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OF  
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JUNE 8TH, 1875.

Colonel A. LANE FOX, *President, in the Chair.*

The minutes of the last meeting were read and confirmed.

The election was announced of ROBERT PHILLIPS GREG, Jun., Esq., F.G.S., F.R.A.S., of Coles Park, Buntingford, Herts.

Thanks were voted for the following presents received :

FOR THE LIBRARY.

- From the AUTHOR.—Rude Stone Monuments. By Rev. W. C. Lukis, M.A.
- From the ROYAL GEOGRAPHICAL SOCIETY.—Arctic Papers for the Expedition of 1875.
- From the SOCIETY.—Bulletin de la Société Impériale des Naturalistes de Moscou. Vol. XLVIII. No. 3.
- From the EDITOR.—Revue Scientifique. Nos. 47 and 48. And Tables des Matières.
- From the ACADEMY.—Proceedings of the Royal Academy of Copenhagen. No. 2, 1874.
- From the SOCIETY.—Transactions of the Asiatic Society of Japan. Vol. III. Part 1.
- From the SOCIETY.—Mémoires de la Société Royale des Antiquaires du Nord. 1866.
- From the INSTITUTION.—Journal of the Royal United Service Institution. Vol. XVIII. (Appendix).
- From the AUTHOR.—United States Geological and Geographical Survey of Colorado, 1873. By F. V. Hayden.
- From the INSTITUTION.—Journal of the Royal Institution of Cornwall. Vol. XVI. 1874.
- From the EXECUTORS of the late HENRY CHRISTY.—Reliquiæ Aquitanicæ. Part XVI. 1875.

From the AUTHOR.—Illustrated Catalogue of the Canterbury Museum. By John Brent, F.S.A.

From Mrs. JACKSON.—Ethnology and Phrenology. Second edition. By the late J. W. Jackson.

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The following paper was read by the author :

*The LONG WALL of SALONA and the RUINED CITIES of PHARIA and GELSA DI LESINA.* By Captain R. F. BURTON, H.M. Consul at Trieste. [With Plates xii. and xiii. and woodcuts.]

#### INTRODUCTION.

ALLOW me to begin by expressing the great satisfaction with which I find myself once more in this room, and permitted to offer you the results of three years' work. The specimens on the table will show you the nature of that work, and, before proceeding to the papers announced for this evening, I may, perhaps, be allowed briefly to introduce them to you.

The two sketches (Pl. xiii. figs. 1 and 2) represent the only flint implements as yet found in Dalmatia; and I have added the requisite details. They were shown to me by my learned friend, Prof. Glavinić of Spalato. I would propose him and Dr. Lanza di Casalanza as corresponding members of our Society; and I will answer for their value.

The skull and the accompanying bones were found near Bolliunz, a valley about five miles south-east of Trieste. Here the Romans cut an aqueduct in the live rock—a trough which supplied Tergeste with the best water. I have no doubt that some of the caves which now appear natural were hand-worked for mortuary purposes; and, though I will not answer for the skull being Roman, or, indeed, of any great antiquity, I think that it may be a relic of the ancient race, and, as such, I have brought it home for the collection of our learned associate, Dr. J. Barnard Davis.

The collection of pottery and the models of stone implements are intended for the admirable collection of our President, Col. A. Lane Fox. They are gathered from the Castellieri of Istria, concerning which I lately published a paper, with many regrets for the mode in which it was published, and a heartfelt resolution not to do it again. The pottery is submitted to the judgment of experts. To an amateur it appears of different epochs, but I can answer for the fact of its being an authentic find—most of it was dug up in my presence. It occurs in the black earth.

