

KUML



ÅRBOG FOR JYSK ARKÆOLOGISK SELSKAB
1957

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With Summaries in English
Mit deutschen Zusammenfassungen

UNIVERSITETSFORLAGET I AARHUS

1958

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Restoration of passage grave at Tustrup

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BAHRAINS OLDTIDSHOVEDSTAD GENNEM 4000 ÅR

Af T. G. BIBBY

Byhøjen Ras al Qala'a ligger midt på Bahrains nordkyst, ved bunden af en flad bugt. Dens navn hentyder til det Qala'a (fort), der kroner højen, og som benyttes og måske også opførtes af portugiserne i begyndelsen af det 16. årh. Inden for fortets sammenfaldne mure har Dansk Arkæologisk Bahrain-Ekspedition sin lejr, og når medlemmerne nyder aftenens kølighed på voldene, kan de i fugleperspektiv se de udgravninger, der holder dem bundne dagen igennem, og glæde sig over en imponerende udsigt. Til højre øjnes i det fjerne, ved fjordens østlige munding, Moharraqs lave, hvide huse, og en smule nærmere træder hovedstaden Manamas vindtårne og minareter klart frem. På klare dage ses til venstre over palmetoppene Arabiens endeløse kyster, der fortoner sig mod nord, og her lives nattehimmelen op af spildgasflammerne på de arabiske oliefelter.

Byhøjen Ras al Qala'a omgives på landsiden helt af milevide daddelplanter, men da fortets befæstninger på højens top rejser sig højt over det omliggende land, er det muligt at få udblik over ørkenen, haver, småbyer og de tusinder af gravhøje på den anden side af palmebæltet, der slutter brat, hvor byhøjen begynder.

Højen er af anselig størrelse, ikke mindre end ca. 400 m målt fra nord til syd og det dobbelte i øst-vest, og dens højde er 15 m. Fra top til bund består den af affald fra de betydelige byer, der gennem tiderne har ligget på stedet. At den er forholdsvis lav, målt med mesopotamisk målestok, skyldes, at byernes huse var opført af sten, ikke som i Mesopotamien af soltørret tegl. Stenhusene holder bedre end bygninger af ler, og når et lerhus falder sammen, jævner man blot grunden inden der bygges et nyt. Stenbygningerne derimod rives ned, ofte helt til grunden, og materialet bruges igen. Derfor hæves niveauet i en stenbygget by betydeligt langsommere, end tilfældet er i byer af mere forgængeligt materiale. Uheldigvis bliver tolkningen af de enkelte bebyggelser også mere usikker på grund af den stadige stedbrydning. Og tolkningen af lagene er selve nøglen til en oldtidsbys historie, ikke mindst på steder som Bahrain, hvor man intet ved om kulturudviklingen på forhånd. Det er derfor en fast regel, at man graver en snitgrøft fra top til undergrund, så snart det har vist sig, at bebyggelsen på en plads går tilbage til oldtiden. Under sådanne gravninger må det udgravede materiale fra hvert lag holdes for sig og kunne sættes i relation til profiltegninger, der gengiver enhver forskel i jordlagenes struktur eller sammensætning, da dette markerer ændringer i bebyggelsen på stedet. Af sådanne profiltegninger kan man



Fig. 1. Det nordlige tårn i det befæstede islamiske palads og dets tilslutning til paladsets hovedmur.

The wall of the north turret of the fortified Islamic palace, showing its junction with the main palace wall.

læse byens udviklingshistorie i det udgravede område. På tegningerne kan man se mure, jord- og lergulve, der som striber angiver forskellige bygningsperioder. Oven på gulvene ligger lag af affald og mørk jord, der har samlet sig under beboelsen af huset, og oven på det hele ligger sten og bindemiddel fra de væltede mure, eller måske et tykt lag trækul, der viser at huset er brændt. Oven på det igen kan der være bygget nye huse, eller også kan der ligge et lag sand, der viser at stedet har været ubeboet en tid. I profilerne kan man også se gruber og grøfter, der er lavet til opbevaringsformål, som grave eller for at bryde sten. Stort set vil lagene dog være vandrette, og de nedre lag er naturligvis altid ældre end de overliggende.

Sagerne, ben og perler, bearbejdet sten og metal og først og fremmest lerkar-skår, der udgraves lagvis, repræsenterer forskellige tidsgrupper og kan give et billede af kulturudviklingen på stedet. Gradvis udvikling af een type lerkar viser en forholdsvis stadig bosættelse, medens en pludselig ændring af keramik og sagtyper fra et lag til det følgende viser enten et hul i bebyggelseshistorien eller et kulturskifte, der langt fra behøver at være forløbet fredeligt.

Blandt de mange sager fra lagene kan man være heldig at finde importsager fra kulturer, der allerede er daterede, og gennem dem kan der således fæstnes absolutte årstal til de lag, de er fundet i, og samtidig viser de hvilke kulturområder, der har været forbindelse med.

Det er imidlertid vigtigt at gøre sig klart, hvilke begrænsninger sådanne snitgravninger har. Efter sagens natur kan snittenes bredde ikke være synderlig stor, så det område, der frilægges, vil være af meget begrænset størrelse. Derfor er det sjældent at afdække bygninger i deres helhed eller at få et blot nogenlunde bredt udsnit af nogle af bosættelsesperioderne. Det er derfor nødvendigt at supplere resultaterne fra snitgravningerne med større fladeafgravninger, enten i tilknytning til snitgrøfterne, hvor der er fund af særlig interesse, eller andet steds.

De fremgangsmåder, der er skitseret ovenfor, er blevet brugt ved udgravningerne på Ras al Qala'a. Den første søgegrøft¹⁾ viste, at pladsen havde været bebygget i hvert fald så tidligt som midten af det 1. årt. f. v. t., og i den fandtes en bygning af usædvanlig interesse, opført i en meget solid konstruktion. Denne søgegrøft er senere udvidet til at omfatte en større flade, og to mindre stik, der er ført ned til undergrunden, viste, at bebyggelsen på det sted sandsynligvis går helt tilbage til 3. årt.²⁾ I 1955 påbegyndtes så en snitgrøft, der udgik fra byhøjens nordlige rand, helt nede ved strandbredden. Snitgrøften blev ført stik syd, og udgangspunktet for den blev et punkt, hvor der i en del af byhøjen, der var nedbrudt af højvandet, var kommet nogle bearbejdede kalkstensblokke til syne.

Der kan gives adskillige grunde for at begynde med en profilgrøft fra kanten af en byhøj og ikke i midten. Normalt er højen lavere der, så der skal fjernes mindre jord, og desuden er det lettere at få jorden væk. Men først og fremmest vil en sådan gravning hurtigt nå frem til byens befæstningsmur, hvis der har været nogen. Og den slags befæstninger, der iøvrigt er interessante nok i sig selv, kan forholdsvis let følges til byporten, der normalt spiller en stor rolle i de østlige byer og derfor kan forventes at skjule store mængder af daterende materiale. Den eneste ulempe ved at grave sig ind fra kanten er, at snittet først efter nogen tids forløb vil nå de tidligste bebyggelser, hvis byen gradvis har spredt sig fra bykernen. Det er derfor endnu usikkert, om vi selv nu, efter 3 års arbejde, er nået frem til den tidligste by på Qala'a.

Da vi ventede at finde befæstninger, var det ingen overraskelse, at de to kalkstensblokke, der var frilagte fra begyndelsen, viste sig at være en del af en velbygget mur. Forklaringen på, at muren var meget krum, blev hurtigt givet, idet det viste sig, at den var grundmuren til et tårnfremspring på en 2½ m bred, massiv mur (fig. 1). Blandt lerkarskårene i tårnets bosættelseslag, var en betydelig mængde mangefarvede, glaserede skår og en del brudstykker af den grønne celadon fajance, der er typisk for Sung dynastiet i Kina (960–1250 e. Kr.)



Fig. 2. Den nordlige gade, der udmunder ved den nordlige forsvarsvold flankeret af bygninger, set fra syd, fra den brolagte centralgård i det islamiske palads.

View northwards from the central paved court of the Islamic palace, showing the northern street flanked by buildings and running up to the north defensive wall.

Hovedforsvarsvolden stod solidt grundfæstet på klippegrunden og var endnu bevaret i 3 m.s højde. Den var bygget af utilhuggede sten sat i gips cement, en slags beton, og har oprindeligt haft en ydre beklædning af fint tilhuggede kalkstensblokke, der stammer fra øen Jida ved Bahraíns vestkyst. De fleste af disse sten var dog fjernet, kun de nederste skift var bevaret. De er sikkert brugt til bygningen af det portugisiske fort, hvor der i murene kan ses mange sten af samme type.

Inden for murene, i plan med toppen af den nu bevarede del, afdækkedes i grøften grundmure og gulve af velbyggede huse. Keramikken, der fandtes i dem, svarede fuldstændig til den, der fandtes på gulvet i tårnet. Den vil blive behandlet nærmere nedenfor.

Ved at grave ned under dette lag konstateredes det, at bygningerne var meget solidt funderede. Murene hvilede på fundamenter, der stod på klippegrunden, 3 m dybere nede, og gennemskar bygninger fra en anden bebyggelsesperiode med en helt anden plan og orientering. Keramikken her var også forskellig fra den overliggende, idet den karakteriseredes af tyndvæggede, flade skåle der enten var glaseret med en grågrøn glasur eller havde glittet rød eller sort overflade.

Eftersom udgravningerne skred frem i sydlig retning blev det lidt efter lidt

klart, at grøften for de øvre lags vedkommende fulgte en gade, der gik ind i byen fra tårnet og var kantet af store bygninger på begge sider. 18 m fra forsvarsmuren udmundede denne gade i en brolagt plads. Da grøften blev udvidet for at undersøge dette forhold nærmere, viste det sig, at denne plads var midtpunktet i et fuldkommen symmetrisk kompleks af gader og bygninger. Pladsen var nøjagtig kvadratisk og orienteret stik N-S, Ø-V. Dens overflade skrånede ned fra alle sider mod et rundt afløb i midten. Fra midten af hver side udgik gader mod alle fire verdenshjørner. Øst- og vestgaderne blev ikke fulgt og undersøgelserne af nord- og sydgaden viste, at de efter kun 7 m.s forløb blev indsnævret til en smal passage af en tilbygning, der var bygget ud fra østsiden af gaden. Nordgaden viste sig at føre ud til det sted på befæstmingsmuren, hvor tårnet skød sig frem (fig. 2). Sydgaden fulgtes ikke i sin fulde længde under udgravningerne i 1955.

De huse, der udfyldte kvadraterne mellem gaderne, var lige så symmetrisk anlagte som gaderne selv. Husenes indretning og deres inventar antyder deres funktion. Et af dem, der lå så nær den nuværende overflade, at gulv og vægge kun delvis er bevarede, var forsynet med en ler-drænledning under gulvet. Den førte gennem en stentærskel fra den forudgående periode ud til en septictank under gaden. Naborummet havde gipscementeret gulv, hvori to cementforede gruber var symmetrisk anlagt i hver sin ende. To andre rum var indrettet til udvinding af daddelsaft. I dem var murene pudset med ler, og i lergulvet var balke og kanaler, i rummets længderetning. De havde et let fald mod en ler- eller cementforet tank, der lå under gulvniveau i den lavere liggende del af rummet. Samme slags rum er i brug den dag i dag til samme formål. Daddelkurvene stables op i den højere liggende del af rummet og ved deres egen vægt presses saften ud af frugten og løber ned i tanken gennem kanalerne.

Det fremgik ikke umiddelbart af gravningerne, hvad grunden har været til, at dette kvarter af byen er blevet opgivet. Ganske vist fandtes der i det ene rum direkte syd for befæstmingsmuren vidnesbyrd om ildsvåde i form af et tykt lag trækul og store dele af det sammenstyrtede tag, der var lavet af skiftevis tagmætter og jordbeg. Men det ser ud til, at ødelæggelsen har været lokal, for der er intet, der tyder på en voldelig ødelæggelse af den øvrige del af kvarteret. Tværtimod så det ud til, at der var sket en gradvis opløsning af den strenge, næsten militæriske byplan. Nogle stolpehuller i den nordlige gade, der fører fra pladsen, viser, at der dér har ligget en midlertidig bygning, formodentlig en af de lokale palmehytter, der tilsyneladende har tilhørt en kværnmager, at dømme efter de mange kværnsten, der lå i det. Nogle sværtede sten på et hjørne af pladsen gør det endog muligt, at selv den i en periode har været benyttet som lejrplads.

