

ISSN - 0132-1447

GEORGIAN NATIONAL ACADEMY OF SCIENCES

საქართველოს მეცნიერებათა ეროვნული აკადემია



# Bulletin

# ბულეტენი

ტ. 175, №. 2

აპრილი - მაისი - ივნისი

2007

vol. 175, no. 2

APRIL - MAY - JUNE



GEORGIAN ACADEMY PRESS  
TBILISI

# TABLE OF CONTENTS

## შინაარსი

### MATHEMATICS

#### მათემატიკა

*Levan Zhizhiashvili.* †

#### On Approximate Properties of Multidimensional Cauchy Kernel Integral Operator

*ლ. ჯიჯიაშვილი.* †

კომის მრავალგანზომილებიანი ინტეგრალური ოპერატორის ზოგიერთი აპროქსიმაციული თვისებების შესახებ

#### Regular Conditional Probabilities and Disintegrations

*ნ. ვახანია, ვ. ტარიელაძე.*

რეგულარული პირობითი ალბათობები და დეზინტეგრაციები

*Elizbar Nadaraya, Petre Babilua.*

#### On Deheuvels' Nonparametric Estimation of Distribution Density

*ე. ნადარაია, პ. ბაბილუა.*

განაწილების სიმკვრივის დეველსის არაპარამეტრული შეფასების შესახებ

*Zurab Todua.*

#### The Exact Homology Groups of a Complete Distributive Lattice

*ზ. თოდუა.*

სრული დისტრიბუციული მესერების ზუსტი ჰომოლოგიის ჯგუფები

*Teimuraz Akhobadze.*

#### Lebesgue Constants of Generalized Cesàro $(C, \alpha)_n$ -Means of Trigonometric Series

*თ. ახობაძე.*

ტრიგონომეტრიულ მწკრივთა განზოგადებული ჩეზაროს  $(C, \alpha)_n$ -საშუალოების ლებესის კონსტანტები

*Gigla A. Oniani, Lamara Tsibadze.*

#### Integral Representations of Analytic and Pluriharmonic Functions of the Bergman Class in the Unit Ball

*გ. ონიანი, ლ. ციბაძე.*

ერთეულთან ბირთვში ბერგმანის კლასის ანალიზური და პლურიჰარმონიული ფუნქციების ინტეგრალური წარმოდგენები

### MATHEMATICAL PHYSICS

#### მათემატიკური ფიზიკა

*Gia Avalishvili, Mariam Avalishvili.*

#### On Dynamical Hierarchical Models of Multistructures

*გ. ავალიშვილი, მ. ავალიშვილი.*

მულტისტრუქტურების დინამიკური იერარქიული მოდელები

### CYBERNETICS

#### კიბერნეტიკა

*Zurab Piranashvili, Maka Piranashvili.*

#### On the Method of Modeling of a Stationary Sequence

*ზ. ფირანაშვილი, მ. ფირანაშვილი.*

სტაციონარული მიმდევრობის მოდელირების ერთი მეთოდის შესახებ

### PHYSICS

#### ფიზიკა

*Alexei Sissakian.*

#### Joint Institute for Nuclear Research – Yesterday, Today, Tomorrow

*ა. სისაკიანი.*

ბირთვული კვლევების გაერთიანებული ინსტიტუტი – გუშინ, დღეს, ხვალ

*Valeri Bolotov, Rostislav Druzhchenko, Vasili Karazin, Jumber Lominadze.*

#### Numerical Calculation of Distribution of Induced Charge Density on Planar Confined Surfaces

*ვ. ბოლოტოვი, რ. დრუჟჩენკო, ვ. კარაზინი, ჯ. ლომინაძე.*

ინდუცირებული მუხტების სიმკვრივის განაწილების გამოთვლის მეთოდი ბრტყელი შემოსაზღვრული ზედაპირებისათვის

*Guram Bokuchava, Ia Kurashvili, Ekaterina Sanaia, Giorgi Darsavelidze.*

#### Physico-Mechanical Properties of

$\text{Si}_{0.85}\text{Ge}_{0.15}\text{:GaP}$  Alloy

გ. ბოკუჩავა, ი. ყურაშვილი, ე. სანაია,  
 გ. დარსაგელიძე.  
 $Si_{0.85}Ge_{0.15}:GaP$  შენადნობის ფიზიკურ-ქიმიური  
 თვისებები 56

**ELECTROCHEMISTRY**  
**ელექტროქიმია**

*Elene Kvaratskhelia, Ramaz Kvaratskhelia.*  
**The Regularities of Electrolytic  
 Dissociation of Phenyl Derivatives of Saturated  
 Dicarboxylic Acids** 57

ე. კვარაცხელია, რ. კვარაცხელია.  
 ნაჯერი დიკარბონმჟავების  
 ფენილწარმოებულების ელექტროლიტური  
 დისოციაციის კანონზომიერებები 59

**HYDROLOGY**  
**ჰიდროლოგია**

*Tsotne Mirtskhoulava.*  
**Ageing Hydraulic Engineering Structures and  
 some Measures towards Prolonging their Term  
 of Service and Averting Ecological Crises** 61

ც. მირცხულავა.  
 ჰიდროტექნიკური ნაგებობების დაძველება  
 და მისი გაზანგრიძობის ღონისძიებები 65

**POWER ENGINEERING**  
**ენერგეტიკა**

*Murman Keburia, Otar Shautidze, Anzor Chichinadze.*  
**Research of Water Power Resources  
 of the Rivers in Abkhazia** 66

მ. ქებურია, ო. შაუთიძე, ა. ჭიჭინაძე.  
 აფხაზეთის მდინარეების  
 ჰიდროენერგეტიკული რესურსების კვლევა 70

**METALLURGY**  
**მეტალურგია**

*Irakli Zhordania, Irakli Chkhartishvili,  
 Jansugh Lordkipanidze, Zakharia Melashvili,  
 Konstantine Papava, Kiazo Khundadze.*  
**Pipe Rolling from Continuous Cast Metal** 71

ი. ჟორდანია, ი. ჩხარტიშვილი,  
 ჯ. ლორთქიფანიძე, ზ. ქელაშვილი,  
 კ. პაპავა, კ. ხუნდაძე.  
 მილების გლინვა უწყვეტად ჩამოსხმული  
 ლითონისაგან 73

**PHYSICAL GEOGRAPHY**  
**ფიზიკური გეოგრაფია**

*Zurab Janelidze.*  
**Absolute Age of the Relief of the Black Sea  
 Coast Zone of Georgia Based on Archaeological  
 Materials** 74

ზ. ჯანელიძე.  
 საქართველოს შავი ზღვის სანაპირო ზონის  
 რელიეფის აბსოლუტური ასაკი არქეოლოგიური  
 მასალების საფუძველზე 76