## PART I.—THE LONG WALL OF SALONA.

Salona wants but few words of introduction. She was in turn the *Respublica Salonæ* (inscribed on leaden tube of aqueduct); the *Conventus* and *Colonia* of Pliny (iii. 22), and a host of writers; the Roman metropolis of *Dalmatia Felix*, that fair and fertile section of the land between the *Nestus* or *Tilurus* (mod. *Cettina*) and the *Naro* (*Narenta*) rivers; a *Præfectura et Prætura* (*Farlati Illyria Sacra* i. 27), with a *Præpositus thesaurorum*; a *Procurator ginacciorum*; a *Procurator baphiorum* (of the dyeing establishments); and a *Præses Dalmatiæ* (or *Functionarius perfectissimus*). She was the great emporium of the coast, the *ἐπιπέδιον*, or naval arsenal (*Strabo*, vii. 5); and the "*Totius Dalmatiæ Caput*" (*Const. Porphy. de Admin. Imperii*, cap. xxx.) which, under Augustus, included a part of Western Pannonia. *Virgil* (*Genethliacum*, *Ecl.* iv.) sang the birth of a "*Saloninus*," and the glories of the paternal triumph: *Horace* (ii. 1) immortalised the honours of Dalmatic or Delmatic victory. Here "*Duke Bato*" (A.D. 6, *Dion Cassius*, lib. lx., and *Vell. Paternulus*, lib. ii.) fought for liberty against the predatory and oppressive masters of the world; here *S. Domnius* (*S. Doimo* or *Dojmo*) was sent, according to old tradition, by *Saint Peter*; and here *Titus*, by order of *Saint Paul* (*Tim.* ii. 4-10) preached the gospel to Dalmatia. The remains of what an English novelist called the "small but prosperous town of Salona" (?), though seldom visited, are, according to *Prof. Steinbüchel*, some of the most interesting of classical ruins. Finally, a highly advantageous position has made *Spalato*, its modern *locum tenens*, the natural, whilst *Zara* is the artificial and political capital, and the most flourishing, indeed the only progressive port of the old "*Regno di Dalmazia*," which still forms the southernmost province of the extended Austrian empire.

But my business at present is with a single section of Salona, the "*Long Wall*," of doubtful and debated origin.

The celebrated *Abate Alberto Fortis* (*Viaggio in Dalmazia*, *e.c.* 2 vols., *Alvise Milocco*, Venice, 1774, translated into English (London, *J. Robson*, 1777), and French, "*Voyage en Dalmatie*, Berne, chez la *Société Typographique*, 1778"),\* who travelled in A.D. 1770-1772, and whose meritorious labours have been a mine copiously quarried by later writers, has no notice of the "*Murazzo*," or long wall, although he gives a detailed description of the ruins of Salona, in his vol. ii. p. 42 (French translation, ii. sec. iii. p. 56).

\* I shall give in these pages references to text and French translation for facility of reference. The book has become somewhat rare and costly.

On the other hand, the late Mr. Paton, so well known as a traveller, and a writer of travels, and mentioned with respect by the late Abate Carrara, visited Salona in 1846-7, and describes this most interesting feature in the following remarks (vol. i. 363, "Highlands and Islands of the Adriatic," by A. A. Paton, 2 vols. London: Chapman and Hall, 1849):

"To the westward of Salona is a remnant of an immense construction, the origin and destination of which is quite unknown to the local antiquaries—a *Cyclopean wall*,\* of regular quadrilateral stones, each from 8 to 16 feet in length. At first sight, I imagined that it must have been the foundation of a temple; but, as it extends 580 paces in length, I soon saw the fallacy of that opinion."

The generic term, "Cyclopean," is given to the blocks 6 to 12 feet long by 2 to 5 high, at Tiryns, in Argolis, by Pausanias (*Κυκλώπων . . . ἔργον* ii. 25-7); but he also applies it to the hewn polygons of Mykenæ, and even to the squared masonry of the Gate of the Lions. Euripides repeatedly adapts the same expression to the walls of Mykenæ and of Argos. Lactantius (vid. Stat. Theb. i. 252) explains it thus: "Arces Cyclopum autem, aut quas Cyclopes fecerunt, aut magni ac miri operis; nam quicquid magnitudine suâ nobile est, Cyclopum manu dicitur fabricatum." Of course the picturesque term was seized upon by the imitative Roman poets: Seneca, to mention no other, says:

Quid moror? Majus mihi,  
Bellum Mycenis restat, ut Cyclopea  
Eversa manibus saxa nostris concidant.

(Herc. Fur. iv. 996.)