Vor formodning om at have fundet bymuren og således at grave i selve byen fra islamisk tid bag den, fik sit dødsstød, da undersøgelserne i 1956-sæsonen blev fortsat ad profillinjen mod syd. Der stødte vi næsten omgående, ved enden af sydgaden, på en ny befæstmingsmur, der lå fuldkommen symmetrisk med den nordlige mur, for enden af nordgaden. Da der så yderligere blev fundet et tårn på sydsiden af sydmuren, blev det fuldstændigt sikkert, at vi ikke havde gravet i en by i det hele taget, men i et selvstændigt fort, eller en befæstet bolig,

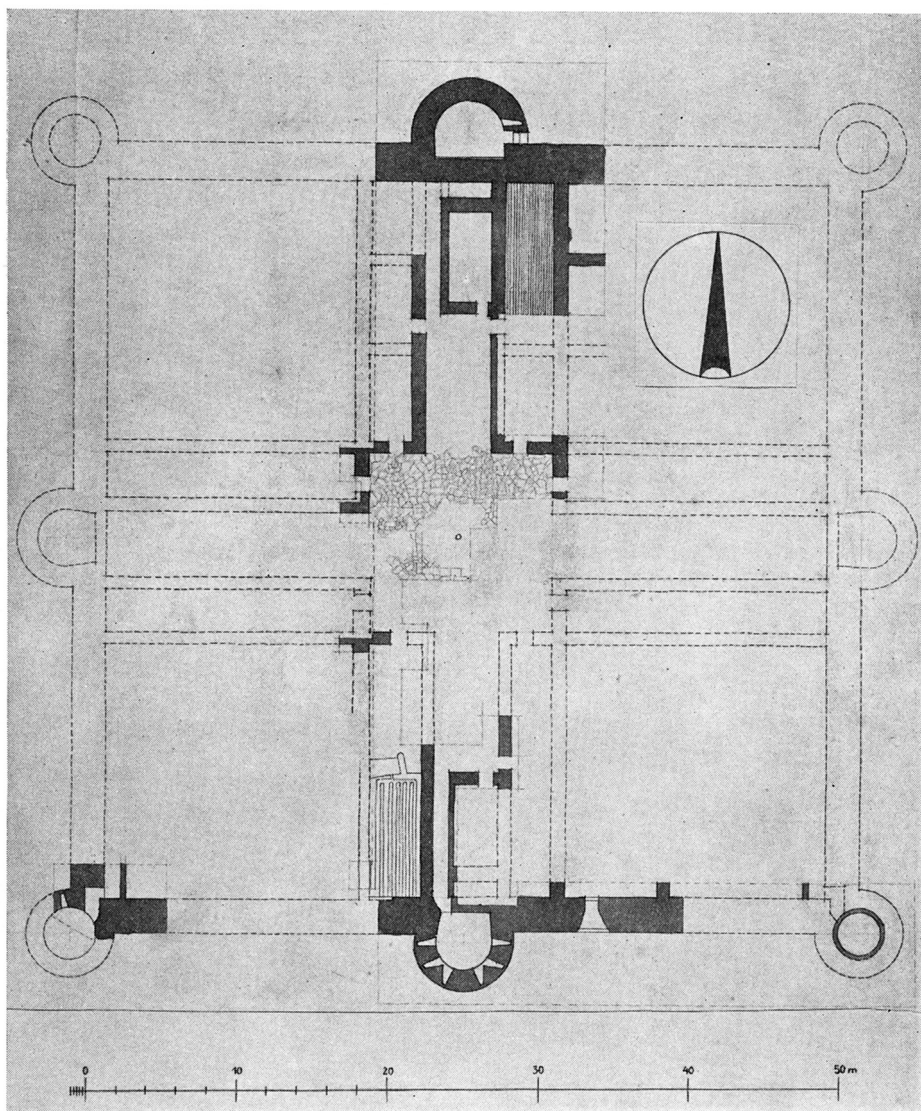


Fig. 3. Plan over det islamiske palads (opmålt af K. de Fine Licht, M. A. A.). Murene i det udgravede område er skraverede.

Plan of the Islamic palace (by K. de Fine Licht, M. A. A.). Walls in the area excavated are shaded.

muligvis et palads, mellem selve byen og kysten. Fortsat gravning langs sydmuren i den her nævnte og følgende sæson afdækkede to hjørnetårne og muliggjorde en ret detaljeret rekonstruktion af fortets grundplan (fig. 3).

Profilgrøften havde på det tidspunkt nået en længde af 59 m, fra kysten og sydpå, og endnu var den forhistoriske by ikke nået, så der var ikke andet at gøre end at fortsætte. Inden for det befæstede palads havde det kun været mu-

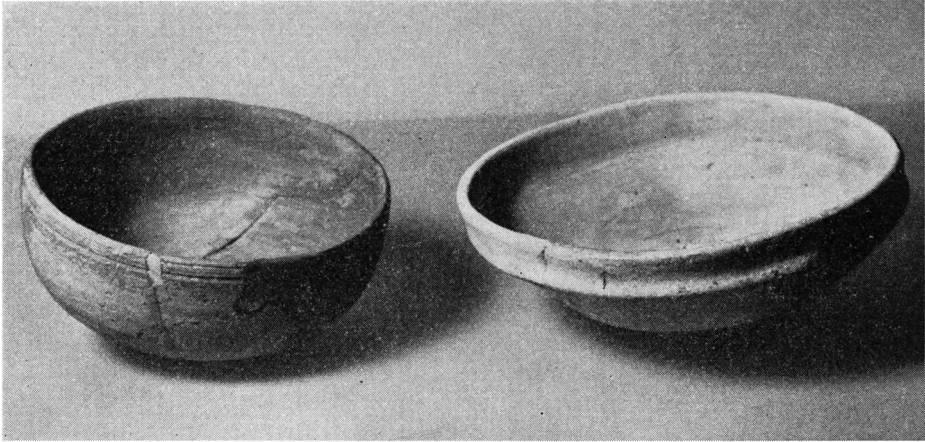


Fig. 4. Typiske lerkar fra perioden med de »glaserede skåle«. Skålen til venstre har rød påstrykning på indersiden og 1-2 cm ned ad ydersiden og er glittet i striber. Skålen til højre er glaseret indvendig og udvendig med en gråhvid, krakeleret glasur. $\frac{2}{5}$.

Typical bowls of the "glazed bowl" period. The bowl on the left has a red wash, stripe-burnished, on the inside and 1-2 cms. down on the outside. The bowl to the right is glazed inside and out, with a greyish-white cracked glaze. 2 : 5.



Fig. 5. Til venstre: Skål af kiksfarvet gods med flødefarvet påstrykning på de øverste 2 cm af ydersiden fra perioden med de »glaserede skåle«. Til højre: en vase med snæver hals og øskenformede ører, glaseret med gråhvid (oprindelig sandsynligvis grøn) krakeleret glasur. Den tilhører samme periode som de foregående. $\frac{1}{3}$.

Left: a bowl of the "glazed bowl" period, in biscuit-coloured ware with a cream wash on the upper 2 cms. of the outside. Right: a narrow-necked vase with lug-handles, of the same period, with greyish-white (probably originally green) cracked glaze. 1 : 3.

ligt at føre to små prøvehuller ned til klippegrunden, da man ikke ønskede at ødelægge de overliggende bygninger, men syd for det, derimod, fandtes i det samme lag et ubebygget område, hvor det var muligt at føre profilsnittet ned til klippegrunden over et område på 8 m.s længde og i grøftens fulde bredde, der androg 5 m. I hele denne grøft fandtes ingen bygningsrester udover en mur, der løb tværs ind over udgravningen. De 5 m dybe jordlag, udgravningen blev ført igennem, blev delt i 20 vandrette lag efter jordens struktur og farve, og lerkarskår og oldsager fra hvert lag blev holdt for sig og er senere analyseret og sammenlignet. Derom nedenfor, her må blot bemærkes, at der viste sig to skarpe skel i keramikudviklingen, henholdsvis ved det 6. og det 16. lag. Lag 1-6 indeholdt samme islamiske keramik som det befæstede palads, hovedsagelig en mangel- farvet glaseret keramik og grøn kinesisk fajance. Lag 7-16, der tilsammen havde en tykkelse på 2,2-2,5 m, indeholdt en yderst ensartet keramik, karakteriseret af små tyndvæggede skåle, dækket med grå glasur eller med rød eller sort, ofte glittet lerbestrygning (fig. 4-5). I lag 7 fandtes et lille terracotta-kvindehoved (fig. 6), og fra lag 10 stammer et skår af en drejet attisk skål med sort bemaling på rød bund. Lag 17-20 gav endnu helt andre lerkarter, men både antallet af skår og typer var ret ringe, og mange skår var vandrullede, hvilket ikke undrer, da lag 19-20 bestod af strandsand, der markerer den oprindelige kystlinie og kun ligger ca. 1 m over nuværende middel vandstand. I disse lag karakteriseredes keramikken af tykke, honninggule eller karamelfarvede skår af kar med lille standflade og af fodskåle (fig. 7).

I dette snit ser det da ud til, at der findes begyndelsen til en reel historisk lagfølge, idet der kunne identificeres tre hinanden følgende kulturer, der er indbyrdes adskilt, og samtidig synes der at være gode muligheder for at datere de to øverste. Men den by vi søgte syntes stadig langt borte. I de lag, der svarede til det »islamiske palads« var det område, der netop er omtalt, en åben plads uden for det befæstede palads. I laget med de glaserede skåle var der ganske vist spredte mure, men intet, der kunne kaldes bymæssig bebyggelse, og på »karamelkeramikens« tid var området blot en strandbred. Men den indledende gravning i byens centrum havde vist, at der fandtes velbyggede huse, hvis nedre lag var karakteriseret af en rød, riflet keramik. Denne type var ikke repræsenteret i de tre kulturperioder, der fandtes i profilgrøften, men derimod i Barbar-templerne, hvor dens omgivelser begrundede en datering til 3. årt.³).

Da udgravningssæsonen nærmerede sig sin afslutning i 1956, og fastemånedens Ramadan var forestående, besluttedes det at springe 25 m længere mod syd i profillinien og åbne et nyt felt der, 99-104 m fra profiletets begyndelse ved højvandsmærket. Det viste sig snart, at forholdene her var ganske anderledes end i den hidtil udgravede del af profillinien.

Her kunne udskilles ialt 19 lag. Lag 1-6 indeholdt hovedsagelig den samme keramik, der kendetegnede den »islamiske palads« periode, men dertil kom mindre mængder af den typiske keramik fra perioden med »de glaserede skåle« og »karamel-keramik«-fasen, og for at nævne extremerne, skår af den røde, riflede keramik, Barbar-keramikken fra det 3. årt., og den blå og hvide kinesiske Ming-porcelæn, der karakteriserer den portugisiske besættelse i det 16. årh. e. Kr. Det var ikke vanskeligt at forklare materialets blandede karakter, for profilgrøften



Fig. 6. Terracotta-hoved. Højde 6 cm.
Terracotta head, 6 cms. high.

var nu nået helt hen til voldgraven, der omgiver det portugisiske fort, og de øvre lag var tydeligvis jord, der var kastet op på kanten ved gravningen af voldgraven.

Fra lag 7 skiftede indholdet af lagene igen, men ikke som ventet til keramik af »glaseret skål«-type, men derimod til typisk »karamel-keramik«. Perioden med glaserede skåle viste sig at mangle totalt på dette sted.

»Karamel-keramikken« dominerede helt ned til lag 10, men i lag 11 skiftede keramiktyperne atter, og så kom endelig de typiske røde, riflede lerkar, Barbar-keramikken, i store mængder. Den skal beskrives nærmere nedenfor, men dens hovedkarakteristika må nævnes (fig. 8): Næsten 95 % af alle skår var af tyndt, murstensrødt, sand-magret gods, og over 75% havde de typiske »Barbar«-rifler, og de karakteristiske »Barbar«-rande var talrige.

I det lag, hvor »Barbar«-keramikken først viste sig, lå også de første bygningsrester. Der fandtes et hjørne af et solidt bygget stenhus med tærskellagt indgang (fig. 9). I lagene herunder skiftede keramikken karakter. På en del af lerkarrene var de vandrette, glatte rifler sammenpresset med regelmæssigt mellemrum, så der dannes et kædeformet mønster. Denne ornamentik tiltager i hyp-

pighed nedefter på bekostning af »Barbar«-gruppens glatte rifler, til den i lag 16 var den eneste form for riflet keramik (fig. 10). Samtidig faldt hyppigheden af den røde keramik til fordel for en brun og gulbrun, der udgjorde op til 40% af skårmaterialet. Det syntes klart, at den »kædeornamentiske« periode udvikler sig gradvis til den virkelige Barbarperiode i modsætning til hvad forholdet var mellem de andre identificerede perioder, hvor der var klare brud i udviklingen. Der er således ingen skarp grænse mellem de to faser.

I lag 17 indledtes endnu en bebyggelsesfase. Her fandtes parallelt med hovedprofilet en stenmur med en dør, hvorved der lå en udhulet dørstolpesten (fig. 9).

Den store forskel, der er mellem kulturresterne i den del af profilgrøften, der ligger mellem 63 og 71 m fra højvandsmærket og den del, der udgravedes mellem 99 og 104 m, lod skinne igennem, at grænsen for Barbarperiodens byanlæg – måske en bymur – lå mellem de to udgravningsområder. Derfor indledtes 1957-sæsonen naturligt med at føre grøften tilbage fra det sidst omtalte felt med 14 m, over strækningen 85–99 m syd.

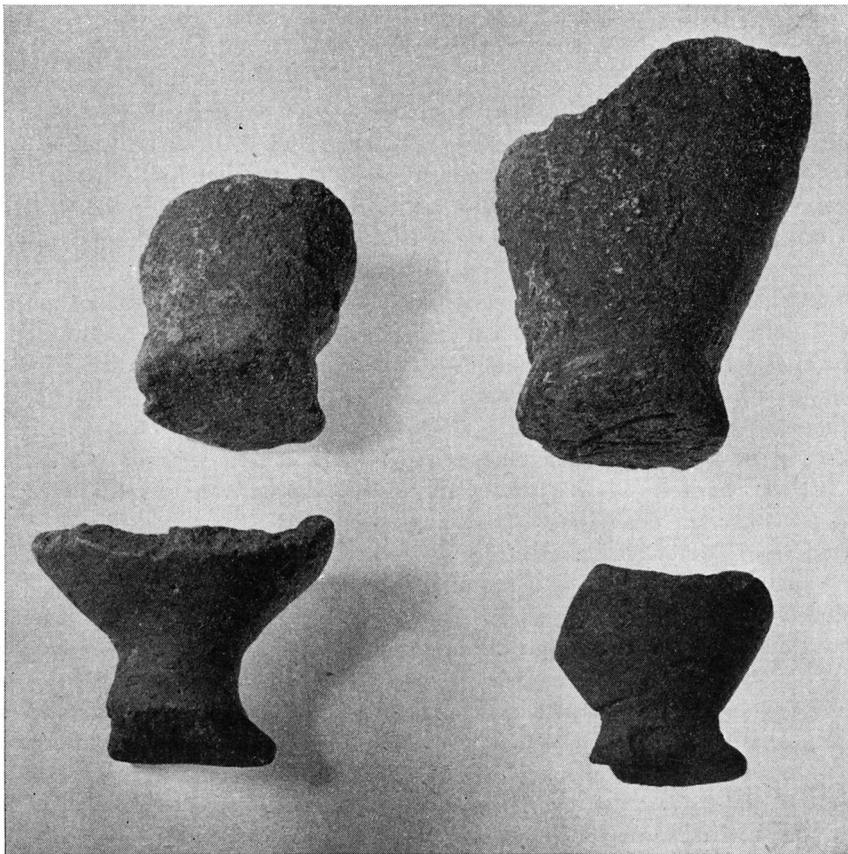


Fig. 7. Typiske bundformer af »karamel«-keramik. $\frac{1}{2}$.
Typical bases of "caramel ware". 1 : 2.