**GEOPHYSICS**  
**გეოფიზიკა**

*Vakhtang Abashidze, Thea Khutsishvili,  
 Zurab Javakhishvili, Natalya Zhukova,  
 Eka Mepharidze, Tamaz Chelidze,  
 Teimuraz Matcharashvili.*

**Controlling Influence of Reservoir Water Level  
 on Local Seismic Energy Release** 77

ვ. აბაშიძე, თ. ხუციშვილი, ზ. ჯავახიშვილი,  
 ნ. ჟუკოვა, ე. მეფარიძე, თ. ჭელიძე, თ. მაჭარაშვილი.  
 წყალსაცავის გაყვანილობით განპირობებული  
 გამოთავისუფლებული ლოკალური სეისმური  
 ენერჯის კონტროლი 79

**BIOCHEMISTRY**  
**ბიოქიმია**

*Nugzar G. Aleksidze.*  
**Chronic Stress and Pathological Aggression  
 as Premise for Killer Rats Formation** 81

ნ. ალექსიძე.  
 ქრონიკული სტრესი და პათოლოგიური აგრესია  
 როგორც მკვლელი ორგანიზმების ფორმირების  
 წინაპირობა 85

*Vakhtang Barbakadze, Karen Mulkijanyan,  
 Maia Merlani, Lali Gogilashvili, Lela Amiranashvili.*  
**Structure of Glucofructan from Bulbs of  
 Galanthus platyphyllus Traub et Moldenke  
 (Amaryllidaceae)** 86

ვ. ბარბაკაძე, კ. მულკიჯანიანი, მ. მერლანი,  
 ლ. გოგილაშვილი, ლ. ამირანაშვილი.  
 ბრტყელფოთოლა თუთრყავილას *Galanthus  
 platyphyllus* Traub et Moldenke (Amaryllidaceae)  
 ბოლქვების გლუკოფრუქტანის  
 სტრუქტურა 88

<i>Giorgi Kvesitadze, Rusudan Khvedelidze, Tamar Urushadze, Lali Kutateladze, Archil Berulava.</i>		MICROBIOLOGY AND VIROLOGY მიკრობიოლოგია და ვირუსოლოგია	
<b>Homogenous Preparation and Kinetic and Molecular Indices of Endo-1,4-β-glucanase from the Extremophilic Micromycete <i>Aspergillus Versicolor</i>-83</b>	89	<i>Tamar Suladze, Marina Darsavelidze, Teimuraz Chanishvili, Maia Elizbarashvili, Megi Dvalishvili.</i>	
გ. კვესიტაძე, რ. ხვედელიძე, თ. ურუშაძე, ლ. ქუთათელაძე, ა. ბერულავა.		<b>Selection of Phages Active against Multiple Antibiotic-Resistant <i>P. stutzeri</i></b>	105
ექსტრემოფილური მიკრომიცეტის <i>Aspergillus versicolor</i> -83-ის endo-1,4-β-გლუკანაზას ჰომოგენური პრეპარაცია და მისი კინეტიკური და მოლეკულური მახასიათებლები	92	თ. სულაძე, მ. დარსაველიძე, თ. ჭანიშვილი, მ. ელიზბარაშვილი, მ. დვალიშვილი.	
		ანტიბიოტიკებისადმი რეზისტენტული <i>P. stutzeri</i> -ს მიმართ აქტიური ფაგების სელექცია	106
ORGANIC CHEMISTRY ორგანული ქიმია		HUMAN AND ANIMAL PHYSIOLOGY ადამიანისა და ცხოველის ფიზიოლოგია	
<i>Thea Lobzhanidze, Mikheil Gverdsiteli.</i>		<i>Gogi Todua.</i>	
<b>Algebraic-Chemical Investigation of the Correlation “Structure-Properties” for Alkyl Halides within the Scope of Quasi-ANB-Matrices Method</b>	93	<b>Electrophysiological Study of Presumed Interneurons in the Lateral Nucleus of the Amygdaloid Complex</b>	108
თ. ლობჯანიძე, მ. გვერდსითელი.		გ. თოდუა.	
კორელაციის „სტრუქტურა-თვისებები“ ალგებრულ-ქიმიური გამოკვლევა კვაზი-რნბ-მატრიცების მეთოდის ფარგლებში	94	ამიგდალური კომპლექსის ლატერალური ბირთვის ინტერნეირონთა ელექტროფიზიოლოგიური გამოკვლევა	110
BOTANY ბოტანიკა		ENTOMOLOGY ენტომოლოგია	
<i>Irma Murvanishvili, Teimuraz Svanidze, Nana Dekanoidze.</i>		<i>Tsisia Chkhubianishvili, Nona Mikaia, Iatamze Malania, Manana Kakhadze.</i>	
<b>New Records of Fungi from Vashlovani State Nature Reserve (East Georgia)</b>	95	<b>Susceptibility of Entomopathogenic Nematodes to the Fall Webworm <i>Hyphantria cunea</i> Drury (Lepidoptera: Arctiidae)</b>	112
ი. მურვანიშვილი, თ. სვანიძე, ნ. დეკანოიძე.		ც. ჩხუბიანიშვილი, ნ. მიქაია.	
ახალი მონაცემები ვაშლოვანის სახელმწიფო ნაკრძალის (აღმოსავლეთ საქართველო) სოკოების შესახებ	96	თ. მალანია, მ. კახაძე.	
<i>Evgenia Baiashvili.</i>		ენტომოპათოგენური ნემატოდების მიმღებთანობა ამერიკული თეთრი ჰეპელას <i>Hyphantria cunea</i> Drury (Lepidoptera: Arctiidae) მიმართ	114
<b>Morphological Diversity of Georgian Forms of <i>Prunus cerasifera</i> Ehrh.</b>	98	ZOOLOGY ზოოლოგია	
ე. ბაიაშვილი.		<i>Irakli Eliava, Avtandil Cholokava, Eristo Kvavadze, Giorgi Bakhtadze, Aleksandre Bukhnikashvili.</i>	
<b><i>Prunus cerasifera</i> Ehrh. ქართული ფორმების მორფოლოგიური მრავალფეროვნება</b>	99	<b>New Data on Animal Biodiversity of Georgia</b>	115
Mariam Metreveli, Mariza Bregvadze.		ი. ელიავა, ა. ჭოლოკავა, ე. კვავაძე, გ. პახტაძე.	
<b>Peculiarities of Propagation of Species of <i>Hamamelidaceae</i> Lindl. Family</b>	101	ა. ბუხნიკაშვილი	
მ. მეტრეველი, მ. ბრეგვაძე.		ახალი მონაცემები საქართველოს ცხოველთა ბიომრავალფეროვნების შესახებ	119
<b><i>Hamamelidaceae</i> Lindl. ოჯახის სახეობების გამრავლების თავისებურებანი ბათუმის ბოტანიკურ ბაღში</b>	104		