The first step would be to smooth the joints, as in the artistic walls of Cosa, and the outer surface, as at Rusellæ, after which the whole stone would be hewn first to the pseudo-isodom, and, lastly, to the isodom form. Petit-Radel and Dennis (ii. 284) hold the polygonal structures to be Pelasgic, and the former declares (Mem. Inst. iii. pp. 55-66) that they have been found as far south as Lucania and Apulia. Mr. Hamilton ("Archæologia") complicates the use of the word by applying it to four several forms of masonry, noting as many different epochs. In the first, the gigantic, irregular blocks are of various sizes, with smaller interstitial stones, but wholly without mortar (Tiryns and a portion of the Maltese "Torri de Giganti," unhewn masses of coralline). The second shows masonry without courses, irregular polygons whose sides fit closely (Mykenæ, Etrurian

\* The italics in this passage, and in the quotations from Sir Gardner Wilkinson and the Abate Carrara, are mine.

Norba, Cære, Arpino, Cosa, and Alatri; also Iulis (of Ceos) and Delphi; in the third, the strata are of the same height, but pseudo-isodomic, or unequal in length of stones (Bœotia, Argolis, and the Phocian cities); whilst, fourthly and lastly, the blocks are of different heights, but always rectangular (Attica). "Rectangular Cyclopean" sounds almost like an Irish bull. Perhaps we had better, with Dodwell ("Pelasgic Remains") and Sir William Gell ("Rome"), despite Bunsen (Ann. Inst., Rome, 1834), limit the term "Cyclopean" to masonry composed of irregular polygons of large size, superimposed and fitted together, more or less closely, with interstitial stones, but without mortar or cement. The oldest form would be a massive wall formed by huge blocks of undressed rock simply piled together without much care for jointing, as at Sidon, and in the Castellieri of Istria, especially that of Cunzi (Kunzi). Similar walls are found at Segni, Alatri, and other Etruscan cities, as opposed to those of Latium. In the second, the sides would be smoothed so as to correspond, but the stones would not be laid in true courses; such are the ruins of Tiryns.

The next traveller of note to Salona, the late Sir J. Gardner Wilkinson ("Dalmatia," &c.: London, Murray, 1848), avoids using the terms "Cyclopean" and "Pelasgian,"\* and describes (i. 160-1) the "wall of large stones" in these words:

"From this point" (the southern town-enceinte) "another wall runs off, nearly at a right angle, which appears again by the roadside, about 115 paces to the westward, and, in a still more perfect state thirty paces further on. It is of very large stones, with *bevelled edges*, admirably put together, and of a style which resembles Greek masonry. Some of the blocks are 13 feet long and 2 high. I traced it in the same direction to the distance of 573 paces, or about 1,440 feet; and about 200 paces further on, is a line of rock resembling masonry, which may have been used as a continuation of the defences of the city. On the north side of the wall, the sarcophagus of the Albucii family was discovered, and other tombs are met with hereabouts. This wall may have been used to protect the entrance to the river and the port, or may have belonged to the older city, before the Romans came into Dalmatia, when Salona was already a place of importance; and the character of its masonry is the more remarkable, as it seems to point out a connection with the Greeks." The learned author also shows the importance of Salona by quoting Strabo (lib. vii. 5, § 5):

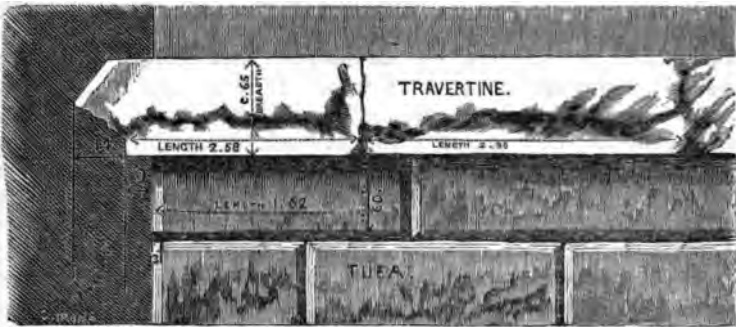
*Ἐπεῖτα . . . καὶ ἡ τῶν Δαλματιέων παραλία, καὶ τὸ ἐπινῆιον αὐτῶν Σάλων.* "Ἔστι δὲ τῶν πολλῶν χρόνον πολεμησάντων πρὸς

\* Dionysius Hal. (i. 28) relates on the authority of Myrsilus that the wall which surrounded the City of Athens was called Pelasgic.