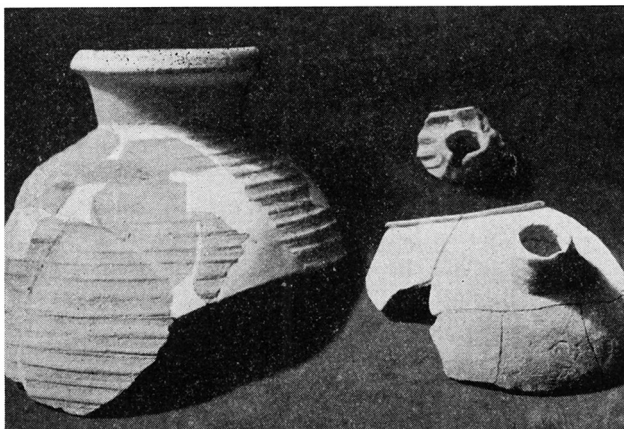


Fig. 8. Typiske Barbarkår. Til venstre riflet, rød vase med smal hals og trekantet rand, til højre to næsten kugleformede kar uden hals og med korte tude. $\frac{2}{9}$.

Typical »Barbar« sherds, showing, left, the ridged red vases with narrow necks and triangular rims, and, right, two specimens of the short spouts found on the almost spherical, neckless jars. 2 : 9.

I denne udgravning fandtes betydelig flere bygningsrester end i området syd for det »islamske palads«. Lige under overfladen, i lag 1, lå en cementeret vandkanal, der løb parallelt med udgravningen. Den var tydeligt samtidig med eller senere end den portugisiske bosættelse på fortet, og i den østlige del af gravefeltet lå $\frac{1}{2}$ m dybere, i lag 5, gulve og murbrokker, der af keramikfund fra gulvlaget dateredes til samme periode som det »islamske palads«.

I vestsiden af feltet sluttede bygningsresterne brat – tilsyneladende opbrudte – ved kanten af en stor grube, der var gravet i den »portugisiske« tid, formodentlig for at få fat i bygningssten. Umiddelbart herunder dukkede »Barbarperiodens« bymur op i form af en massiv mur i gipsbeton med en bredde på 3,5 m. Den løb diagonalt på udgravningsfeltet i ØSØ–VNV retning.

Ved en udvidelse af udgravningsområdet langs muren viste det sig, at den mod øst var bevaret næsten helt op til overfladen og var blevet inddraget i bygningsværker fra den »islamske palads« periode.

Mod vest derimod gik grøften, der var gravet i den »portugisiske« tid, stadig dybere ned, og en stor del af befæstmingsmuren var opbrudt.

Medens murens forløb og konstruktion er sikker, var den, specielt på nordsiden, så ødelagt af forvitring, nedbrydning og tilpasning til senere bygningsperioder, at det var vanskeligt at få rede på dens oprindelige udseende. Den var ikke funderet helt ned til grundfjeldet, men dens inderside, der var opført i tømurs-teknik, gik 80 cm længere ned end ydersiden, til en dybde af 1,2 m fra grundfjeldet. Dette lader formode, at den del, der udgøres af tømursmuren, tilhører den tidligste periode, og at den betonbyggede nordside var tilføjet senere, på et tidspunkt, da overfladen havde hævet sig betydeligt både inden for og uden for muren. Men dette vil kun kunne endeligt fastslås ved at føre et snit igennem selve befæstmingsmurene.

Udenfor, d.v.s. nord for muren blev de øverste 85 cm, der tilsvarende den »islamiske palads« periode umiddelbart efterfulgt af 1,8 m tykke lag, der repræsenterer »de glaserede skåle«s periode. Disse overlejrede gulvniveauet fra en byggeperiode, der karakteriseres af mure, sammenbyggede med bymurens yderside, der allerede på det tidspunkt var berøvet sin oprindelige stenfacade. I en af murene fandtes en dør med en tilhugget tærskel af nøjagtig samme type som den, der fandtes i gulvlaget med glaserede skåle under det »islamiske palads«. 1 m over gulvniveauet fandtes et groft, stråfarvet skår, hvorpå der var indridset dele af et navn i græske bogstaver: – παιος (fig. 11). Dette giver et holdepunkt for den absolutte datering af laget. Under laget med de »glaserede skåle«, ca. 70 cm over murens fundament, begyndte de rene »Barbarlag«, der fortsatte ned til klippegrunden, under gradvis ændring til den kædeornamenterede type.

Inden for volden, altså syd for den, var lagfølgen helt anderledes. Under det islamiske hus lå et 10 cm tykt lag grønsand, og herunder lå, kun 2 m under den nuværende overflade, rene »Barbarlag« med den typiske riflede, røde keramik. Det sterile lag, der »forsegled« Barbarlagene var gennemskåret ved flere lejlig-heder. En flad grøft, der kan dateres til den periode, der karakteriseres af den »karamelfarvede« keramik, er gravet for at røve sten fra muren fra den øvre Barbarbygningssperiode. Denne grøft gik endnu dybere i de svære lag længere

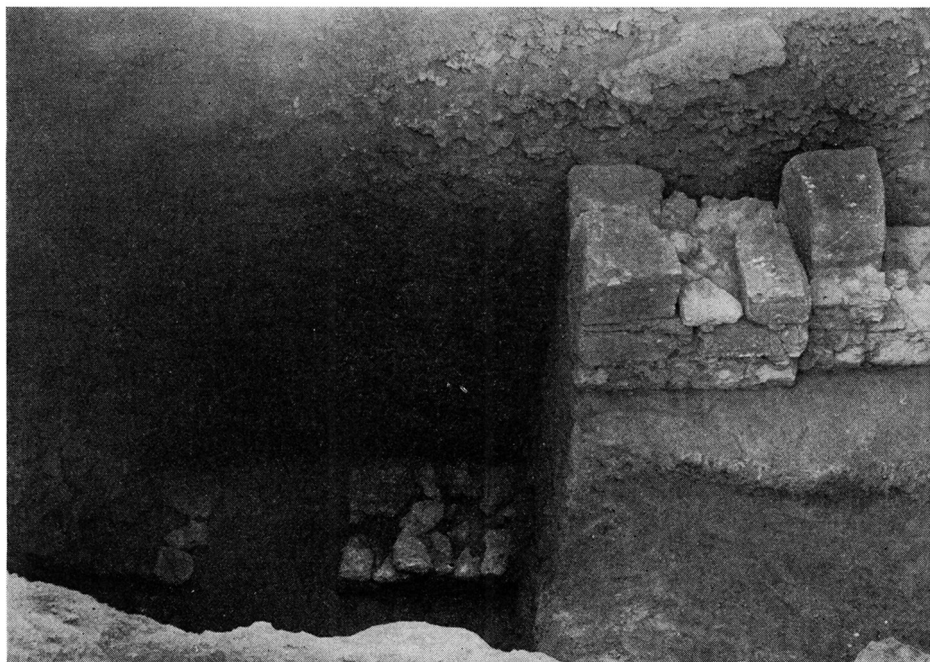


Fig. 9. Bebyggelseslag fra 3. årt. Øverst hjørnet af en stenbygning fra de øvre Barbarlag, og derunder en mur med dør fra den tidligste stenbyggede by, tilhørende »kædeornamenter«-perioden.

Building levels within the Third Millennium city. Uppermost, the corner of a stone building from the later "Barbar" levels, and, below, a wall, with doorway, of the earliest stone-built phase of the city, within the "chainridge" period.



Fig. 10. Dele af næsten kugleformet kar af rødt ler med hvid påstrykning og typisk kædeornamentik. $\frac{1}{4}$.

Part of an almost spherical jar in red with a white wash, showing the typical "chain-ridge" decoration. 1 : 4.

mod syd, der udgravedes året før. Ned gennem »karamel-keramik«-grøften var senere gravet en grube, der indeholdt en asfaltdækket »badekar«-kiste af samme type som dem, der tidligere er fundet i de centrale områder af Qala'a byen⁴). Kisten indeholdt et uforstyrret skelet, men intet gravgods (fig. 12). Typen kan dog dateres nogenlunde nøjagtigt til det 7. årh. gennem det indhold, de tidligere kister har haft. Oven i de to omtalte nedgravninger var der yderligere gravet i henholdsvis den »islamiske palads« periode og den »portugisiske« tid. Resultatet har været, at det sterile sandlag, der dækkede halvdelen af det udgravede område, overhovedet ikke var til stede i hovedprofilen og kun i et 20 cm langt stykke i en af tværprofilerne (ved 98 m syd).

Under det omtalte sterile lag og under grøfterne, der var gravet ned i det, lå Barbar- og kædeornamenteret keramik i alle de 4 m tykke lag, der dækkede klippegrunden. Disse lag indeholdt foruden de to bebyggelser, der allerede blev konstateret året før, en stor del vigtige »småfund«. De vigtigste af disse er utvivlsomt tre steatit-segl af en type, der kendes fra fund i Mesopotamien og i Mohenjo-Daro i Indusdalen (fig. 13) og også fra et overfladefund på Bahrain⁵). Det ene (fig. 13a) lå i et gulvlag, der tilhører det øverste bygningslag. Det andet (fig. 13b) er uden betydning for dateringen, da det lå i sekundært leje, i fylden i den grøft, der var ført ned for at fjerne facadestenene i befæstningsmuren. Det tredje (fig. 13c) lå i et lag strandsand, der kort efter opførelsen af befæstningsmuren var blevet lagt umiddelbart bag den, sandsynligvis for at fylde ujævnheder i overfladen. Segl c er således klart ældre end segl a.

I strandsandet fandtes desuden randskår af en stenskål, ornamenteret med

indridsede cirkler, hvis centre var markeret med et punkt. Skår af lignende stenkar fandtes også i lag 22 direkte derunder, og i lag 19 ovenover strandsandslaget. En ganske lignende ornamenteret stenskål, der er i Bahrain-regeringens besiddelse og som er fundet nær det løsfundne segl er tidligere beskrevet⁶). I strandsandslaget fandtes også et par perler og en betydelig mængde irrede kobberstumper.

Fra samme lag som det højstfundne segl, i lag 14, må yderligere nævnes: et stykke elfenben, der tydeligt var brudt af et stykke ubearbejdet tand, hvor den var savet over. I laget under det lavestfundne segl, i lag 23, fandtes et randskår med en sumerisk målangivelse. Denne korte indskrift er afbildet s. 164, hvor den også diskuteres af professor Læssøe, så her skal blot bemærkes, at skriftens stil passer udmærket til en tidlig dynastisk eller akkadisk dato, d. v. s. tidsrummet mellem ca. 3000 og 2000 f. v. t.

I disse lag fandtes også en del malet keramik (fig. 14–15), stort set af betydeligt finere gods og af langt mindre kar end den røde, sandmagrede, riflede keramik, den fandtes sammen med. Mønstrene var altid geometriske: krydsskraverede rhomber, zigzag, trekantede og vandrette linjer. Enkelte skår i de øverste lag var ornamenteret med røde zigzaglinjer på gulbrun bund, tilsyneladende påmalet efter

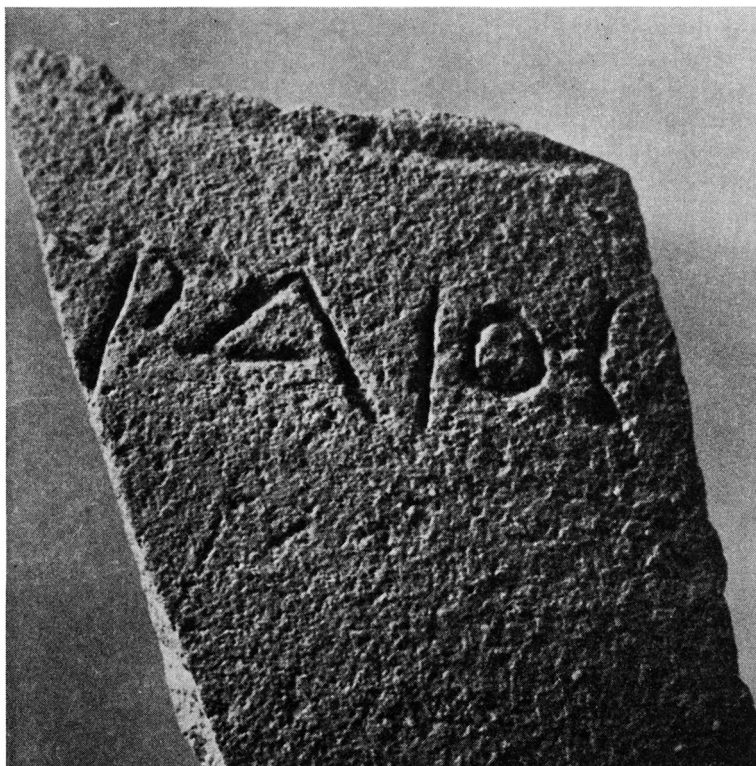


Fig. 11. Kiksfarvede skår med del af en græsk indskrift. $\frac{3}{2}$.
Potsherd, of biscuit-coloured ware, with portion of a Greek inscription. 3 : 2.



Fig. 12. Skeletgrav i badekar-
formet lerkiste, udvendig og
indvendig beklædt med beg.
Skelettets hoved vender
mod syd.

Burial in a bathtub-shaped
earthenware coffin, coated
inside and out with bitumen.
The head of the skeleton lies
to the south.

brændingen, ellers er alle skårene bemalet med sort, for størstedelens vedkommende på et rødbrunt overtræk. Lejlighedsvis optræder dog en gulbrun bundfarve, og i et tilfælde en grønlig.

De ovenfor beskrevne iagttagelser er stort set, hvad der vides ved slutningen af 1957-sæsonen, og på det grundlag kan vi få et ret klart billede af, hvad der er foregået i det mindste på denne lille plet af Bahrains nordkyst og hvornår.

