfiée, dont le style est caractéristique du début de la XIX^e dynastie (fig. 7), a pu être associée à un fragment de pilier dorsal portant une formule d'offrande, découvert un an plus tôt. Ils proviennent l'un et l'autre du secteur situé à l'ouest du temple napatéen. C'est également là, dans un dépôt de monuments du Nouvel Empire¹⁷, qu'a été exhumée une deuxième tête d'homme.

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Crédits photographiques

Pascale Kohler-Rummler, fig. 1-7

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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^c nht*, 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 - *jmy-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-MAKSOUÛD, *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 altar 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 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 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 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[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 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 *talatat*¹¹. 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-MAKSOU, *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*, *MAS* 20, 1984, p. 313-314