MEDICAL SCIENCES

სამედიცინო მეცნიერებათა

*Valeri Chekanov, Victor Nikolaychuk,  
Nicholas N. Kipshidze.*

**Intramyocardial and Extramyocardial  
Autologous Endothelial Cell  
Transplantation for Treatment of  
Ischemic Cardiomyopathy  
(Experimental Investigation)**

*ვ. ჩეკანოვი, ვ. ნიკოლაიჩუკი, ნ.ნ. კიპშიძე.*

იშემიური კარდიომიოპათიის  
მკურნალობა აუტოლოგიური ენდოთელური  
უჯრედების ექსტრამიოკარდიული და  
ინტრამიოკარდიული ტრანსპლანტაციით  
(ექსპერიმენტული კვლევა)

120

*Humanities & Social Sciences*  
*მეცნიერებათა და საზოგადოებრივი  
მეცნიერებანი*

PHILOSOPHY

ფილოსოფია

*Guram Tevzadze.*

**Philosophy in Contemporary Georgia**

*გ. თევზაძე.*

ფილოსოფია თანამედროვე საქართველოში

128

133

HISTORY

ისტორია

*Rolan I. Kiladze, Marina Sh. Gigolashvili,  
Giorgi T. Ramishvili, Vasili J. Kukhianidze.*

**On the Possible Date of Adoption of Christianity  
as the State Religion in Georgia**

*რ. კილაძე, მ. გიგოლაშვილი, გ. რამიშვილი,  
ვ. კუხიანიძე.*

საქართველოში ქრისტიანობის სახელმწიფო  
რელიგიად გამოცხადების შესაძლო  
თარიღის შესახებ

137

139

ARCHAEOLOGY

არქეოლოგია

*Giorgio Buccellati, Marilyn Kelly-Buccellati.*  
**Urkesh and the Question of the Hurrian  
Homeland**

*ჯორჯო ბუჩელატი, მერილინ კელი-ბუჩელატი.*  
ურქეში და ხურიტების პირველსაცხოვრისის  
საკითხი

141

151

SEMIOTICS & LINGUISTICS

სემიოტიკა და ენათმეცნიერება

*Thomas V. Gamkrelidze.*

**Typology of Writing and the Origin of  
Alphabetic Script**

*თ. გამყრელიძე.*

წერის ტიპოლოგია და ანბანური დამწერლობის  
წარმოშობა

152

162

*Archaeology*

## Urkesh and the Question of the Hurrian Homeland

Giorgio Buccellati\*, Marilyn Kelly-Buccellati\*\*

\* Director, Mesopotamian Lab, Cotsen Institute of Archeology, UCLA, Los Angeles, Ca 90024, USA;  
Professor Emeritus, Department of Near Eastern Languages and Cultures, UCLA;  
Professor Emeritus, Department of History, UCLA

\*\* Cotsen Institute of Archeology, UCLA, Los Angeles, Ca 90024, USA

(Presented by Academy Member Th.V. Gamkrelidze)

**ARSTRACT.** Sometimes, archaeological excavations at a given site open windows onto much wider views than intra-site relationships might suggest. Such is very much the case with our work at Tell Mozan, a large tell in northeastern Syria. When starting excavations there in 1984, we suggested that this may be the site of ancient Urkesh. This hypothesis was conclusively proven in 1995 when the reading of the legends on a number of seal impressions showed that we were digging the palace of a heretofore unknown “ruler (*endan*) of Urkesh,” who bore the Hurrian name of Tupkish. Several other names of members of the royal court were also Hurrian.

Onomastics was but the first of many distinguishing features that convincingly gave witness to the nature of the ethnic identity of this ancient city. Much of the material culture that came to light as a result of our excavations provides a constellation of ethnic identifiers such as is not to be found at other sites. Two elements are of particular significance in this perspective: the first is that the Urkesh hinterland extends effectively far into the northern plateau, the second is that we are led to push further and further back in time the date for the urban beginnings of Urkesh. These various factors allow us to propose what we believe to be a plausible hypothesis about the earliest homeland of the Hurrians, a topic which is close to the interests of this journal and of its editor. This article will be in the nature of an essay, in which we will summarize some of the points we have raised elsewhere,<sup>1</sup> with little space for documentation or bibliographical references. © 2007 Bull. Georg. Natl. Acad. Sci.

*Key words:* Tell Mozan, Urkesh, homeland of the Hurrians.

### 1. Excavations at Tell Mozan, ancient Urkesh

The period of major expansion of the ancient city, as we know it today, is the third millennium: to this time date the major public buildings excavated so far, and it is also in this period that we can say the city reached its maximum extension, between 130 and 150 hectares. In the second millennium, the city retrenched to the central high mound (about 30 hectares), and retained a modicum of importance as a religious shrine. It was abandoned

about 1300 B.C., when the Assyrians finally took over the region, but had no use for a religious center that had so consistently retained its specific Hurrian character. It was never re-occupied again: this meant that the original coherence of the city, in its urbanistic layout, was better preserved than at most other sites of the same time period. The most recent excavations have brought to light material from the fourth millennium, about which more will be said below.

Three major third millennium public structures are currently under excavation. (1) Of the Palace of Tupkish

<sup>1</sup> Here, we will only refer to some of our publications where the documentation from Urkesh, pertaining to these problems, is treated in more detail: refer to online versions