I den del af Qala'a byens udkant, der her er behandlet, er udskilt seks hinanden følgende perioder, og vi kunne godt allerede nu nummerere disse perioder med romertal, begyndende fra bundlaget. Men da det udgravede område ligger i et yderområde, så der endnu kan komme overraskelser, vil det foreløbig være mest praktisk at bevare de beskrivende navne, der er opstået naturligt under de forskellige arkæologers gennemgang af materialet, efterhånden som det blev fremdraget. I kronologisk rækkefølge benævnes perioderne derfor:

- a: »Kædeornament« perioden
- b: »Barbar« perioden
- c: »Karamelkeramik« perioden
- d: »De glaserede skåles« periode
- e: Den »islamiske palads« periode
- f: Den »portugisiske« periode.

Bortset fra de to første perioder, der uimodsigeligt er forskellige udviklingsfaser af samme kultur, kan de øvrige perioder klart adskilles, både på grundlag af lerkarstil og -type, og af »småfundene«. Der er derfor gode muligheder for at fæstne ret nøjagtige dateringer til de fleste, omend ikke til alle. Herigennem bliver det muligt til en vis grad at rekonstruere den historiske udvikling på denne del af Bahrain. For at kunne gøre det, er det dog nødvendigt at se lidt nærmere på hver af de seks perioders karakteristika og, hvor det er muligt, drage paralleller til daterede kulturer i andre områder.



Fig. 13. Tre segl. a og b af grå steatit med hvid glasur, c af sort steatit. Ovenfra og nedefter vises: revers, avers og aftryk. $\frac{1}{4}$.
 Three seals, a and b of grey steatite with a white glaze, c of black steatite. From top to bottom are shown reverse, obverse and impression. 1 : 1.

»Kædeornament« perioden (fig. 10):

Keramikken i denne periode er hovedsagelig (det gælder 50–60 % af alle skår) af tyndt, sandmagret, mørk-rødt til kiksfarvet gods, nu og da med grå-hvidt overtræk. Hovedformen er en stor kugleformet krukke, der enten er afsluttet i en enkel, let fortykket, indadbøjet rand, eller med en tyk skulder, en 3–5 cm høj hals og »rullet« rand. Bugen, men aldrig halsen, er ofte ornamenteret med pålagte, vandrette lister, der enten er kædeformede som beskrevet ovenfor, eller – sjældnere – med fortløbende, skarptkantede lister. Karrene har enten runde eller let affladede bunde, men den nederste af de vandrette lister, der dækker bugen helt ned til bunden, bliver i realiteten en ringfod. Alle lerkar er drejede.

Andre karakteristica, der er fælles for denne og den følgende periode er beskrevet nedenfor.

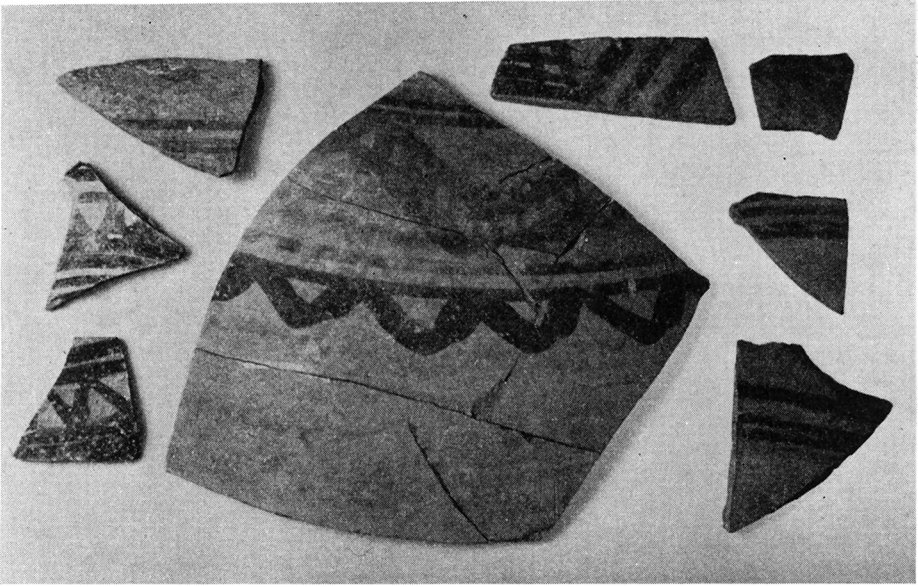


Fig. 14. Malet keramik fra »Barbar«- og »kædeornament«-perioden. Alle bemalet med sort på rødlig grunding. $\frac{1}{2}$.

Painted pottery of the "Barbar" and "chain-ridge" phases, all in black on a pink-cream wash. 1 : 2.

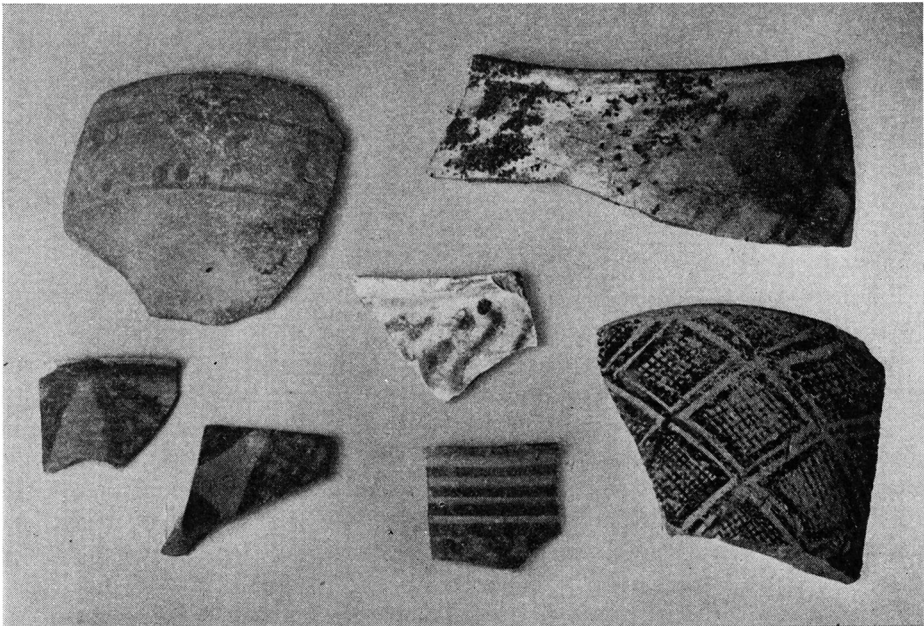


Fig. 15. Malet keramik fra »Barbar«- og »kædeornament«-perioden. Øverste skår til venstre er bemalet med dybrødt på naturlig rød grund. Skåret i midten og øverste skår til højre er bemalet med rødt på gul grunding, skåret nederst til højre med mørk brunt på naturlig, flødefarvet grund, skåret nederst i midten med sort på grønlig grund og nederst til venstre med sort på rødt. $\frac{1}{2}$.

Painted pottery of the "Barbar" and "chain-ridge" phases. The upper left sherd is painted in deep red on a natural red ground, the centre and upper right sherds in red on a cream wash. The two lower left sherds are in black on a red wash, the lower right sherd in dark brown on a natural cream ground, and the bottom centre sherd in black on a greenish ground. 1 : 2.



Fig. 16. Til venstre: halsen af en amphora med tre dobbelte hanke. Til højre: »kaffekande«, malet med rødt på lys rødlig grunding. Begge fra den »islamiske palads«-periode. $\frac{3}{10}$.

Left: neck of an amphora with three double-handles. Right: a "coffee-pot" painted in red on a pinkish white wash. Both of the "Islamic palace" period. 3 : 10.

»Barbar« perioden (fig. 8):

Den tynde, røde, sandmagrede keramik er i denne periode endnu mere fremtrædende end i den foregående, idet 75–90% af alle skår er af den art. Af dem er $\frac{3}{4}$ ornamenteret med de typiske vandrette rifler, der i modsætning til forrige periodes ikke er skarpe eller kædeformede, men afrundede. Listerne er her ikke pålagte, men er presset op i det fugtige ler med fingrene. Nu og da har karrene et gulligt overtræk. Den dominerende type er stadig den kugleformede krukke, med eller uden hals, men udformningen af randen er her mere varieret og omhyggeligt udført. På kar med lodret hals er randen bøjet udad og får et trekantet tværsnit⁷⁾; hvor randen blot er bøjet let ind, er den betydeligt fortykket og enten afrundet, konkavt affladet eller let opadvunget og fortyndet. En del kar har desuden en kort bred tud lige under randen (ca. 2 cm bred og 1,5 cm høj). Mellem de store mængder kugleformede krukker fra de her behandlede perioder, er nogle få andre, men dog karakteristiske former. Mest iøjnefaldende er nogle små, flade skåle med en flad bund og lige udadhældende sider, der afsluttes med en kort lodret hals og let udbøjet rand. De er lavet af gulbrun, eller stråfarvet, stråmagret gods og er aldrig mere end 9 cm høje og 15 cm i diameter.

Fra begge perioder foreligger også meget store kar, der er op til 1 m høje og 1 m i diameter. I den tidligste periode er de af tyk, grøngul, stråmagret, dårligt

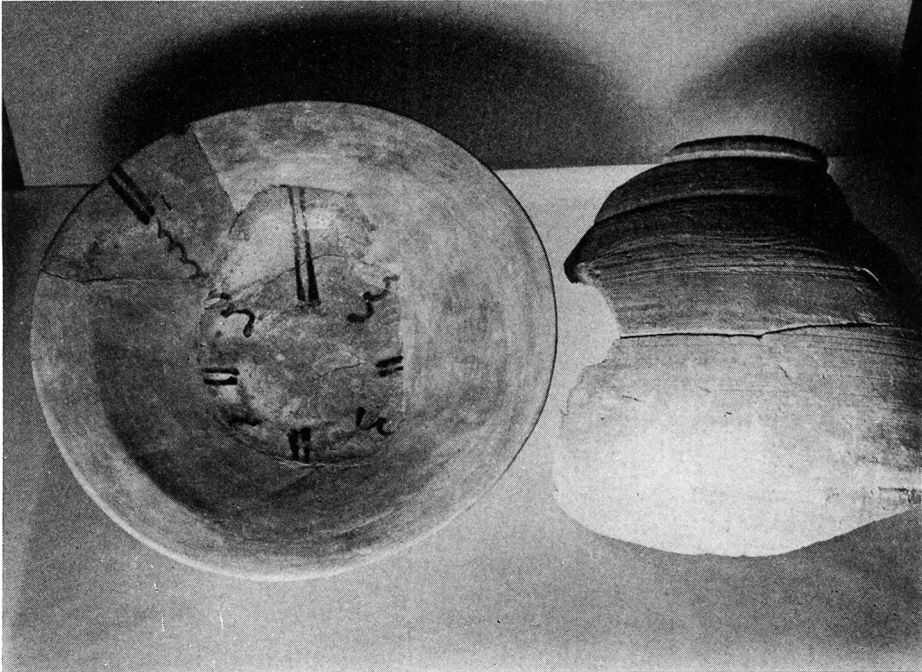


Fig. 17. Til venstre: glaseret »suppetallerken« med mønster i sort på hvid bund. Til højre: randskår af et stort kar med indridset ornamentik af lige og bølgeformede linjebånd. Begge fra den »islamiske palads«-periode. $\frac{1}{4}$.

Left: glazed "soup-plate" with a pattern in black on a white ground. Right: rimsherd of a large jar, with incised decoration of straight and undulating bands of lines. Both of the "Islamic palace" period. 1 : 4.

brændt ler og har pålagte vandrette lister med stor indbyrdes afstand og brede flade rande. Fra »Barbar« perioden er de af bedre brændt, rødt ler med høje, tætstillede, pålagte lister, der fortsætter helt ned til bunden, hvor den nederste danner en lille ringfod omkring et spunshul.

To sjældnere, men karakteristiske randtyper, der optræder i begge perioder, er den fuldkomne retvinklede rand og den flade, skarpt udsungne rand, der sammen med den indsvungne hals danner en krave.

Den malede keramik (fig. 14–15), der allerede er beskrevet ovenfor, er af betydelig finere kvalitet end den øvrige keramik. Leret er finere slemmet, og karrene er tilsyneladende drejet på et hurtigere hjul.

De to behandlede perioder har ikke kunnet dateres umiddelbart. De sager, der fandtes i forbindelse med »Barbar« keramikken i templerne ved Barbar, der har givet perioden navn, tyder dog stærkt på, at perioden skal dateres til tidlig dynastisk III b (kongegravene i Ur 2459–2304 f. v. t.) eller senest til Akkad-dynastiet (2303–2108 f. v. t.)³). Uheldigvis er den mesopotamiske keramik fra dette tidsrum ikke publiceret i større udstrækning, og de publikationer, der foreligger, omhandler kun Sumer, og deri er ikke afbildet materiale, der ligner det her behandlede. For Akkads vedkommende har »The Oriental Institute of Chicago«

imidlertid nu udarbejdet skemaer over de almindeligste keramiktyper for alle perioder fra Ubaid til tidlig babylonisk og kassitisk tid til brug ved kortlægningen af overfladebopladser i Diyala bassinet⁸). Disse skemaer er hovedsageligt opstillet med upubliceret materiale fra det Iraqske Antiquitets Departements udgravninger i Tell al-Dair som basis. Fotografier af de keramiktyper, der her benyttes som ledeformer for Akkad dynastiet ligner i enhver henseende »Barbar« periodens keramik. Fremfor alt er de riflede kar og de korte, brede tude ikke til at tage fejl af. På grundlag af disse sandsynlige sammenstillinger af keramiske ledeformer og af fundene fra Barbar-templerne, kan »Barbar« perioden formodentlig dateres til Akkad dynastiets tid (2303–2108 f. v. t.), og perioden med den kædeformede keramik dateredes da, omend med nogen reservation, til tidlig dynastisk III b perioden (2459–2304 f. v. t.). Småfundene fra »Barbar« perioden kunne man også formode ville være til nogen støtte ved dateringen, men det har vist sig, at hjælpen er stærkt begrænset. Segltypen (fig. 13) er ganske vist yderst velkendt, først og fremmest gennem et arbejde af professor C. J. Gadd⁹), der først har gjort opmærksom på, at denne type, såvel som andre typer, der bærer indisk prægede afbildninger og inskriptioner med indusskrift, kendes både i Mesopotamien og i Induskulturernes byer¹⁰). Ja, disse typer segl anses oven i købet nu som det sikreste vidnesbyrd om handelsforbindelserne mellem Sumer og Indusdalen og er det væsentligste grundlag for dateringen af oldtidsbyerne i Indusdalen. Alt i alt kendes nu 24 af de runde steatitsegel af den her afbildede type. De tre er fundet i Mohenjo-Daro i Indusdalen¹¹), fire på Bahrain og 17, heri indbefattet 13 fra Ur, stammer, eller menes at stamme, fra Mesopotamien.