*Ρωμαίους τὸ ἔθνος τοῦτο, κατοικίας δ' ἔσχεν ἀξιολόγους εἰς πεντήκοντα, ὧν τινὰς καὶ πόλεις Σάλωνα τε καὶ Πριάμωνα (Priamon P), καὶ Νινίαν, καὶ Σινώτιον, τὸ τε νέον καὶ τὸ παλαιόν, ἃς ἐνέπηρσεν ὁ Σεβαστός (Augustus).\**

The highly distinguished Egyptologist, to whose literary kindness I am personally indebted, here showed his normal acumen. But "bevel" means properly rabbeting, or oblique rebatement; in fact, "the angle formed by two surfaces of a solid body, meeting at an angle which is neither a rectangle nor half a right angle." It is still a favourite with architects, but we must not apply the term to the masonry of Salona; the latter is chisel-dressed to a narrow flat draught or border, and a boss or projection, apparently of unusual height, and invariably forming a rectangle with the lower plane. By some writers on the Holy Land (*e.g.* Dr. Barclay, "City of the Great King," p. 494) it is made a characteristic of "Hebrew architecture," whatever that may be; and, probably because they observed it at the "wailing-place" of the Jews, they named it the "Jewish bevel," a compound misnomer, it being neither "Jewish" nor a "bevel." The "Chosen People," I need hardly say, borrowed all their architecture, and, indeed, art in general, from the polished Phœnicians, and even more distant races.

This variety of stone-dressing, so useful in the determination of style and date, appears hardly to have been studied with the attention which it merits. A distinguished English archæologist at Rome informed me that he held it to be a classical



form originating in the early centuries after our era. How far wrong he was, may be judged from the foregoing sketch of the huge walls, which are generally, indeed universally, supposed

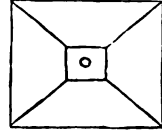
\* "Then . . . the coast of the Dalmatæ, and their naval arsenal, Salon. This nation was for a long time at war with the Romans" (alluding to the Illyrian wars). "They had fifty considerable settlements, some of which were in the same rank of cities as Salon, Priamon, Ninias, and the old and new Sinotium."

to be part of the Agger of Servius Tullius. I was honoured with the illustration and the following note by the discoverer, the Right Rev. Father Joseph Mullooly, the learned Prior of S. Clemente, whose "History of Excavations," and "Saint Clement and his Basilica in Rome" (1 vol. 8vo) are so highly valued :

"The breadth of the draught or border of the tufa stones is a little more than an inch each way, and the cavity or channel between them precisely three centimetres, which gives the height of the boss. The tufa blocks, which I discovered under the floor of the subterranean basilica are believed by Mr. Parker, C.B., to date from the early days of the Roman Monarchy, and the travertine from the Republican times."

The object of the "draught and boss" was evidently to relieve the jointing from the over-pressure of heavy bodies; hence we find the system variously adapted to a multitude of different forms by the latest, as well as by the earliest, builders. Some are exceedingly complicated. For instance, in the palace of King Hensius, at Bologna (Palazzo del Podestà, A.D. 1261-1485), each stone has a central rose upon a flat table, highly raised, and connected with the corners by four ribs, each from one of the sides of the square. (See fig.)

Perhaps the most popular is the bevel with rusticated boss; and I have noticed, both in England and in Syria, the raised draught and the sunken centre, a modification which clearly defeats its own purpose.



The learned Dr. Rosen, formerly Prussian Consul at Jerusalem, finds the following three distinct epochs of megalithic and "bevelled" (*i.e.* draughted and bossed) architecture in that most venerable part of the East :

1. The fine, rather wide, and shallow draught, often 6 inches in breadth around the edge, the whole stone carefully squared, and the boldly projecting boss finely cut and plain-dressed like the border. This he would call pre-Herodian, though there is no reason to think that the Israelitish cities had any peculiarities of architecture, and he instances the "Wailing Place;" Arák el Amír, in Gilead (B.C. 290), and other well-known ruins.

2. The deeply-draughted edge, with the face of the stone projecting more boldly, and only rough-dressed with the hammer, or left as hewn from the quarry. He would consider this early Roman and Herodian, and he finds it in most of the antecrusading remains.