Fig. 1. Urkesh Monumental Urban Complex: view of excavations

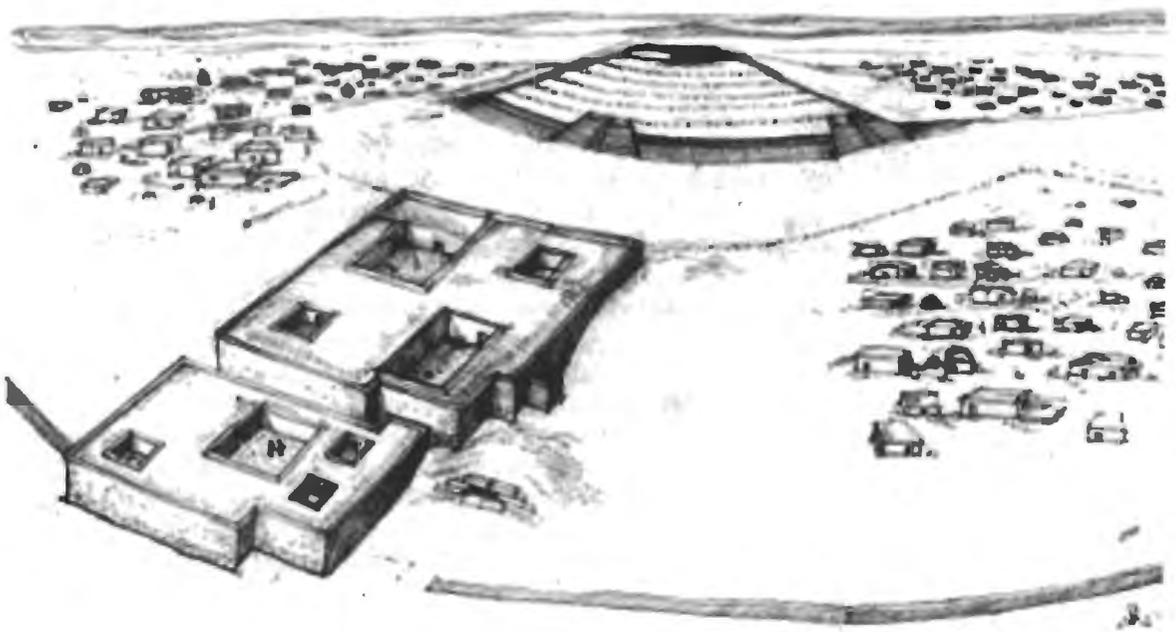


Fig. 2. Urkesh Monumental Urban Complex: reconstruction (P. Pesaresi)

(Fig. 3) we have completely exposed the service wing, and have started work on the formal wing (on top of which there is a thick deposit of the second millennium settlement, which grew above the abandoned palace). The most important finds have been sealings which had been used to seal containers and doors. Many of them were inscribed: they have given us the name of the city, of the king who built it (Tupkish) and of one of his successors (Ishar-kinuni), of one and presumably two queens, and of several courtiers. The style of the seals is very distinctive, and different in several ways from the standard glyptics known from the Sumero-Akkadian south.

(2) A deep underground structure (Fig. 4), next to the Palace, would not even have been visible except for a small covered entrance, but it was monumental in character and of great ideological significance. While no writ-

ten document has been found associated with it, the nature of the finds makes it certain that this corresponds to what is known in Hurrian as *âbi* – a sacred area where the spirits of the Netherworld were summoned as part of complex rituals that are well preserved in later Hurrian texts preserved in the Hittite archives. It was presumably used primarily by the king and the queen. While the structure, in its simplest form, is a deep circular shaft going back to the early third, and possibly the fourth millennium, it was at about 2300 B.C. that it came to be covered by a corbelled vault and expanded by means of an antechamber. This was also the time when the Palace of Tupkish was built, in a position immediately adjacent to the underground structure.

(3) Another religious structure pre-dated the Palace of Tupkish – a Temple sitting atop a Temple Terrace (Fig. 5) that towered high above the Palace. This was clearly



Fig. 3. View of the Palace of Tupkish [with inset showing relationship to city (about 2300 B.C.)]



Fig. 4. View of the âbi, the necromantic underground structure (about 2300 B.C., with earlier levels going back much earlier)

the main temple of Urkesh, and we have good reasons to believe that it was dedicated to the main God of the Hurrian pantheon, Kumarbi. For reasons that are detailed below (section 4), it is very likely that an earlier version of this Temple Terrace dates back to the fourth millennium. The top of the Terrace (hence, the floor of the Temple) is about 25 meters above the ancient plain level, and about 12 meters above the level of the palace. It is linked with the Palace through a wide Plaza, thereby creating a vast urban complex which, from one end of the Palace to the end of the Temple Terrace is more than 200 meters wide (Figs. 1-2).

## 2. Connections with the north

Against this background, we may reflect on questions we have had in mind since the beginning of our excavations concerning the existence of relations with the north and the nature of such relations. To the north in eastern Anatolia, Armenia and Georgia for most of the third millennium the material culture is characterized by burnished or polished black and red ceramics, hearths and andirons decorated with anthropomorphic or geometric decorations and a settlement pattern centered for the most part around villages and small towns. This culture, called the Early Transcaucasian culture, is well documented from Georgia to eastern Anatolia and into north-western Syria with extensions north of the Caucasus and to the southwest into Palestine. Many cultural patterns



Fig. 5. A night view of the main staircase of the Temple Terrace (about 2400 B.C., but remained in use until about 1300 B.C.g)

link Urkesh with the north, and we will focus on these first, and then (in section 3) on those traits which are more distinctly indicative of ethnic affiliation.

One characteristic connecting Urkesh with Anatolia is the presence in Urkesh seal iconography of elements that appear later in the seal corpus of Kultepe, level 2. Prominent among these is the depiction of a bull standing on an altar (Fig. 6). Not only the iconography of our seal impressions, but also the style, anticipate these later impressions. Other elements found both in Urkesh and later in Kultepe include a scene depicting the slaying of a reversed bull using the same type of long triangular knife. This is seen in a recently found cylinder seal in Urkesh (Fig. 7) where a reversed bull has just been sac-

rificed by two priests; the head of the bull rests at the base of a palm column topped with a necked jar. In the later Hurrian-Hittite texts the usual offering to the Weather God was a sacrificed bull. In the seal impressions from Kultepe, level 2, the bull cult is prominent as is the Weather God. One seal impression from Kultepe 2 depicts a Storm-god threatening a reversed bull; he steps on the head of the bull while holding one of its rear legs with his right hand. In his left hand he holds a triangular shaped knife strikingly similar in shape to the one used to slay the bull in the Urkesh seal.

Another aspect that is distinctive of Urkesh and seems to link it with the north pertains to fashion, in particular two forms of headdress. The first is the one



Fig. 6. Composite drawing from a number of seal impressions of a scene with a bull standing on a platform.



Fig. 7 Seal with ritual scene showing a bull that has just been slain and whose head lies at the base of a palm column.

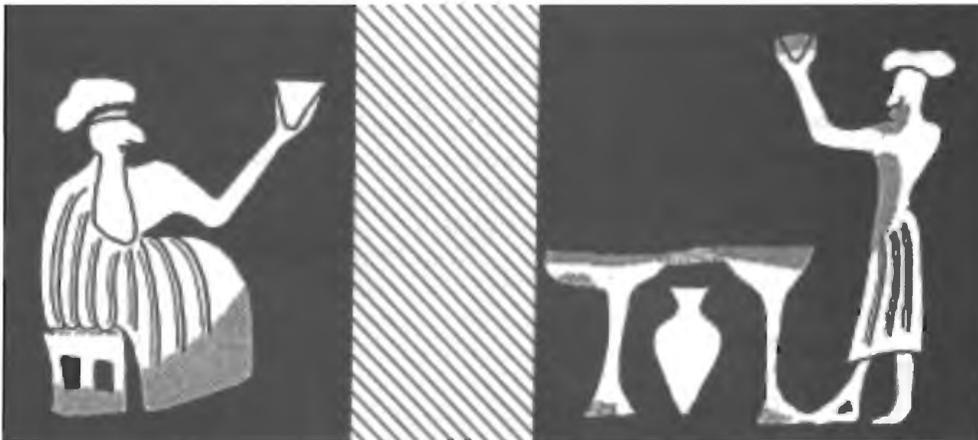


Fig. 8. Seal impression with two figures wearing a basque-like hat

shown on the two priests depicted on the Urkesh seal with the bull sacrifice: they wear distinctive head coverings that come under their chin, of a type found also on a seal of Tupkish, where the figures are carrying offerings. A second type of headdress is a basque-like hat that is found in several seal impressions (Fig. 8).