Fig. 18. Grønglaseret skål med ophøjet ornamentik. Sandsynligvis en lokal efterligning af celadon-fajancen. Skålen tilhører den »islamske palads«-periode. $\frac{1}{3}$.
Green-glazed bowl with embossed decoration, probably in local imitation of Celadon ware. Of the "Islamic palace" period. 1 : 3.

Det er dog nødvendigt at påpege, at denne segltype ikke er den karakteristiske, hverken for Mesopotamien eller Indus. Førstnævnte sted er cylinderseglet det fremherskende, og i Indusbyerne er det en firkantet type. På Bahrain er der derimod i Barbarlagene kun fundet runde seglsten.

Dateringen af segltypen har hidtil stødt på svære vanskeligheder.

Mohenjo-Daro seglene er ikke i sig selv daterede, tværtimod er det i realiteten dem, der benyttes som det vigtigste dateringsmiddel for lagene, de ligger i. Som Gadd har bemærket er der kun holdepunkter for en umiddelbar datering af tre af de mesopotamiske segl, og disse holdepunkter er endda meget svage. Eet, Gadd nr. 12, skal være fundet i et »øvre affaldslag, kassitisk?« over et Larsa hus, og om betegnelsen bemærkes, at den er »yderst tvivlsom«¹²). Et andet, Gadd nr. 15, dateres til sargonidisk tid, og det tredje, Gadd nr. 16, er fra fylden i skakten til en Ur II grav, men Frankfort hælder dog til en datering til akkadisk tid¹³). For de mesopotamiske segls vedkommende kan således kun siges med sikkerhed, at ingen af dem efter fundberetningerne at dømme kan dateres tidligere end Akkad/Ur II (ca. 2300 f. v. t.) eller senere end den kassitiske periode (1762–1165 f. v. t.). Mohenjo-Daro og hermed Indus-civilisationen må derfor som helhed dateres med samme usikkerhedsgrænse. Det ser således nu ud til, at sammenligningen mellem »Barbar« perioden og Akkad dynastiet, hvis den viser sig at være holdbar, kan bidrage mere til dateringen af seglene og derved til hele Indus-civilisationen, end seglene kan bidrage til dateringen af »Barbar« perioden.

En keramiktype, der teknisk ligner Barbarkeramikken og lige som den er ornamenteret med vandrette rifler, fremkommet ved udpresning med fingrene, forekommer også hyppigt i grave på gravplads H ved Harappa i Indusdalen¹⁴). Men det må dog bemærkes, at Harappa-lerkarrene er betydeligt højere og har mere svungne halse end den tilsvarende Barbar-type.

»Karamelkeramik«-perioden. (fig. 7):

I denne periode er det vigtigste karaktertræk det meget store antal spidse bunde og lerkarfødder af tyk, honning- eller karamelfarvet, stråmagret ler. Bundene findes i stort tal, ialt op til 5–10% af det samlede antal skår. Fra perioden er hidtil ikke fundet hele lerkar, men i hvert fald stammer en del af fødderne, der er op til 8 cm høje, fra små, næsten flade skåle, der næppe har været bredere end foden er høj. De spidse bunde er mindst lige så almindelige som fødderne, og de er bemærkelsesværdigt tykke og massive. Fra perioden kendes ingen »småfund«, men en keramik, der er nøjagtig lig den beskrevne, både med hensyn til form og farve, bruges ved de arkæologiske kortlægninger af Diyala bassinet i Akkad som ledeform for den tidlig babylonske/kassitiske periode (1894–1165 f. v. t.)⁸).

»De glaserede skåles« periode (fig. 4–5).

Det mest iøjnefaldende karakteristikum i denne periode er utvivlsomt det store antal små skåle af tyndt, stråmagret gods. Skålene varierer en del i størrelse,

form, overfladebehandling og ornamentik. På grundlag heraf kan de opdeles i tre grupper: de glaserede, de lerstrøgne og de ubehandlede. De glaserede skåle er indbyrdes mest forskelligartede. De kan have: enkle rande, enkle indadbøjede rande, udfaldende rande eller lodrette sider, der slutes i tre vandrette bølger. Glaseringen er almindeligvis grå og krakeleret, men nu og da optræder også en græsgrøn eller gylden, iriscerende glasur. De lerstrøgne skåle har enten enkle rande eller rande, der udvider sig til en vulst med spidst tilløbende inderside. De er enten strøget med rødt ler på gulbrun bund eller med sort på grå bund. Overfladen er hyppigst glittet, nu og da i striber, og normalt er bestrygningen begrænset til skålenes inderside og til den ydre rand indtil ca. 1,5 cm fra kanten. De ubehandlede skåle er normalt gulbrune med enkle eller enkle indadbøjede rande. De flade bunde er hyppigt uregelmæssigt kantede i stedet for runde. Lejlighedsvis kan alle de netop omtalte lerkar være forsynet med fødder i form af tre små knopper under bunden.

Foruden skålene kendes kun enkelte andre lerkartyper. En almindelig type er en rundbuget, glaseret vase med snæver hals, massiv rand og to gennemborede knophanke (fig. 6). Den absolutte datering af perioden er vanskelig, bl. a. på grund af utilstrækkelig publikation af tidlig glaseret keramik. Glaseret keramik af typer, der kommer de bahrainiske nær, fra fund i Taxila, Dura Europos, og Antioch ved Orontos, henføres normalt til tidsrummet mellem 300 før og 300 e. Kr. Men da den enkle skåltype her anses for at være tidlig, er der grund til at mene, at den her behandlede periode kan være tidligere end de nævnte pladser¹⁵). Skålene med rød eller sort bestrygning anses almindeligvis for at være imitationer af græsk eller endog romersk keramik¹⁶). Men i Tell Beit Mirsin i Palæstina¹⁷) er de fundet i lag fra 7-6 årh. e. Kr., og det er muligt, at den romerske »terra sigillata« snarere er kopieret fra asiatiske forbilleder end omvendt. Derimod kan det vanskelig betvivles, at det drejede attiske skår med sort bemaling på rød bund, der lå i den øverste tredjedel af lagene med glaserede skåle, må dateres til første del af 3. årh. f. Kr. eller en smule tidligere¹⁸). Og terracottahovedet (fig. 7) fra det øverste lag af denne periode, må efter sin hellenistiske, næsten parthiske type, tilskrives tiden omkring Kristi fødsel. Stort set må perioden da dateres til tiden fra ca. 500 f. Kr. til omkring 0 med den reservation, at den kan strække sig 1 årh. på hver side af disse årstal.

Den »islamiske palads« periode (fig. 16, 17, 18).

Denne periode karakteriseres af et stort antal lerkartyper:

- 1) Store, slanke krukker (op til 1 m høje) af gulbrun keramik og med skarpt indadbøjet rand.
- 2) Amphorer med høj hals, hvortil der er fæstet tre dobbelte eller endog tredobbelte hanke (fig. 16).
- 3) Store, brede krukker med afrundede skuldre og kort hals. Skuldrene er ornamenteret med tre vandrette bånd, der består af flere indridsede linjer. Det midterste bånd er bølgeformet (fig. 17).
- 4) »Kaffekander«, koniske kander med høje hanke, hvoraf den ene er rørformet, så den virker som tud. Kanderne er bemalet med mørkerød ma-

- ling i geometriske mønstre, først og fremmest stigemønstre, på lyserød, lerstrøget bund (fig. 16).
- 5) »Dybe tallerkener«, enten ensfarvet glaseret i dyb gult eller brunt eller med mønstre i sort, der breder sig radiært og symmetrisk ud fra centrum i fire ensartede mønstre (fig. 17).
 - 6) Store mængder olivengrøn celadon fajance, ofte med ophøjet bladornament og ringbund.

Kun de to sidstnævnte typer er nogenlunde daterede, idet geometrisk ornamenterede dybe tallerkener er typiske for mesopotamisk keramik i 9. og 10. årh. e. Kr.¹⁹), og export af den olivengrønne celadon begynder under Sungdynastiet i Kina 960–1250 e. Kr.). Da dertil kommer, at celadonen med ophøjet bladornamentik er et tidligt træk inden for denne gruppe, må den »islamske palads« periode snarest dateres til 10. årh. e. v. t., med en sandsynlig fejlgrænse på 100 år til hver side.

Den »portugisiske« periode:

Keramiske ledeformer for denne periode er endnu ukendte, da der endnu ikke er udgravet nogle reelle bosætningslag fra den tid. Dens efterladenskaber dækker imidlertid byhøjens overflade og findes overalt i stenbrudshullerne. Perioden må på det grundlag karakteriseres ved tilstedeværelsen af den berømte blå og hvide porcelæn fra Ming dynastiet i Kina (1368–1644 e. v. t.). Dette porcelæn findes i enorme mængder over hele den østlige verden fra Philippinerne til Afrika, og ofte på handelsstationer og forter, der kan henføres til portugiserne, der som de første europæere tidligt i 16. årh. begyndte at blande sig i asiatisk handel. Der kan næppe være tvivl om, at den blå og hvide kinesiske porcelæn og dens persiske efterligninger er samtidig med det portugisiske herredømme på Bahrain i det 16. og begyndelsen af det 17. årh.

Med alle de nævnte forbehold kan vi nu forsøge at fæstne absolutte årstal til periodeskemaet:

- a) »kædeornament« perioden muligvis tidlig dynastisk III b, 2459–2304 f. Kr.
- b) »Barbar« perioden sandsynligvis Akkad dynastiet, 2303–2108 f. Kr.
- c) »karamelkeramik« perioden muligvis et kort tidsrum inden for de tidlige babylonisk/kassitiske perioder. 1894–1165 f. Kr.
- d) de »glaserede skåle«s periode sandsynligvis den achæmenidisk/seleukidiske periode, ca. 500–0.
- e) den »islamske palads« periode sandsynligvis ca. 900–1000 e. v. t.
- f) den »portugisiske« periode, ca. 1500–1650 e. v. t.

Til slut vil det være interessant at forsøge at rekonstruere den historiske udvikling i den nordlige udkant af Qala' a byen på grundlag af disse omtrentlige dateringer og de andre resultater af gravningen.

Byens historie begynder omkring 2500 f. Kr. med de tidligste bygningsanlæg,

der tilskrives de folk, der lavede den kædeornamenterede keramik. Denne by var solidt bygget af sten, havde matematisk anlagte gader og huse rettet nøjagtig mod de fire verdenshjørner. Denne byplan minder mere om Indus-kulturen end om byerne i det samtidige Sumer, men indbyggerne i den brugte dog målekar med sumeriske indskrifter, der sandsynligvis er importeret nordfra. Byen var tilsyneladende ubefæstet (med mindre dens mure ligger skjult inden for de senere bymure) og endte brat ca. 90 m fra højvandsmærket. De 90 m mod vandet har utvivlsomt været byens havneområde, hvor de flade fartøjer, der besejlede golfen, kunne trækkes op, når de skulle hente fersk vand og handle på Bahraíns nordkyst. Segl, perler og brudstykker af sten- og lerkar, der fandtes i sandlagene bag den senere bymur, antyder, at kystområdet har været en travl plads, hvor skibe har losset og ladet, og hvor man måske har handlet med varer fra hele den da kendte verden. Og de betydelige mængder af kobberstumper i sandet giver et fingerpeg om, hvad en af handelens hovedartikler har været, og kan måske endda tages som vidnesbyrd om skibsbyggeri på kysten.

Det sidste bebyggelseslag i den ubefæstede by afsluttes af en brand, der giver sig til kende ved et tykt, sortbrændt lag og af sodsværtede forråds-krukker med forkullet indhold, der ligger spredt på husgulvene. Disse fund vil forhåbentlig med tiden føre til, at denne vigtige periode af Bahraíns historie vil blive C-14 dateret.

Tidspunktet for den ildsvåde, der tilsyneladende har ramt byen og ødelagt den, kan med nogen sandsynlighed henføres til den samme tid, som Sargon af Akkads erobringer, der omtales i samtidige kilder.

Men der følger ikke noget brud i kulturudviklingen, redskaber og keramik af samme art benyttes af byens indbyggere både før og efter branden. Men da byen igen bliver opbygget efter samme byplan som tidligere, omgives den af en solid mur af sten. Fra det tidspunkt viser lagene en fortsat bosættelse i et ukendt åremål, og gradvis hæves bebyggelsesniveauet inden for murene. Seglsten vidner stadig om forbindelser med Indusdalen, og en stump afskåret elfenben er vidnesbyrd om handel med den slags varer. Hvornår og hvordan denne bosættelse afsluttes vides endnu ikke. Der er visse træk, der tyder på, at den del af byen, der berøres af profilgrøften, er blevet jævnet af senere indbyggere, og derved er den sidste Barbar-bebyggelse forsvundet.

Hvordan dette forhold end er, så er denne del af byen i hvert fald ikke beboet i den kassitiske periode engang i det 2. årh. f. Kr. De eneste tegn på »karamelkeramik« folkenes tilstedeværelse er de grøfter, de har gravet for at få fat på sten i underliggende lag. Men da grøfterne var fyldt op med veritabelt køkkenaffald, hvoriblandt der var en masse skår, har deres bosted nok ikke været langt borte, sikkert et andet sted på selve byhøjen. Det er ikke umuligt, at denne nedgangstid for byen både med hensyn til betydning og størrelse kan sættes i relation til ariernes erobring af Indusdalen og den deraf følgende afbrydelse af handelen med Indien.

Endnu så sent som i 7. årh. f. v. t. er denne del af byen ubeboet, men »badekar« begravelserne tyder igen på, at der findes en bebyggelse i nærheden. Og kort efter, måske i det 5. årh. f. v. t. begynder en ny byggeperiode i det område, profilgrøften dækker. Den 90 m brede strandbred foran de gamle bymure

dækkes af spredte bygninger, hvoraf en del trykker sig til bymurens yderside, og nogle er endda indhugget i den tykke mur. Bag den derimod, på det højere liggende parti mellem ruinerne af den dengang 2000-årige by, er der kun lidt eller slet ingen bebyggelse. Det er atter handel, der er grundlaget for byens trivsel. Skårene af attisk keramik viser, at græske handelsvarer nåede Den persiske Golf i achaemenidisk eller seleucidisk tid, og et græsk navn, der er ridset ind i et potteskår tyder på, at ikke blot græske varer, men også græske sømænd og måske græske skibe besøgte golfen.