3. The latest type is the roughly-draughted border, with the

Augustus burnt them down." In Strabo, the Dalmatian coast, the coast of the Iapodes (Fiume), Liburnia (Northern Dalmatia), and the Liburnian Islands, especially the modern Lissa and Lesina, are given in due order.

whole face of the stone standing boldly out, but only hammer-dressed, or left as first quarried. This, he says, denotes the later Roman period.

The Rev. Mr. Tristram, a careless and superficial observer, speaks (p. 78, "The Land of Israel," London, 1866) of the "well-known *Jewish or Phœnician bevel*," and attributes (p. 80) to Dr. Rosen's first and earliest epoch the Haram of Hebron, which we have every reason to think is of far later date.

I would distribute the draughting and bossing (not bevelling) of the Syrian ruins into three epochs—the Phœnician,\* the classic (Greek or Roman), and the modern, the latter being conspicuous in the khans or caravanserais. There are many local varieties; for instance, the double form in the church of Constantine and Helena at Yabrúd. Syrians, ancient and modern, work everything, from sewing to stone-dressing, in ways differing from, and often contrary to, Europeans. For instance, they begin to dress, not with the hammer, but with the pick, which with us comes much later.

The modern style of cutting stone in Dalmatia and Istria, which probably dates from the remotest days, may throw light upon the system of their classical predecessors. The ashlar is first dressed with the heavy square-headed *mazza* or metal hammer. It is then subjected to the *punta*, pointed, or narrow chisel, or to the finer *scalpello*, both used with the *mazziola*, or *maglio*, a heavy mallet of soft iron, in which the hollow can be filled up. The modern pavement of Trieste and other towns employs the *punta* when the sandstone blocks are laid in place. The next process is the application of the *brocca*, a triangular pick, with sharp apex and a toothed base. Then comes the *martello di denti grossi, medii* (vulgo, "il bastardo") e *fini*, the latter called *doppia martellina*, because the teeth are double in number; for instance, one head will have sixteen, and the opposite eight. The French *boucharde* with diamond-shaped steel points, worked with the *masse*, and the Italian *bocciarda*, useful in treating granite and hard stones, is common at Vienna, but not used at Trieste or in Dalmatia. Finally, the stone, finished with the finer *scalpello* of many forms, even dentated, is polished with common sand or *saldame* (Molla or Sasso Marzo), a fine powder of silex found in the limestone strata, and not easily accounted for.†

\* From the Phœnicians came the Etruscan boss, which is found at the ruins of Misano, near Bologna, to mention no other place.

† These pockets, full of fine silex, are mysterious formations, to which Linnæus (Syst. Nat. "Silex") alludes, "Silex nascitur in montium cretaceorum rimis, uti quartzum in rimis saxorum." We find them at Proseco and Reppen Tabor, near Trieste, where the colour is dark, and near Pola, whose ruddy or straw-tinted sand has been extensively used for Venetian glass. The same anomaly occurs in oceanic Iceland, whose silex beds near Cape Reykjanes (the south-western ex-



If a *spigolo* (list), or a *listello* (draught), be required, it is worked with the *martello* rather than the *scalpello*, and the *rustica* is left simply random-tooled or hammer-dressed, not grooved nor pitted into holes (prison rustic). *La Bugna* (*pietre bugnate*) is the term applied indifferently to "frosted stones," to the bevel, or to the boss and draught.

Amongst Dalmatian writers, the only authority who has treated the "Murazzo" of Salona as it deserves is the well-known Abate Carrara ("Topografia e Scavi di Salona," del Dr. Francesco Carrara, Trieste, 1850). In the first (topographical) part of his learned little volume, he mentions it only once (p. 63); in the second portion, or history of the excavations, he refers to it three times. The first (p. 128) is in connection with the classical cemetery enclosed by it, and by a wall of large white (limestone) blocks, carefully squared, running parallel with it to the north, and distant 3 Viennese tese (fathoms—each 6 Austrian feet=6 feet 2 inches '67). In p. 147, he tells us that between 1847-8 were opened "ottocento klafter (the same fathom) di muro ciclopico di epoca antiromana;" and in pp. 136-9 he describes it in these words:—