More direct connections with the north can be found through Early Transcaucasian sherds found in the Urkesh excavations. The black and red-brown burnished pottery so characteristic of the north has only been found in small

amounts in Urkesh. It has been discovered both in the main temple BA connected with strata dating to the mid third millennium and in the later third millennium palace of Tupkish. From this distribution it appears that there was a continuity of contact even if the evidence is scarce. That they are few is clear but their importance must be connected with the fact that they show some importation of either these ceramics themselves or what they contained.

But the trade with the north must not have been in foodstuffs or other small items best transported in ce-

ramic vessels, but rather the city of Urkesh, being the closest city to the main trade route to the north through the Mardin Pass, must have benefited from the trade in the raw materials the Early Transcaucasians controlled. Of major importance must have been metals but could also have included certain types of wood. From our environmental studies we know that in the third millennium the area around Urkesh not only produced grain but also that the area was sheltered by a savannah type of light tree coverage. Other imported raw materials must have included certain types of stones for building. We know from the animal bone inventory and from the seal iconography that wild mountain animals were also present in Urkesh; whether they were hunted by the elite of Urkesh or imported cannot be determined.

More important for connections between Urkesh and the north is the presence of andirons in our excavations. Both permanently installed and movable andirons in the Early Transcaucasian culture are horseshoe shaped and decorated on the two end portions with incised and applied decoration, usually anthropomorphic but also with geometric elements. The Urkesh examples have both geometric and anthropomorphic decorations and date mainly to the Khabur period (ca 1800 B.C.) (Fig. 9). At Urkesh andirons have been found permanently installed in contexts of both domestic and funerary nature. In addition we have found at Urkesh small portable andirons with the same type of decoration. For an interpretation of these objects we can turn to the letters from Zimri-Lim, king of Mari, to the rulers he had installed in Urkesh, i.e., Terru and Haziran. The content of the letters shows how disturbing to the ruler the conditions in Urkesh were. They indicate clearly that the local people in Urkesh did not accept the overlordship of these foreign Amorite rulers appointed by him. Given this chaotic political situation, it may very well be that the local Hurrian urban population, wanted to reaffirm their ethnic identity and their connections to the rural population in the mountains to the north and east through the use of specifically Hurrian cultural artifacts. In this case these artifacts are also closely linked to the Early Transcaucasian culture. Were the people identified with the Early Transcaucasian culture Hurrians? Our andirons used in the Hurrian city of Urkesh are the clearest evidence thus far of the link between the two.

### 3. The Hurrian identity of Urkesh

Two important questions underlie our understanding of ethnicity, most especially when dealing with archaeological evidence. The first is historical: is the notion of an ethnos, as different from other types of social groupings, a reality that plays a role in the dynamics of historical development? The second question assumes a positive answer to the first and is historiographical: what criteria can we use to recognize an ethnic group?



Fig. 9 Large andiron typical of the Khabur period in Urkesh (A11.34)

Semiotics can help us in dealing with both questions. Symbolic notation is of paramount importance in providing coherence and integration to an ethnic group. There is no single element that in and of itself is ethnic. Rather, any trait (from language, material culture, ideology) can become a powerful ethnic marker to the extent that it proclaims distinctiveness. The task of historiography (broadly understood, and therefore referring also to the archaeological record) is to recognize these markers, and to show whether consciousness of their existence was an operative factor in holding the group together. Semiotics helps us to recognize minimal pairs with contrastive values, to see what may be charged with ethnical valence because it is opposed to counter-ethnic traits (traits that distinguish other ethnic groups).

Early in the history of the research on the Early Transcaucasian culture, the ethnic identity of the population had been tentatively connected with the Hurrians on the basis of second millennium written documentation which showed them to be present more or less in the same geographical area. While there continues to be no written evidence for the vast spread of this culture in the early periods, and therefore no direct evidence of their ethnic affiliations, we think that our excavated evidence from ancient Urkesh provides sufficient evidence to show that at least this city was indeed Hurrian, for here we have a cluster of traits that can be linked specifically with this ethnic group.

The *linguistic evidence* is the most apparent. From Urkesh come the most ancient texts written in the language that came later to be known as Hurrian, the Tish-atal inscription in the first place, but also, in a minor key, the legends of the seals of Tupkish and his court. What is important about the Tish-atal inscription in particular

are two facts. The first is that the text is entirely written in Hurrian (in contrast, e.g., with the texts from Ebla which are written in Eblaite only to a very limited extent). The second is that it is a foundation inscription for a temple built by a king, wherein the choice of Hurrian holds special meaning as an affirmation of political pride and distinctiveness.

An important aspect of the linguistic evidence is the use of the Hurrian term *endan* for the king. It occurs only in Urkish, and is the only known case of a non-Sumero/Akkadian title in third millennium Syria. Since it is documented at the height of the political expansion of the Akkadian empire, it reflects an emphatic display of self-assertion that contrasts not only with the prevailing fashion of the time, but also with the imperial policy of the conquering southern power. While possibly at home in other Hurrian cities of the third millennium, the title is so far attested only for Urkish.

Along with the use of the language come the *onomastics*. The evidence of proper names can be used improperly, for two major reasons: we must not automatically equate the linguistic nature of the name with the ethnic affiliation of the name-bearer, and the isolated evidence of one or even a few names must not incontrovertibly be taken to reflect demographic density for a given ethnic group. A way out of the impasse is to consider the distribution of the names: our assumption is that they can be taken to reflect ethnicity if they affect distinct classes. That is the situation at Urkish where, even though the available evidence is still limited, the kings (with one exception) and the courtiers have Hurrian names, including the nurse and the cook of the queen, while the queen herself has an Akkadian name, presumably reflecting a dynastic marriage.