Efter det seleucidiske imperiums fald ser det ud til, at byen endnu en gang forfalder, og først i det 10. årh. e. Kr. er der atter spor af bebyggelse i det her behandlede område. Så findes igen huse både indenfor og oven på den gamle bymur, og i en sikker afstand fra dem ligger ved havets bred herskerens befæstede palads. Det tidsrum var dog kort. Der er kun een byggeperiode, og det er blevet foreslået, at den er samtidig med carmathiske vantros herredømme over Bahrain i århundredet før 1058 e. Kr.

Efter carmathernes fald bygges der ikke mere på det lille her behandlede område af Qala'at al-Bahrain. Portugiserne viser sig i det 16. årh. e. Kr. for os kun ved stenbrudsgrøfter, men de er til gengæld af store dimensioner. For at bygge det fort, der hæver sig over byhøjen, har de nådeløst brudt stenene ud af murene i det islamiske palads, hugget tærskelstenene op fra husene med de glaserede skåle og hakket sig ned i Barbar-byens mægtige forsvarsmure.

The Hundred-Meter Section.

The "tell" of Ras al-Qala'a lies in the centre of the northern coast of Bahrain Island in the Persian Gulf, at the head of a shallow bay. It receives its name from the 'qala'a', or fort, which crowns the mound and which was occupied, and perhaps built, by the Portuguese in the early 16th century. Within the crumbled walls of this fort the Danish Archeological Bahrain-Expedition each year establishes its camp, and in the cool of the evening its members, taking the air upon the ramparts, have a bird's eye view of the holes in the ground in which their days are spent.

It is an impressive view from the ruined ramparts. Far away on the right, at the horn of the great bay, the low white houses of Moharraq stretch along the shore; closer in cluster the wind-towers and minarets of the capital Manama. On the left, beyond and above the acres of palm-tops, the coast of Arabia can be seen on the clearer days, stretching endlessly towards the north and, as the evening draws in, the red glow of the spill-gas flames of the Arabian oilfields begins to stain the heavens all along the western horizon.

The mound of Ras al-Qala'a is surrounded, on the three landward sides, by miles of date-palm plantations, and it is only by reason of the height of the mound above the surrounding countryside, and the height of the fort ramparts above the mound, that we can see the desert and the gardens and the township – and the clustering thousands of the gravemounds – beyond the palm-belt. But these date plantations terminate abruptly where the Qala'a mound begins. The mound is large, some 400 yards from north to south and twice that distance from east to west, but low by Mesopotamian standards, not more than 15 meters high. It is composed entirely of the ruins and debris of the considerable city which has at various periods occupied the site, and its comparatively modest height is due to the fact that this city was built of stone and not, as in Mesopotamia, of mud-brick.

Stone buildings survive longer than buildings of mud-brick, and, whereas a brick building, once fallen, is levelled off and a new building erected above it, in the case of a stone building the materials are often salvaged, even foundation walls being frequently dug up, and the stone reused in the next building phase. Consequently a stone-built city climbs upwards on its own ruins much more slowly than one of more fragile materials. And, incidentally, the persistent quarrying for stone makes the identification and interpretation of occupational levels much more hazardous.

The interpretation of occupational levels is necessarily of the highest importance to discovering the history of a town site, particularly where, as in Bahrain, the history of the area, the sequence of event and cultures, is initially completely unknown. It is therefore one of the rules of the game that, as soon as the first soundings have shown that a site does in fact contain early material, an extensive trench should be dug, going down to bedrock or to virgin soil. This trench should be dug in such a way that everything found in each layer of occupational debris is kept separate, and keyed in to a drawing of the trench wall which will show every change in structure or composition of the soil, which denotes a change in the type of habitation of the site. Such a drawing of a vertical section through the mound will be capable of giving the complete history of the portions of the site through which it runs. Here can be seen protruding walls and the lines of stamped earth or clay floors, marking phases of building. Above the floors will lie the stratified debris and dark earth accumulated during settled occupation. Above these again will lie the jumbled stone and mortar left when the buildings fell to ruin or were pulled down, with perhaps the thick charcoal layer that denotes destruction by fire. This may be followed by a new building phase, or by the drifts of windblown sand which tell of a site left desolate. In the section will be seen, too, the pits and trenches dug for storage, for graves or for stone-quarrying, but in general the layers will lie roughly horizontally, and it will of course always be true, that the lower levels must precede, chronologically, the levels above.

The objects recovered from each of these separate layers, bones and beads, worked stone and metal, and above all potsherds, fall similarly into a chronological series, and can give a picture, from bottom to top, of the vicissitudes of the site. A gradual development from one pottery type to another will tell of long, settled and comparatively undisturbed occupation, whereas an abrupt change in pottery and artifacts will denote a gap in occupation or the supersession, probably by no means peaceful, of one culture by another. It is among these collections, too, that one may hope to find the imported objects which may, by comparison with already known and dated cultures elsewhere, be able to put an absolute date to a level and illustrate a cultural connection with some other region.

It is important, however, to realise the limitations of such a section trench. In the nature of things it cannot be of very great width, and therefore the horizontal area uncovered is limited. Consequently it will rarely uncover a complete building, or provide a broad view of any one particular phase of occupation. For this it will be necessary to supplement the section trench by large-scale area digging, often by widening the initial trench at points of particular interest.

The procedure above outlined has been consistently followed at Ras al-Qala'a. The original sounding¹) showed the site to have been occupied at least as early as the middle of the First Millennium BC, and revealed a building of unusual interest and massive construction. This original sounding has since been widened by an extensive 'area-excavation' together with two small soundings down to bedrock which showed that the occupation of the site went back probably to the Third Millennium BC²). In 1955 a start was accordingly made on the driving of a section trench in from the northern slope of the city mound on the very edge of the sea. The trench ran due south and its commencing point was chosen at a place where recent high tides had washed away part of the mound, exposing two blocks of worked limestone.

There are several reasons for commencing a section trench on the edge, rather than in the middle, of a city mound. The mound is normally lower there and there is less earth to move, while such earth as is moved is easier to dispose of. But chiefly, such a trench should at an early stage reveal what type of fortification wall, if any, the city possessed, and such fortifications, interesting enough in themselves, can be followed fairly easily to a gateway.

Gateways were important places in early eastern city life and can be expected to produce quantities of dateable material. The only disadvantage of digging inwards from the outskirts of a mound is that, if the city has expanded gradually from an inner nucleus, the section trench will not for some time reach the earliest periods of occupation. We are far from certain that we have yet reached the earliest city at the Qala'a, even after three years' work.

Expecting fortifications, we were hardly surprised to find that the two limestone blocks already exposed proved to be facing blocks of a well-built wall, and the sharp curvature of this wall was soon explained when a more massive wall, 2.5 meters thick, was discovered behind it, and the first wall was seen to belong to a turret abutting on the wall (Fig. 1). Pottery recovered from the occupation layer of the turret already showed a considerable quantity of multicoloured glazed ware and some sherds of the green celadon china characteristic of the Sung Dynasty of China (960-1250 AD).

The main defensive wall stood solidly on bedrock to a height of 3 meters. It was of unshaped stone set in gypsum cement, a type of concrete, and had originally been faced with large and finely cut blocks of limestone from the island of Jida off the Bahrain coast. Most of these facing stones had been removed, only the lowest courses remaining, and many stones of the type of those surviving could be seen incorporated in the walls of the 'Portuguese' fort further inland.

Inside the wall, but at a level with the top of the surviving portion, the section trench uncovered the floors and lower parts of the walls of finely constructed buildings. The pottery found in association with these floors was of the same type as that from the turret floor and will be discussed in more detail later.

On digging below this level it could be seen that the buildings had been very solidly constructed, the walls resting on foundations which stretched 3 meters down to rest on bedrock. But cut into by these foundation walls were the walls of a previous building phase, of a completely different plan and orientation from that above. The pottery from this earlier phase, too, was completely different from that above, being characterized by thin-walled shallow bowls either of a gray-green glazed ware, or else with a burnished red or black wash.

As the trench progressed towards the south it became clear that it was following, on the upper building level, a street running inwards from the turret, and bordered on both sides by substantial buildings. 18 meters from the defensive wall this street debouched into a paved square. And when the trench was widened to investigate this feature it became clear that this square formed the central point of a completely symmetrical complex of streets and buildings. The square was exactly quadrilateral, with its sides running precisely north-south and east-west, and it sloped inwards from all sides to a circular drain in the middle. From the centre of each side a short street led off in each of the four cardinal directions. The east and west streets were not followed; but those to the north and the south were practically blocked, after only 7 meters length, by a room built out from the east side of the street, leaving only a narrow alley which, in the case of the north street, led up to the fortification wall at the point where the turret was situated (Fig. 2).

In the course of the 1955 campaign the southern alley was not followed in its full length.

The rooms which occupied the quadrants between the streets were just as geometrically and symmetrically constructed as the streets. They showed signs of varying use. One, which lay so close to the present surface that floor and walls had only partially survived, had an earthenware drainpipe beneath its floor which led, cutting through a stone threshold of the previous building phase, to a seepage tank below the street outside. The next room had a gypsum cement floor with two cement-lined pits symmetrically placed at each end. Two of the rooms were equipped for the collection of date juice; the walls were coated with clay plaster and the floor, also of clay, consisted of baulks and channels running the length of the room and sloping gently to a tank, in one case of cement, in the other clay-lined, lying below floor level at the lower end of the room. Rooms of this nature are still in use for the same purpose, the baskets of dates being piled up at the upper end of the room, and their own weight gradually pressing out the juice of the fruit, which runs down the channels to the tank.

The reason for abandonment of this dwelling area was not apparent. In one of the rooms

immediately south of the fortification wall there was considerable evidence of fire, a thick layer of ash, and large quantities of the collapsed roof, which had been made of alternate layers of matting and bitumen, a much more weather-proof ceiling construction than that used at the present day in Bahrain. But while fire had clearly destroyed this room, the destruction had been very localised, and there was no evidence of violent destruction of the remainder. On the contrary, there was some evidence of a gradual deterioration of the strict, almost military, ordering of the quarter. Post holes in the north street leading from the square showed that a temporary building, probably one of the local palm-leaf huts, had been at some time erected there, apparently, to judge by the number of quernstones lying in and around it, a mill-wright's shop. And in a corner of the square itself the blackened stones of a hearth suggested a period when even the square itself was taken into use as a camping-place.

Our belief that we had found the fortification wall, albeit a late one, of the city, and were digging the ruins of the city, clearly Islamic, which lay behind it, received a rude shock when, at the beginning of the next season's work in 1956 we continued the line of the section towards the south. Almost at once a new fortification wall was struck, at the end of the south alley and precisely symmetrical with the northern fortification wall at the end of the north alley. When a corresponding turret was found to the *south* of this southern wall it became clear that we had not been digging in the city at all, but in an isolated fort, or rather a fortified residence – presumably a palace – between the city proper and the seashore. Further digging along the line of the southern wall in that and the following season identified two corner towers and enabled the presumed plan of the fort to be worked out in some detail (Fig. 3).

The section trench had now been driven some 59 meters southward from the seashore, and the prehistoric city had not yet been reached. It was now continued onward, in a width of 5 meters.

Within the fortified palace it had only proved possible to make two small trial sondages down to bedrock along the line of the section, as it was not desired to destroy the later buildings. But south of the fort, and at the same Islamic level, an unbuilt area stretched for some distance, and here it was possible to carry the section trench down to bedrock over a stretch of 8 meters (63–71 meters South). In the whole of this length no remains of buildings were found, except for one wall, running obliquely across the excavation. There were also, in the upper levels, three Islamic burials which were left undisturbed. The 5 meters depth of soil was divided horizontally, in accordance with changes in colour and texture of the soil, into 20 different levels, and all potsherds and the artifacts from each of these levels were kept separate and later analysed and compared. Details will be given later, but at this point it may be said that two complete breaks in the types of pottery found occurred, below the 6th level, and below the 16th. Levels 1–6 contained the Islamic pottery already familiar from the fortified palace, mainly characterized by polychrome glazed ware and green Chinese celadon. Level 7–16 formed a deposit 2.2–2.5 meters deep, with very homogeneous pottery, the most common types of which were small thin-walled bowls covered with grey glaze or with red or black wash, frequently burnished (Figs. 4–5). In level 7 a small terracotta female head (Fig. 6) was found, and in level 10 a portion of a rouletted black-on-red Attic bowl. Levels 17–20 again showed a completely new list of pottery types. The number both of sherds and of types was small and many of the sherds were wave-washed, not unnaturally considering that the final layers 19–20 comprised the sand of the original beach immediately overlying bedrock and less than a meter above mean sea level. These levels were characterized by a preponderance of thick honey-coloured or caramel-coloured sherds, including a number of narrow bases and pedestals (Fig. 7).

At this point it seemed as though a beginning had been made towards establishing a historical sequence. Three successive "cultures", each clearly separated from the others, had been identified, and there seemed good possibilities of dating fairly closely the upper two of them. But the city for which we were looking seemed as far off as ever. At the period of the "Islamic-palace" levels the area just dug had been open ground surrounding the fortified palace. At the time of the "glazed-bowl" levels there had perhaps been scattered walls

and houses here, but nothing that could be called a city. And at the time of the "caramel-ware" levels the area had been foreshore and nothing else. And yet the initial sondage in the centre of the city had shown substantial buildings whose levels were characterized by red-ridged pottery of a type which appeared nowhere in the three cultures which here overlay bedrock, but which was found in the Barbar temples in a context which suggested a Third Millennium BC date³).

The 1956 season was drawing to a close, and the fasting month of Ramadan was approaching. It was decided to jump 25 meters and sink a final sondage on the line of the section, 99-104 meters from its commencement at high-water mark. It soon became clear that this pit had completely different characteristics from those previously dug along the section. Here 19 levels were distinguished.