"All 'ovest della città antica si mostravano gli avanzi di un muro a grossi massi squadrati della quarta epoca delle costruzioni ciclopiche (courses of various sizes, but always rectangular). Il quale continuava interrottamente per quasi 130 tese, *senza mostrare nè cominciamento nè fine*. Tra per la curiosità di determinare l'estesa e la direzione di quel muro, non meno che la sua relazione col perimetro dell' antica città, e con ciò soddisfare ad un importante curiosità nostra, ed al desiderio del dotto viaggiatore Scozzese, A. A. Paton ('Allgemeine Zeitung,' Adriatische Briefe vii. Salona, num. 141, 1846); e tra pel desiderio di cercare la lunghezza della necropoli scoperta a fianco della via maggiore, condussi a termine, mediante tasteggiamenti, uno scavo importante. Dal quale rilevo che il muro ciclopico segnato nel mio piano a linea grossa interrotta, lungo più di 800 tese, partendo dalla cinta a ponente del perimetro antico, corre, pressochè in linea parallela alla strada regia, attraversando il torrente Slano, e continuando sino a quello di Blandiste, che marca il confine tra Salona e Castel Suguraz. Di là, anzichè avanzare al disopra della strada, risalta al Sud, riescendo con dolce deviazione dalla prima linea fino alla località detta Stagun ove termina con due mausolei.  
 . . . . La misura media de' massi che formano il muro ciclopico dà in altezza 2' 3" (Viennese feet 100=103·71 English),

tremity), a purely eruptive country, have been spasmodically worked. Pliny (xxvi. 6) declares that the Roman workmen used a sand found in the bed of the Adriatic when the waters retired. Fortis (ii. 271) noticed this Saldamo at Loparo (Neo-paros?) in the Island of Arbe.

in larghezza 2' 6"; in lunghezza 10'; il muro non è più grosso della grossezza dei massi.

“Codesto muro ciclopico fiancheggia la strada antica romana sopra la quale i francesi, per ordine de Marmont, aprirono nel 1808 la strada regia attuale. La deviazione che ho notata di esso muro della strada regia al torrente Blandiste, si spiega con ciò, che i francesi, arrivati a quel punto, piuttosto che progredire sulla linea della via antica, rifecero la direzione della strada per farla più mediterranea lungo la bellissima riviera delle Castella. Ciò nulladimeno, dalle osservazioni fatte in tanti anni a Salona, vedo costantemente che ogni strada e viuzza attuale corre sopra le rovine di una via o di un clivo romano.

“Dal muro ciclopico preesistente a Salona romana, trassero partito i Signori del mondo per istabilirlo a linea di divisione fra la via pubblica e la maggiore necropoli. E difatti, dal punto in cui il muro si stacca dal recinto di Salona, sino a che si perde nel torrente Blandiste, al nord di esso, trovasi il cimitero antico, al sud la strada; da Blandiste a Staçun la necropoli si presenta al sud, la strada al nord. Il quale mutamento di disposizione risultante da moltissimi tasteggiamenti da me fatti (a tutto giugno dal recinto all' ovest di Salona sino ai mausolei che seguano il termine scoperto del muro ciclopico si mostravano più di 300 buchi non minori in superficie di una tesa quadrata, profondi dai 4 a 12 piedi), si spiega di leggieri dal contraste che offrono le due linee di muro toccanti al torrente Blandiste. Del resto per determinare l'ufficio di quel muro converrebbe continuare l'opera incominciata nel quarantotto, e per lo meno con ispessi tasteggiamenti cercarne l'ulteriore andamento. S'arriverebbe forse a conoscerla, come è verosimile, quale muro di precinzione di Salona antiromana, che è quanto dire dell' antica Salona.”

In p. 139 we read, “Ora nel scoprimento de più che 800° (fathoms) del muro ciclopico, hassi un mezzo di comprendere la causa del fallo, e scusare taluno di que' grossissimi errori” (alluding to the discrepancies of shape and measurements found in former descriptions of Salona). Page 157 notes that the Roman theatre has a “muratura a bognato,” which, I have said, applies equally to the bevel and to the draught and boss, the latter being here meant; but no notice is taken of the same work in the Cyclopean wall, which is far more remarkable and characteristic. Moreover, when stating that the “Murazzo” shows neither beginning nor end, the learned Abate had not noticed the highly interesting eastern prolongation which extends nearly to the new town.