The architectural and stratigraphic evidence pertaining to the underground passage to the Netherworld, known as *abi* in Hurrian, points to *cults and rituals* that are specifically linked to the Hurrian sphere. Even more importantly, these cults are distinctly non-Mesopotamian, both in tenor and for what they tell us of the relative conceptions of the Netherworld. Whether or not there is merit in the suggestion that the structural re-arrangement at the time of the Palace of Tupkish reflected an adaptation on the part of the Hurrian milieu to Akkadian sensitivities (see above, 31), the fact remains that there are here two sharply contrasting religious perceptions, that go well beyond the mere terminological difference in divine names or cultic objects.

In Hurrian *mythology* Urkish occupies a central role. It is preserved in Hurrian texts from Hittite times that are much later than the heyday of Urkish, but two considerations are in order. First, by the time they were written, Urkish had lost all its importance: still specifically Hurrian in nature, it was reduced to the status of a small and marginal shrine with a limited service support system. It would therefore be curious to assume that it was "invented" at that time as the seat of the father of the Hurrian pantheon. Second, the myths retain a very distinctive archaic tone, which may reasonably be assumed to reflect a much earlier tradition, one that goes back to the formative periods of the mythology itself.

It is interesting to note that the Mesopotamian ideological landscapes in the third millennium block out altogether the northern region. While ample mental space is given to the East, the South and the West (see Fig. 10), it is as though the North did not exist, even though it is geographically closer than any of the other landscapes. We interpret this to mean that the North had a strong

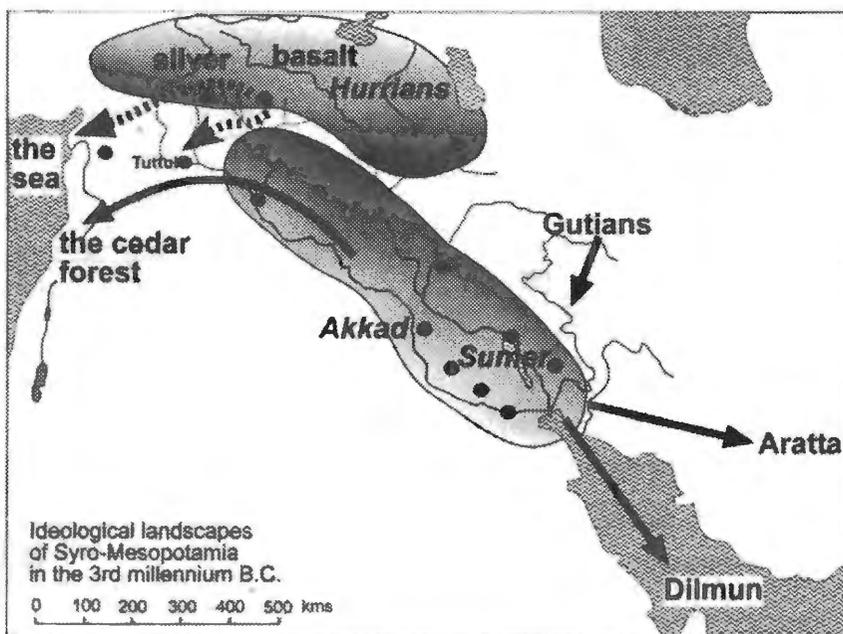


Fig. 10. Ideological landscapes of Syro-Mesopotamia in the third millennium

cultural consistency of its own, which is precisely reflected in the rich Hurrian mythological world. There was no opportunity for the Sumerians to appropriate an empty landscape, because it was not empty. And there was no opportunity to adopt any of the Hurrian mythology because it was too foreign and well developed. This, at least, is our hypothesis. It seems further supported by the most recent discoveries at Tell Mozan, which seem to push back into the fourth millennium the full blossoming of Urkesh as a major urban and religious center.

#### 4. Evidence for a fourth millennium Hurrian Urkesh?

The 2006 excavations have brought to light limited but important evidence relating to the fourth millennium. We will first describe briefly the typology of the finds, then we will discuss their stratigraphic situation and finally we will draw the conclusions regarding their possible significance for the question of ethnic affiliation.

##### 4.1. Ceramics and seal impressions

The fourth millennium ceramics from the temple terrace and the exterior base of the revetment wall are typical Late Chalcolithic 3 and 4 local production. The major part are coarse wares with large pebble inclusions. Shapes include open bowls, hammer head bowls (Fig. 11) and casseroles. Fine ware sherds are much fewer in number but do include a characteristic small carinated bowl. Only one small body of a beveled rim bowl has been found together with this material.

Connections with the south in this time period are evident from a number of cylinder seal impressions of an Uruk 3 style. A series of seal impressions show intertwined ribbons or snakes (Fig. 12a) One set of impres-

sions were made from a seal with a complex iconographic motif of what appears to be two offering bearers carrying standards on a vertical pole (Fig. 12b). The top of only one of these standards is preserved in our rollings and it is semi-circular with a crosshatched central motif. This type of complex motif is not common even in the south of Mesopotamia or Susa where the Uruk culture is best attested.

##### 4.2. Stratigraphy

Some Late Chalcolithic ceramics had already been found in 2005 in two places: immediately below the escarpment that leads from the Plaza to the revetment wall, in unit J1, and below the glacis just inside the revetment wall, in unit J3. In each case, the exposure was minimal and so we assumed, conservatively, that these finds might represent isolated pockets without any particular contextual significance. In 2006 we found more Late Chalcolithic material, in similar contexts: seal impressions in a shallow pit just below the surface of the glacis in J3, and ceramics in a sounding to the east of the stairway, in J4 – this too, in a setting that seems to match the layers below the glacis in J3 where the seals were found.

The wide spatial distribution of the finds and their coherence suggest that they are not isolated pockets. The consistency of the matrix is also an important factor: wherever we probed below the surface of the third millennium installations (escarpment and glacis), the same type of material has appeared. All of this indicates, in our view, that the third millennium Terrace was built on a pre-existing structure that was not very dissimilar in size. This aspect is significant. The area covered is quite wide (from J1 to J4 there are about 40 ms), and the elevation above the plain level is quite high (at least 20 ms). It is

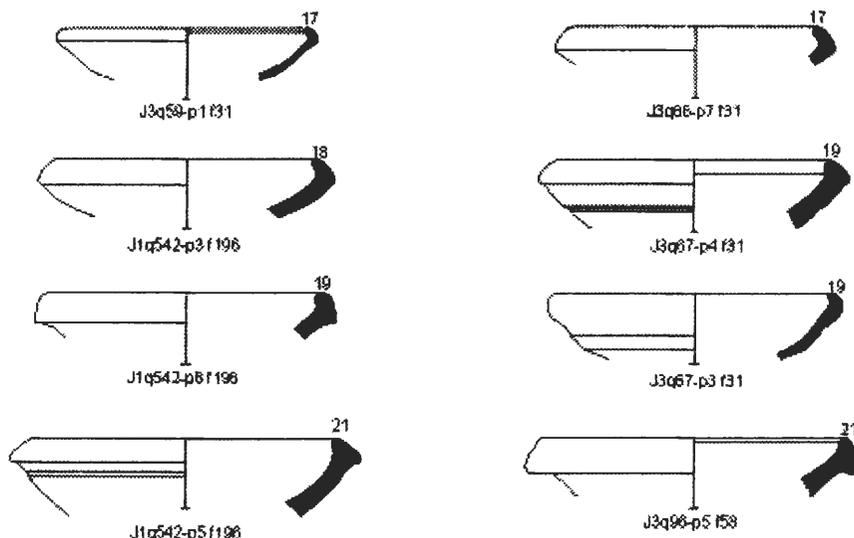


Fig. 11 Hammer Rim bowls from Late Chalcolithic 3/4 strata.