Levels 1-6 contained mainly the pottery characteristic of the "Islamic-palace" phase, but amongst it were smaller quantities of the typical pottery of the "glazed-bowl" and "caramel-ware" phases, and even - at the two extremes - sherds of the red-ridged "Barbar" ware of the Third Millennium BC and of the blue-and-white Chinese Ming porcelain which characterizes the Portuguese occupation of the 16th century AD. This mixture was not difficult to account for. The section had at this stage reached the immediate vicinity of the moat of the 'Portuguese' fort, and the upper levels here were clearly composed of upcast earth from the digging of this moat.

With level 7 the contents of the layers changed abruptly, but not, as might have been expected, to those of the "glazed-bowl" phase, but to the typical "caramel-ware". The "glazed-bowl" phase proved, in fact, to be entirely missing here.

"Caramel-ware" persisted until level 10, but with level 11 the pottery type changed again, and here, at last, came the typical red-ridged "Barbar" ware in large quantities. It will be described later, but its main characteristics were unmistakable (Fig. 8). Almost 95 % of all sherds were of thin brick-red grit-tempered ware, and over 75 % of these bore the unmistakable "Barbar" ridges, while the typical "Barbar" rims occurred in large numbers. Together with the uppermost "Barbar" layers came the first building level, a corner of a substantial house of stone construction with a threshold entrance (Fig. 9). As the levels went down the pottery gradually changed character. "Chain-ridged" ware, in which the parallel horizontal ridges were not even but were regularly depressed to form a chainlike pattern, appeared and gradually increased in proportion to the normal ridged ware until it became, by level 16, the only type of ridged ware found (Fig. 10). At the same time the proportion of red ware dropped, and brown and buff ware comprised up to 40 % of all sherds. It was clear that the "chain-ridged" phase develops gradually into the true "Barbar" phase, unlike the abrupt transitions between the other phases identified. The boundary between the two phases is thus indeterminate. At level 17 a new building phase was found with a stone wall running parallel to the main section, containing a doorway besides which lay a hollowed hinge-stone (Fig. 9).

The very great difference between the cultural content of the portion of the section dug to bedrock at 63-71 meters from high-water mark and that dug at 99-104 meters suggested strongly that between the two lay the boundary of the "Barbar" period city, probably a fortification wall. Consequently, at the beginning of the 1957 season the section trench was continued backwards from the last hole dug for a distance of 14 meters (85-99 m S).

Considerably more traces of buildings were found in this excavation than previously in the area south of the Islamic palace. Just below the surface (level 1) lay a cement water channel running the length of the excavation and clearly contemporary with, or later than, the Portuguese occupation of the fort. Half a meter further down (level 5), in the eastern side of the excavation only, lay the floors and stumps of walls of buildings dated, by the pottery found at their floor levels, to the period of the Islamic palace. To the west these buildings ended abruptly, cut away, as it appeared, by the edge of a large pit dug in Portuguese times apparently to obtain building stone. Immediately below this level the defensive wall of the "Barbar-period" city began to appear, a massive work of gypsum-concrete, 3.5 meters thick, running obliquely across the excavation from ESE to WNW. Extension of the area excavated to both sides along the line of the wall showed that, to the east, the remains of the wall survived almost to the surface and had been incorporated into

the buildings of the "Islamic-palace" period. To the west the pit dug in Portuguese times went ever deeper, and ended by taking a considerable bite out of the fortification wall itself.

While the general direction and core construction of the wall were clear, it had been exposed - at least on the outer, northern face - to such a degree of weathering by nature, quarrying by man and alteration to suit later building phases that it was not easy to gain an idea of its original appearance. It did not go down to bedrock, but its inner face, consisting of a dry-stone wall, descended to within 120 cms. of bedrock, 80 cms. lower than its outer face. This would suggest - though only a section through the fortifications can confirm - that the dry-stone portion of the ramparts forms the earliest phase, and that the concrete outer face was added later, at a time when the ground level, both within and without the wall, had risen considerably.

Outside - to the north of - the wall the first 85 cms. of "Islamic-palace" period remains were immediately succeeded by 1.8 meters of "glazed-bowl" levels. These overlay the floor level of a building phase characterized by walls abutting onto the outer face of the city wall, which had clearly already at that period lost its original facing stones. One of these walls contained a doorway with a cut stone threshold of exactly the same type as that discovered in the "glazed-bowl" phase below the Islamic palace. A meter above this floor level a pointer was given to the age of these levels by the discovery of a sherd of coarse straw-coloured pottery with, inscribed upon it, part of a name in Greek characters, - παιος (Fig. 11). Below the "glazed bowl" levels, and still 70 cms. above the foot of the wall, pure "Barbar" levels commenced, and these continued, developing gradually into the "chain-ridged" levels, until bedrock was reached.

Within - to the south of - the wall, the succession of levels was entirely different. Below the Islamic house lay a sterile layer of green sand 10 cms. thick, and below this lay, not more than 2 meters below the surface, levels containing the red-ridged sherds of the pure "Barbar" period. The sterile layer sealing the "Barbar" levels was broken through time and again. A shallow excavation of the "caramel-ware" period dipped down to rob part of the wall forming the upper "Barbar" building level, before continuing deeper to the south in the thick levels found the previous year. Through the edge of the sloping "caramel-ware" excavation a grave had been dug, containing one of the pitch-covered "bath-tub" coffins of the same type as those previously discovered in the central area of the Qala'a city⁴). The coffin contained an undisturbed skeleton but no grave goods (Fig. 12). The type can, however, be dated fairly accurately by the contents of those previously discovered to the 7th century BC. These two excavations were in their turn dug into by the quarrying depredations of the "Islamic palace" and the "Portuguese" periods, with the final result that, although the layer of sterile sand in fact sealed over half the area excavated, it did not appear at all on the main section, and only for a distance of 20 cms. on one of the cross-sections (at 98 m. S).

Below this sterile level, and the pits dug through it, the "Barbar" and "chain-ridged" levels stretched 4 meters down to bedrock. They contained the two building levels already attested from the previous year and, in addition, a large number of important "small-finds". Of these undoubtedly the most significant are three steatite stamp seals of the type known from discoveries in Mesopotamia and in Mohenjo-daro in the Indus valley (Fig. 13), and already attested from Bahrain in a surface discovery⁵). These will be discussed in a later section. One (Fig. 13 a) lay in the floor deposit to the upper building level (level 14). The second (Fig. 13 b) is without dating significance, as it lay in a secondary deposit, the "fill" of the robber trench which had removed part of the inner facing stones of the fortification wall. The third (Fig. 13 c) lay in a layer of beach sand (level 21) which, soon after the erection of the fortification wall, had been laid immediately behind it - presumably to fill up irregularities in ground level. Seal c is thus clearly considerably earlier than a. The layer of beach sand was of interest in other respects. It contained a portion of the rim of a stone bowl ornamented with engraved circles with centre points. Portions of similarly decorated stone bowls were also found in the layer immediately below (22) and the layer next adjacent above (19). A stone bowl with similar decoration, in the possession of the Bahrain government and found close to the finding place of the surface-discovered stamp seal, has been described in earlier reports⁶). The layer of beach sand also contained,

in addition to two beads, a very large number of small scraps of oxydized copper. Other discoveries of significance were, in the same level (14) as the upper stamp seal, a piece of ivory, clearly a piece broken off an unworked tusk where the sawcut removing the tusk had overlapped itself; and in the level below the lower stamp seal (23) a rimsherd bearing a Sumerian record of capacity. This short inscription is illustrated and discussed on p. 165 by Dr. Læssøe, and here it need only be said that the style of script is not inconsistent with Early Dynastic or Sargonid date (roughly 3000-2000 BC).

In these levels there was also a small quantity of painted pottery (Figs. 14-15) in general of much finer paste and from smaller vessels than the red grit-tempered ridged ware among which it lay. The designs were in all cases geometric, cross-hatched lozenges, zigzags, triangles and horizontal lines. Apart from a few specimens in the upper levels of red zigzag lines on buff, apparently applied after firing, all the painted decoration was in black, mainly over a reddish brown slip, though occasionally on a buff and once on a greenish background.

This is the evidence to hand at the completion of the 1957 season of excavation, and it is clear that we have sufficient to gain a fairly clear idea of what has been happening, at least on this tiny portion of the northern beaches of Bahrain, and particularly *when* it has been happening. We have identified six successive cultural epochs in the history of this peripheral area of the city at the Qala'a. It would already perhaps be in order to give these epochs the Roman numerals, starting from the bottom, which mark the final crystallization of a site's history, but, as our area is still peripheral, and there may come further surprises as we work inwards, it will be best to keep to our descriptive names, the names which have grown up naturally in the course of tossing baskets of potsherds from one archeologist to another.

We have then, in chronological order: -

- a) the "chain-ridge" period,
- b) the "Barbar" period,
- c) the "caramel-ware" period,
- d) the "glazed-bowl" period,
- e) the "Islamic-palace" period, and
- f) the "Portuguese" period.

Apart from the first two, which develop imperceptibly from the one to the other, each of these periods is clearly distinguished from every other in style and type of pottery, while many of the periods include a number of "small-finds". There is thus a good chance of being able to ascribe a fairly accurate date to some, if not all, of the periods, and thus to be able to reconstruct in some measure the absolute history of this part of Bahrain. This will involve going in some detail through the characteristics of each of the six periods and drawing parallels, where this is possible, with periods of known date elsewhere in the world. That sort of thing is only interesting if one is interested in that sort of thing, and the reader who prefers results to methods is urged to jump to page 162 where the conclusions will be found painlessly tabulated.

The "chain-ridge" period (Fig. 10):

In this period the pottery is predominantly (50-60 % of all sherds) of thin, grit-tempered, dark-red to biscuit ware. A greyish-white slip is occasionally found. The dominant type is a large globular jar either terminating in a simple, slightly thickened, incurving rim, or in a thick shoulder, a narrow vertical neck 3-5 cms. high and a rolled rim. The body, though never the neck, of the jar is often ornamented with applied horizontal ridges either of the "chain" pattern described earlier or, more rarely, of continuous sharp-edged form. The jars have either round or slightly flattened bases, but the continuation of the horizontal ridges right down to the foot of the jar frequently converts the lowest ridge into what is in effect a ring base. All pots are wheel-made.

Other characteristics common both to this and to the following period are described following the latter.

The "Barbar" period (Fig. 8):

Here the preponderance of thin, red, grit-tempered ware is even more marked, ranging from 75 to over 90 % of all sherds, and of these over three-quarters are decorated with the typical horizontal ridges. These are, however, not now sharp-edged or of the "chain" pattern, but are round-topped; they are no longer applied to the pot but are built up from the paste by finger-pressure. A cream slip is occasionally added. The large globular shape, with or without neck, is still overwhelmingly dominant, but the rims now show greater variation and more careful fashioning. Where the vertical neck is found it now terminates in an outturned rim of triangular section⁷); where the jar terminates in the incurved rim this rim is considerably thickened and either rounded, concavely flattened, or narrowed again to a slightly upturned edge. Several of these vessels have, in addition, a short wide spout (about 2 cms. wide and 1.5 cms. high) immediately below the rim.

Amongst the preponderating mass of the globular pottery of these two periods there is a small quantity of other pottery of characteristic type. Perhaps most easily recognised are small shallow bowls with a flat base and a straight outward-sloping wall terminating in a very short vertical wall and a slightly outturned rim. These occur in buff and straw-coloured, straw-tempered ware, and do not exceed 9 cms. in height and 15 cms. in diameter.

From both periods very large vats, up to a meter in height and in diameter, are found. From the first period these are of thick green-yellow, straw-tempered and poorly fired clay with applied horizontal ridges at wide intervals, and broad flat rims. From the "Barbar" period they are of better fired red clay, with deep close-set applied ridges continuing all the way down to the base where the final ridge forms a little ring base surrounding a bung-hole.

Two rare but characteristic rim types of the two periods are a completely rectangular rim, and a flat sharply-outturned rim on an incurving shoulder, forming a wide "collar"-rim.

The painted pottery found from these two periods has already been described (Figs. 14-15). It was considerably better made, of a finer paste and apparently on a faster wheel, than the ware hitherto described.

The dating of these two periods has not been easy. The objects found in association with "Barbar" ware at the name-site of the Barbar temples strongly suggested that this period should be attributed to Early Dynastic IIIb ("Royal Graves" - 2459-2304 BC) or at latest to the following Akkad dynasty (2303-2108 BC)⁸). Unfortunately the pottery of these periods discovered in Mesopotamia has not been extensively published, and such publications as do exist, entirely from sites in Sumer, appear to give no points of resemblance with the typical Bahrain ware of these periods. It was therefore of very great interest to discover that the Oriental Institute of Chicago, which is making a survey for the Iraqi Government of village sites of all periods in the Diyala Basin area of what was formerly Akkad, has worked out a sequence of the most common types of pottery in use in Akkad at all periods from Ubaid to Early Babylonian/Kassite, for use in dating surface indications⁸). This sequence is based largely on unpublished material from the excavations of the Iraq Government Antiquities Department at Tell al-Dair. Photographs of the pottery types used as a criterion of the Akkad dynasty in this survey resemble in all respects the pottery of the "Barbar" period of Bahrain, the ridged ware and the short wide spouts being especially unmistakable. Pending comparison of actual type-sherds, and bearing in mind that this equation was already likely on other grounds, it would appear reasonable to ascribe the "Barbar" period to the Dynasty of Akkad (2303-2108 BC) and the "chain-ridge" period from which it developed to (with considerably greater reservation) Early Dynastic IIIb (2459-2304 BC).

It might be thought that the "small finds" from the "Barbar" period, in particular the three steatite stamp-seals (Fig. 13), would be of assistance in dating this period. In fact they are of very limited help. This type of seal is well known, in particular as a result of an article by Professor C. J. Gadd⁹), who first pointed out that the type (as well as other types containing Indian subjects, and inscriptions in the Indus Valley script) occurred both in Mesopotamia and in the cities of the Indus Valley civilization. These seals are, in fact, now regarded as the principal evidence for trade between Sumeria and the Indus Valley,

and for the date of the Indus Valley cities¹⁰). Disregarding here the seals of other types with Indus affinities found in Mesopotamia, we have now a total of 24 known specimens of the round steatite seals of the type shown here. Of these 3 have been found in Mohenjo-daro on the Indus¹¹), 4 in Bahrain, and 17 have come, or probably come, from Mesopotamia, including 13 from Ur. It is necessary to point out that they are not the shape of seal typical of the levels in which they occur either in Mesopotamia, where the typical shape is cylindrical, or in the Indus cities, where it is square. On the other hand, no other shape of seal than this has been found in the "Barbar" levels of Bahrain.