The accompanying plan of Salona (Pl. xii.) shows by numerals the position of the pre-Roman wall. It begins (II) at the junction of the two enceintes, the “linea di congiungimento de' due peri-

metri Romano-Salonitani" (Carrara), and near where the learned Abbé places his "Porta Suburbia." The stones, at once distinguished by their size and by their blue-grey tint, the *argilla marina plumbata* of old authors, are much degraded. Thence it runs from magnetic SSE. to NNW., roughly speaking: beyond the amphitheatre forming the north-western angle, it has been totally destroyed; but farther along the path, the line bends at nearly a right angle to the south-west, till it abuts upon the modern Strada Postale, or Regia of Spalato-Traù.\* Here also the soft material has been seriously injured by time and weather. Beyond this point it resumes nearly its original direction (SSE.--NNW.), and, passing the place marked in the plan "Scavi di, 1824," Orto di Metrodoro, it is in tolerable preservation. At the angle where the Strada Postale bends suddenly almost to north, a natural reef-ridge of large limestone blocks, standing up like a wall, prolongs the "Murazzo," with a slight deflection, to the sea-shore. I saw no traces of work on this feature, and, although draughted and bossed stones are said to have been found along the eastern side of the French highway, I could not detect them.

The accompanying rough sketch from my diary shows the position and the dimensions of the three courses of masonry where the wall is best preserved. I was assisted in the work by M. Aristide Vigneau, of Spalato, and I have been promised a photograph of this highly interesting section.

Height of highest tier	. 0.61 metres	} 2 ft. English.
Height of middle tier	. 0.61 metres	
Height of lowest tier	. 0.18 metres	7 inches ,,

The latter buried in gutter of roadside.

Mostly blackberry bushes.



"Murazzo" (Long Wall) of Salona, facing SSW.

The lowest stratum is almost concealed by the north-eastern side-drain of the Strada Postale. The reverse flank is completely buried, and the bushes projecting over the top spring

\* The well known Tragurium of the Romans, which Const. Porphyrogenitus (De Administr. "Imperii," cap.xxxvi.) writes Tetrurium; we find "Cum tota Travia" in a document dating from A.D. 1400 (Boglić, p. 91); the modern form is Troghir (Slav) and Traù (Ital.), which Wilkinson writes, without reason, Traü.

from a cornfield. The sooner excavations are here made the better.

This "Murazzo," to use the Venetian term, cannot be considered a sea-wall, nor is it the defence of the more modern Roman city—the two favourite conjectures. The shore line is wavy, and its distance from the masonry ranges between a minimum of 50 and a maximum of 220 metres. The *Strada Regia* follows very nearly the ancient line, as the discovery of a miliary column proved, and the following facts show that it was like the *Via Appia* and the Roman entrance to Palmyra,\* a favourite site for cremation and interment, ash urns being found on one side and tombs on the other. North of the wall is the well-known Roman necropolis, where a number of sarcophagi, based either upon stone pavements or upon the naked earth, are still seen. They had been rifled and injured, probably about the time of the Hijrah, by the Avaro-Slav invader (circa A.D. 639), before his expulsion by the Croat. On the other side again (south), at the place marked "Scavi, 1824, Dolj Sepulcrali," a curious amphora-shaped dolium, with narrow neck, was found horizontally cut for the admission of a human body. It is figured by Dr. Lanza ("Monumenti Salonitani inediti"), but I could not procure a copy, the book having long been out of print. Here many sepulchral urns with ashes, and mostly inviolate, unlike the more exposed sarcophagi, have been unburied. We may, therefore, conclude that this part was the *Ustrinum*, *Ustrina*† or burning-ground, the *Smáshan* of the modern Hindus.