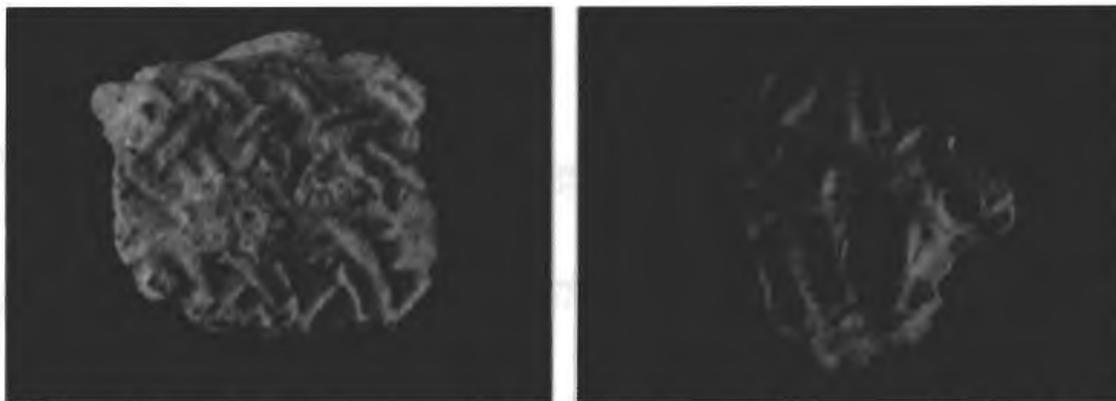


Fig. 12. Photos of Uruk period cylinder seal impressions excavated in Urkesh showing standard being carried

plausible to infer that such a high and wide structure was very similar, in its basic traits, to the high and wide structure of the third millennium – i.e., a Temple Terrace.

At the base of the staircase, there is evidence of an earlier staircase. The associated material is not sufficient to provide a good date for it, but it seems plausible to assume that it goes with the fourth millennium strata found below the third millennium escarpment and glacis.

The nature of the structure that hides beneath the third millennium monumental Temple Terrace can hardly be different from that of later Temple Terrace. If so, already by the middle of the fourth millennium we would have a towering structure, that would speak to both the fully developed urban character of Urkesh and the religious prestige associated with it as the seat of the father of the gods. Structural and stratigraphic similarities between the Urkesh situation and the organization of the Tell Chuera “Steinbauten,” conceived as a well planned sacred space, suggest that a similar situation occurred at both sites.

### 4.3. Significance for the ethnic question

A Temple Terrace such as the one we see for the third millennium and can infer for the fourth implies a continuity of religious traditions. In other words, it is reasonable to assume that the earlier monumental structure served the same purpose as the later. And this means that we can project, into a much earlier period than was ever suspected, a well established urban Hurrian presence.

This argument is fragile on two counts. First, we arrive at our conclusion on the basis of an inferential chain that, while plausible, remains just that, inferential. We feel that the nexuses are sufficiently clear to warrant our conclusion, but it does remain hypothetical. The second caveat is that the third millennium Terrace itself is not demonstrably Hurrian. This, too, is based on a set of inferences that we have developed elsewhere: we assume

that the Temple Terrace is nothing less than the very seat of Kumarbi described in the later myths.

But for all the fragility of the full argument, the facts that are certain are sufficient to give us pause when we hear the *communis opinio* repeat that the Hurrians are late comers in the Fertile Crescent. There is no question that (1) from the mid third millennium on Urkesh is, demonstrably, a Hurrian city; that (2) this city does not begin at that point in time, but at least a thousand years earlier; that (3) there is no evidence for a solution of continuity from the very earliest beginning; and that (4) the third millennium Temple Terrace was not erected from the plain level, but rather rested on an earlier structure.

We must consider one additional piece of circumstantial evidence. The *âbi*, as we have it, is a structure that is uncontroversibly Hurrian. It may be seen as the monumental frame for a ritual that is known to us in detail from later periods. The frame is so specific in its typological features and in its import that as far back in time as we can go it must be considered to remain specifically Hurrian. Now, the current depth of the *âbi*, at 8 ms from the top, reaches to the same date as the extant Temple Terrace, the mid third millennium. The circular wall that defines the structure gives every indication of going deeper, and it seems plausible that the emplacement of the original *âbi* may in fact be at the plain level. Since that level is some 6 ms below the current excavation limit, we may assume a depositional history for the *âbi* that also takes us back, as with the Temple Terrace, to much earlier periods, very possibly the beginning of the city in the fourth millennium.

## 5. Towards the identification of the earliest Hurrian homeland

### 5.1. The hinterland

The significance of the finds from Urkesh reaches beyond the realm of the city itself. The hinterland of Urkesh extends, it seems to us, to the northern high-

lands of the central Tur-Abdin and possibly beyond. We do not have direct evidence for this, but the cumulative import of the indirect evidence is significant. The strong and pervasive connections to the north, discussed above, are not found to the same extent at other coeval sites. Particularly important are those connections that pertain to ideology, of which the andirons are the most telling, because they affect popular consciousness.

A possible negative argument might be seen in the limited amount of ceramics specifically linked with the north, in particular the Early Trans-Caucasian ware. However, this may simply mean that (a) no significant transshipment of goods from the hinterland played any significant role, and (b) no production of such ceramics took place in the urban centers linked with the highlands (such as Urkesh), because it was not deemed to have either ideological or prestige value.

We may also consider the geographical location. The cities in the piedmont area immediately adjacent to the highlands, among which Urkesh played a major role, were in an ideal position to act as gateways for the shipment of metals, and perhaps timber, from the mountains. The distinctiveness of the Urkesh material culture indicates that this was no outpost of Mesopotamian civilization, but rather an autonomous center, with its own strong urban character. Thus, rather than a peripheral outgrowth from the south, Urkesh can best be understood as the urban efflorescence of the mountainous north. Consider the contrasting situation with Tell Brak/Nagar. It certainly looks to the south, not the north.