The dating of the seals has hitherto been beset with difficulties. The Mohenjo-daro seals are not intrinsically dateable – in fact they form the main evidence for the date of the levels in which they lie, rather than the reverse. As Gadd had pointed out, only 3 of the Mesopotamian seals published are accompanied by any evidence of date, and this evidence is of a very loose character. One (Gadd 12) is described as found in an "upper rubbish, Kassite? level" above a Larsa house; its stratigraphy has been stated to be "very doubtful"¹²). Another (Gadd 15) is described as of Sargonid date, and the third (Gadd 16) as found in the filling of an Ur II tomb shaft, though Frankfort would prefer an Akkadian date¹³). It would thus appear that it can only with certainty be said of the Mesopotamian seals that they are not recorded as found earlier than Akkad/Ur II (about 2300 BC) or later than the Kassite period (1762–1165 BC). And by implication Mohenjo-daro and the Indus civilization must be given the same possible range of date. It would seem, then, that, if the pottery equation "Barbar" period = Dynasty of Akkad can be regarded as sound, it can contribute more to the dating of the stamp-seals, and thereby of the whole of the Indus civilization, than the stamp-seals can contribute to the dating of the "Barbar" period.

A type of pottery technically closely resembling "Barbar" ware, and like it bearing horizontal ridges by finger pressure, is of frequent occurrence in the graves of Cemetery H at Harappa in the Indus valley¹⁴). The Harappan vases possess, however, much taller and more curved necks than the pure "Barbar" type.

The "caramel-ware" period (Fig. 7):

For this period the chief characteristic is the very large number of pointed and pedestalled bases in thick, coarse, honey or caramel-coloured, straw-tempered ware. These bases are extremely numerous, amounting to 5–10 % of all sherds found. No complete or completeable vessels have been obtained from this period, but some at least of the pedestal bases, which can be of all heights up to 8 cms., form the supports for very small, almost flat upper surfaces, scarcely wider than the pedestal is high. The pointed bases are at least as numerous as the pedestals and are noticeably thick and solid. No small finds have come to light from this period, but pottery of precisely this appearance and colour is illustrated by the Diyala Basin Archeological Survey as typical in Akkad of the Early Babylonian/Kassite period (1894–1165 BC)⁸).

The "glazed-bowl" period (Figs. 4 and 5):

Undoubtedly the characteristic of this period which most springs to the eye is the very large number of small bowls of thin, straw-tempered ware. These bowls vary very greatly in size, shape, treatment and decoration. They fall into three groups, glazed, washed, and untreated. The glazed bowls show the greatest variation, having simple rims, simple incurving rims, outward-rolled rims, or vertical sides ending in three horizontal corrugations. The glaze is normally gray and crackled, though occasionally a grass-green or a golden, iridescent glaze appears. The washed bowls bear either simple rims or rims expanded into a cylindrical form with a sharp inward-turned edge. They have either a red wash on a buff ground or a black wash on gray. The wash is frequently burnished, sometimes in stripes, and very frequently the wash is confined to the interior of the bowl and the top 1.5 cms. or so of the outside. The untreated bowls are normally buff in colour, with simple, or simple incurving, rims. Their flat bases are frequently oddly polygonal rather than round. All bowl types are occasionally found with a base consisting of three equally-spaced lugs.

Few pottery types other than the bowls have been identified. One common type, however, is a round-bodied glazed vase with a narrow neck, a massive rim and two pierced-lug handles (Fig. 5).

The dating of this period is difficult, largely owing to the dearth of publications on early glazed ware. The glazed ware of somewhat similar type found at Taxila, Dura Europos and Antioch-on-the-Orontes is generally ascribed to the period 300 BC – 300 AD, but on these sites the simple bowl types are regarded as an early feature, suggesting that our period may commence earlier than these sites¹⁵). Red and black wash bowls are normally explained as imitations of Greek, or even Roman, ware¹⁶), but they have been found in 7th-6th century BC contexts at Tell Beit Mirsin in Palestine¹⁷) and it is even possible that the Roman terra sigillata was rather copied from Asiatic originals.

There can, in any case, be little doubt that the black-on-red rouletted Attic sherd, found in the upper third of the “glazed-bowl” levels, belongs to the first half of the third century BC, or perhaps a little earlier¹⁸). The terra-cotta head (Fig. 7) from the uppermost level of this period, with its Hellenistic, almost Parthian affinities, can best be ascribed to the commencement of the Christian Era.

In general it would appear safest to ascribe a date of about 500–0 BC to this period, with the possibility that it may extend a century or so on either side.

The “Islamic-palace” period (Figs. 16, 17 and 18):

This period is characterized by a number of distinctive pottery types:

- 1) large narrow jars (up to a meter high) of buff ware with rims sharply inturned.
- 2) amphorae with high necks supported by three double (or occasionally triple) handles (Fig. 16).
- 3) large wide jars with rounded shoulders and short neck, the shoulders ornamented with three horizontal bands of multiple incised lines, the centre band of the three being undulated (Fig. 17).
- 4) “coffee-pots”, conical pots with two tall handles, the one pierced to serve also as a spout. These vessels bear geometric (particularly “ladder”) ornamentation in dark red paint over a pink wash (Fig. 16).
- 5) “soup-plates”, glazed either in whole colour deep yellow or brown, or with patterns in black normally radiating outwards from the centre in four equidistant and symmetrical patterns (Fig. 17).
- 6) quantities of olive-green celadon Chinese ware, often with embossed leaf decoration and with ring bases.

Only the latter two types are approximately dateable, the geometrically patterned plates being a characteristic of Iraqi ware of the 9th and 10th centuries AD¹⁹), while export of olive-green celadon commences with the Sung Dynasty of China (960–1250 AD). As the embossed leaf patterns on celadon are an early feature, the “Islamic-palace” period should most probably be dated to the 10th century AD, with a permissible error of perhaps a century to either side.

The “Portuguese” period:

The characteristic pottery of this period is still unknown, as no settlement levels from this period have been excavated. But its remains cover the surface and are found in quarrying trenches wherever we dig. The period is characterised first and foremost by the presence of the famous blue-and-white porcelain of the Ming Dynasty of China (1368–1644 AD), pottery which is found spread over the Eastern world from the Philippines to West Africa in colossal quantities and often in association with the forts and trading stations of the Portuguese, who in the early 16th century as the first of the European nations broke into Asiatic trade. There can be little doubt that this blue-and-white ware (with its Persian imitations) is contemporary with the Portuguese occupation of Bahrain in the 16th and early 17th centuries.

With all the reservations which we have indicated in the above description and discussion, we can therefore now repeat our list of periods, and this time add the rough absolute dates to which they can be ascribed.

- a) the "chain-ridge" period - *possibly* Early Dynastic III b, 2459-2304 BC.
- b) the "Barbar" period - *probably* Akkad Dynasty, 2303-2108 BC.
- c) the "caramel-ware" period - *possibly* some short time within the range of the Early Babylonian/Kassite periods, 1894-1165 BC.
- d) the "glazed-bowl" period - *probably* Achaemenid-Seleucid period, about 500-0 BC.
- e) the "Islamic-palace" period - *probably* about 900-1000 AD.
- f) the "Portuguese" period - about 1500-1650 AD.

It would be of interest finally to attempt a reconstruction, in the broadest outlines, of the history of the northern edge of the Qala'a city on the basis of this rough dating and of the other evidence given by the section trench.

The story opens some 2500 BC with the earliest building levels of the city of the "chain-ridge" peoples. The city was well-built, of stone, with mathematically laid-out streets and houses aligned by the cardinal points of the compass - evidence of town-planning more resembling that of the Indus valley than of contemporary Sumer. Yet the inhabitants were using measuring bowls inscribed in Sumerian, and presumably imported from the north. The city was apparently unfortified (unless an earlier wall lies hidden within the later ramparts), but ended abruptly a hundred yards from high-water mark. This hundred yards of foreshore served without a doubt as the harbour of the city, and on it would be drawn up the shallow-draught vessels which plied up and down the Gulf, calling in for water and for trade at the northern coast of Bahrain. The seals, beads and fragments of stoneware and pottery found in the deposit of beach sand behind the later wall suggest that the foreshore was a busy place, the scene of unloading and loading, and perhaps marketing, merchandise from the whole of the known world. And the considerable quantity of scraps of copper in the sand gives a line on one of the main articles of trade, and perhaps can even be taken as evidence of ship-building on the beach.

The last of the unfortified levels of the city ends in conflagration, in a thick black burnt level and floors scattered with blackened storage jars with carbonised content (which will, incidentally, in the course of time, enable this important phase of Bahrain's history to be dated by the Carbon 14 process). The city appears to have been destroyed by fire, and it would not be impossible to equate the date with the recorded conquests of Sargon of Akkad about 2300 BC. There is no break in the cultural sequence, however, the same artifacts and pottery being used by the inhabitants after the destruction as before. But when the city is rebuilt, on the same plan, a massive stone rampart is erected around it. From then on, for an indefinite period, successive habitation levels within the city wall bespeak settled and continuous habitation, and gradually raise the ground level within the walls. Stamp seals still testify to cultural connections with the Indus valley, and a scrap of sawn ivory to trade in this raw material. When and how the end of this period of habitation came is unknown. There is some evidence that the area of the city covered by the section trench has been levelled off by later inhabitants, whereby traces of the final phase of the "Barbar" period city may have been erased.

However that may be, by the Kassite period, some time in the Second Millennium BC, this area of the city was no longer inhabited. The only evidence of the "caramel-ware" people consists of quarrying pits dug to salvage building stone from the lower levels. But the fact that these pits were filled up with obvious kitchen-rubbish, including a large quantity of pottery, suggests that their habitations were not far away, probably elsewhere on the tell. It is not impossible that this clear drop in the size and importance of the city is to be seen in relation to the conquest of the Indus valley by the Aryans and the cessation of trade with India.

Even as late as the seventh century BC this part of the site was still uninhabited, but the bath-tub coffins of the burials of the period again suggest that there was a settlement at that period elsewhere on the extensive tell.

Shortly afterwards, however, perhaps in the fifth century BC, a new building phase com-

mences in the area of the section trench. There is little or no building on the higher ground within the ruined walls of the then two-thousand-year-old city, but the hundred yards of foreshore are covered with scattered buildings, many abutting on the outer face of the ancient ramparts or even dug into the thickness of the wall. Again, trade appears to have lain at the root of the increased prosperity of the city. Sherds of Attic ware prove that trade goods from Greece were reaching the Gulf in Achaemenid or Seleucid times, while the Greek name scratched on a potsherd suggests that not merely Greek goods but Greek seamen and perhaps Greek ships were frequenting the Gulf.

With the breakup of the Seleucid Empire it would appear that the city once more stagnated, and there is no further trace of occupation in our area until the tenth century AD. Then we find houses built once more within and upon the ancient city wall, while, at a safe distance from them on the edge of the sea, lay the fortified palace of the ruler. It was probably short-lived; there is only one building phase, and it has been suggested that this period coincides with the rule in Bahrain of the Carmathian heretics in the century preceding 1058 AD.

After the defeat of the Carmathians no more buildings are erected in the tiny area of the tell of Qala'at al-Bahrain here dealt with. The Portuguese period of the sixteenth century AD, like the "caramel-ware" period of approximately the same date BC, is represented only by quarrying pits. But the quarrying pits are immense. To build the fort which towers above the tell they ruthlessly rip out the wall-blocks of the Islamic palace, tear up the thresholds of the "glazed-bowl" people, hack their way deep into the mighty defense wall of the "Barbar" city. The archeologist should without a doubt preserve an objective attitude to the peoples of all periods of history and prehistory. But I find it difficult to love the Portuguese . . .

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NOTES

¹) KUML 1954 pp. 164-169. ²) KUML 1955 pp. 189 & 193; KUML 1956 pp. 165-173; and elsewhere in this issue. ³) KUML 1955 pp. 188-9, 192-3. ⁴) KUML 1954 pp. 166-169; KUML 1956 pp. 164-174. ⁵) KUML 1954 pp. 98-9, 103. ⁶) KUML 1954 pp. 98, 103 & n. 18. ⁷) This type is shown most clearly in the jar, from Barbar, illustrated in KUML 1955, p. 188, fig. 12. ⁸) This and the following information is based on a personal communication from Dr. Robert M. Adams, of the Oriental Institute of Chicago and the Diyala Basin Archeological Survey. ⁹) Proceedings of British Academy XVIII (1932) p. 191 seq. ¹⁰) Sir M. Wheeler, *The Indus Civilisation* (1953), p. 84, footnote. ¹¹) Sir J. Marshall, *Mohenjo-Daro and the Indus Civilization*, II p. 375 and III Pl. CII k, l. ¹²) Sir M. Wheeler, *loc. cit.*, p. 86. ¹³) H. Frankfort, *Cylinder Seals* (London 1939), p. 306. ¹⁴) M. S. Vats, *Excavations at Harappa 1940*, Pl. XLVII, a, c, e; Pl. LIII, burials H 484, 501, 502; Pl. LIX (b), no. 4; Pl. LX, no. 13. I am indebted to R. H. Dyson of Philadelphia Museum, who has seen both these and "Barbar" ware, for the comparison. ¹⁵) Sir J. Marshall, *Taxila*, Pl. 124, nos. 92-107; *Antioch-on-the-Orontes*, Vol. IV, Pl. I-XVIII; *Excavations at Dura Europos*, Final Report IV, Part 1. ¹⁶) *Excavations at Dura Europos*, Final Report IV, Part 1, Fasc. 2, pp. 16-17. ¹⁷) W. E. Albright, *The Archeology of Palestine*, fig. 36. ¹⁸) See, for example, *Dura Europos*, *op. cit.*, Group 1, p. 2. ¹⁹) Lane, *Early Islamic Pottery* (1947), p. 15.