The argument we have developed in support of a Hurrian ethnic identity of Urkesh also goes along with this. The only possible linguistic links of Hurrian are with the north, reaching possibly all the way to the Caucasus and to Georgia in particular. We certainly do not have Hurrian cities south of Urkesh (even the neighboring Nagar does not meet the criteria proposed above). What we have called "Hurrian urban ledge," i.e. the arc represented by Chuera, Urkesh, Nineveh and (presumably) Kumme, remains in the third millennium just that, a narrow ledge. And it is the ledge of the northern highlands that provide subsistence and wealth.

We have often suggested that the success of Urkesh in withstanding the Akkadian onslaught was due not to any military strength that they possessed, but to the unique socio-political formula with which the city could maintain control of the mountains and exploit its resources. Rather than through an articulate administrative and bureaucratic network, Urkesh could efficiently mine the resources of the mountains because its ethnic ties with the population were acknowledged, by the moun-

tain villages, as binding and operative. The Hurrian myth of Silver provides an eloquent literary projection of this state of affairs. Silver is a boy living with his mother in the mountains, and has rough encounters with the other children (read: the villages squabble). He then sets out to look for his father, Kumarbi, because, his mother tells him, he administers justice for all the lands from his main seat in Urkesh (read: the villages are aware of the unifying and regulating role played by the lowland city). When Silver reaches Urkesh, he does not find his father, Kumarbi, because he is walking in the mountains (read: the city maintains active control over the villages by being recognized as the ancestral dimension of public life). The wider significance of this situation, so interpreted, is that it outlines a novel socio-political model for ancient Syro-Mesopotamia, and for Syria in particular – next to the Mesopotamian style city-states (like Ebla), the macro-regional states (like Mari), the tribal configurations (as with the Amorites). Such a wealth of diverse political realizations is indicative of the historical vibrancy of Syria at the beginning of history.

## 5.2. *The homeland*

The conclusion we propose builds on the premises that we have been articulating in this article. (1) The archaeology of Mozan shows that we have there a city already by the middle of the fourth millennium, and we have every reason to believe that this city is indeed Urkesh from the beginning. (2) This city has clear and distinctive links with the north, which is its real hinterland, in terms of material culture, language and ideology. (3) Urkesh can be shown to have a specific ethnic affiliation with the Hurrians, and, we may also argue, the northern hinterland, as well.

This hinterland would obviously be coterminous with the earliest period of the city's history, which is at least the fourth millennium. But it seems inescapable to assume that, in fact, the hinterland preceded the urban development of Urkesh – to assume, in other words, that we have Hurrians in the highlands to the north of Urkesh by at least the fifth millennium. How far north this extended we have no way of knowing. But we have at least good reasons to see the southern part of the Tur-Abdin as an area where the Hurrians were at home since late prehistoric times. We cannot of course say that they are autochthonous in the sense that they did not replace any other population, in other words, that this is their original homeland. But if not, it is at least the southern bridgehead of this homeland, a bridgehead that was critical in the formation of new urban structures in the lowlands.

## არქეოლოგია

## ურქეში და ხურიტების პირველსაცხოვრისის საკითხი

## ჯორჯო ბურელატი\*, მერილინ კელი-ბურელატი\*\*

- \* დირექტორი, მესოპოტამიის ლაბორატორია, კოტსენის არქეოლოგიის ინსტიტუტი, კალიფორნიის უნივერსიტეტი, ლოს ანჯელესი, აშშ;  
საპატიო პროფესორი, ახლო აღმოსავლეთის ენებისა და კულტურების დეპარტამენტი, კალიფორნიის უნივერსიტეტი, ლოს ანჯელესი, აშშ;  
საპატიო პროფესორი, ისტორიის დეპარტამენტი, კალიფორნიის უნივერსიტეტი, ლოს ანჯელესი, აშშ
- \*\* კოტსენის არქეოლოგიის ინსტიტუტი, კალიფორნიის უნივერსიტეტი, ლოს ანჯელესი, აშშ

(წარმოდგენილია აკადემიის წევრის ო. გამყრელიძის მიერ)

ზოგჯერ არქეოლოგიური გათხრები გარკვეულ ადგილზე უფრო მეტს დაგვანახებს, ვიდრე ეს შიდა, ადგილობრივი ურთიერთობებით ჩანს. სწორედ ასე მოხდა ეს ჩრდილო-აღმოსავლეთ სირიაში, ტელ მოზანის დიდი ყორღნის გათხრებზე მუშაობისას. 1984 წელს, როცა გათხრები დაიწყო, ვერაუდობდით, რომ ამ ადგილებში შეიძლება ძველი ურქეშის ნაშთები აღმოგვეჩინა. ეს ვარაუდი საბოლოოდ 1995 წელს გამართლდა, როდესაც მთელი რიგი წარწერების გაშიფვრამ დაგვანახა, რომ ჩვენ გაგვითხრია ამ დრომდე უცნობი “ურქეშის მმართველის (ენდარ)” სახსლზე, რომელიც ხურიტების სახელს – ტუპქიშს – ატარებდა. სამეფო სახლის ზოგიერთ სხვა წევრსაც ხურიტული სახელები ერქვათ.

ონომასტიკა იყო მხოლოდ პირველი მრავალ დამახასიათებელ ნიშან-თვისებათაგან, რომელმაც დამაჯერებლად დაადასტურა ამ უძველესი ქალაქის ეთნიკური იდენტურობა. დიდმა მატერიალურმა კულტურამ, რომელმაც დღის სინათლე ჩვენი გათხრების შედეგად იხილა, გამოავლინა ეთნიკურ იდენტიფიკატორთა კონსტელაცია, რაც სხვა გათხრების დროს არ მომხდარა. ამ მხრივ ორი რამ არის განსაკუთრებით მნიშვნელოვანი: უპირველეს ყოვლისა ის, რომ ურქეშის გარეუბნები ვრცელდებოდა საკმაოდ შორს ჩრდილო ზეგანზე; მეორეც ის, რომ ხიდრამეში გადავინაცვლეთ იმ დრომდე, როცა ურქეშმა როგორც ქალაქმა ჩამოყალიბება დაიწყო. ამ სხვადასხვა ფაქტორის არსებობა უფლებას გვაძლევს წამოვაყენოთ საკითხი, როგორც შესაძლებელი პიპოთეზა, ხურიტთა ყველაზე ადრეული დასახლების შესახებ. წინამდებარე სტატიას, რომელშიც ვაჯამებთ ჩვენ სხვა შრომებში განხილულ საკითხებს, წარმოადგენთ მიმოხილვის სახით, რასაც ერთვის გარკვეული რაოდენობის ფოტომასალაც.

Received June, 2007