It is not a little curious that no less than nine jars containing bodies have been found when excavating the cities and cemeteries of Etruria Circumpadana, near Bologna. The Bolognese amphoræ which contained the remains were either full length—that is, pointed at the base—or half-sized, with flat bottoms, and in all cases the skull was found upwards or near the mouth. The reverse was the system of the Brazilian Tupi-Guaranis, and I have suggested ("Notes to Hans Stade," i. 125) that the idea arose from their desire of returning the body to the position in which it was originally formed. In all cases which came under my notice the head was placed downwards, as if in the womb,

\* From Palmyra we may judge that the practice, at once hygienic and æsthetic, passed over to Etruria, from which it was borrowed by the Romans. The Etruscan cosmogony, which puzzled antiquaries by its curious resemblance with that of Genesis, has, at length, been explained by the discoveries of Mr. George Smith at Koyunjik. The Chaldean story of the Creation and Fall of Man proves that the Genesis mythus attributed to Moses extended throughout the nearer East from Egypt to Assyria, and hence it was evidently transported by the Etruscans to Italy.

† The *Ustrinum* differs from the *τύμβος* or *Bustum*; in the former the corpse was burnt; in the latter it was also buried.

although M. Adolfo de Varnhagen ("Historia Geral do Brazil," Pl. opp. p. 112) gives an illustration with the feet downwards.

That the "Murazzo" is not Roman is proved by its remarkable contrast with the more modern epoch. The material is everywhere a calcareous eocenic marl, a transition from limestone to sandstone, blue-grey, and easily degraded, the *marne* of the Mons Caprarius, which forms the lofty background of Salona. All the Roman city is built of the calcaire (nummulitic,\* hippuritic, &c.) of the same period, quarried from the backbone of Dalmatia, the eastern fork of the Apennines. This, in fact, is the normal rock bounding the Mediterranean sea-board. The material of Diocletian's palace was quarried in the island of Brazza, once doubtless terra firma, and the port at which it was embarked is still known to the people as Spliska, Spljet being the Slav equivalent for Spalato or Aspalathus.† Again, the length of the sandstone blocks which we measured, varies from a minimum of 0·90 (2 feet 11 inches) to a maximum of 2·76 metres (8 feet 2 inches); the depth of the highest and middle courses is 0·61 (2 feet), and the third shows only 0·18 (7 inches). The width of the draught ranges between 6 and 16 centimetres (2·40 inches to 6·40 inches), and the bold boss may have originally risen as high as 8 inches. In the Roman theatre (P) the stones are also draughted and bossed, but the largest gave a length of 1·11 metres (3 feet 7 inches), with a draught varying in width from 31 to 87 millimetres (1 inch to 4 inches the maximum), and the projection of the boss was insignificant. The same stone-dressing will be found in the Temple of Esculapius at Spalato—a name traditionally given without a shadow of reason, and in the "Duomo" (*domus* or cathedral) of S. Doime, attributed to Jupiter, apparently because Diocletian assumed the title of Jovius; or to Diana, because the frieze shows hunting and other rural subjects; but in both cases the draught is narrow, little exceeding an inch.

Two distinct origins have been proposed by local antiquaries for this interesting feature, and both agree, with Wilkinson, in attributing it to the Greeks.

P. Farlati (Illyr. Sacr., i. 272) and Carrara (*loc. cit.*) find it

\* These nummulites mark the *début* of the Tertiary epoch, and the hippurites are so common in Istria that they have been called the Istrian formation.

† Const. Porphyro. gives Aspalathos (chap. xxxvi.) amongst the coast cities held by the Dalmato-Romans. In the fifth century (temp. Arcadius Notit. dignitat. utriusque Imperii. caps. ix. x., quoted by Lanza, p. 23, Dell' Antico Palazzo, &c.), we read of the "Procurator Gynæcii Jovensis Dalmatiæ Aspalato." According to Lanza, the "urbicola," rebuilt after the Avar invasion of the seventh century, was first called Aspalathum, then Spalatum, and lastly Spalato, not Spalatro, as the learned Fortis has it. Mr. G. P. R. James, the novelist, speaks of the "little village of Aspalathus" in the days of Attila; he also terms Salona a "small *but* prosperous town"—the "*but*" is charming.

in Apollonius Rhodius (B.C. 250). That poet (iv. 336—563 *et seq.*) makes, in his "Argonautica," the Colchi, led by Absyrtus, who accompanied, or who was sent by, his father Æetes, in pursuit of his sister Medea, occupy the island in which he was slain. This is generally supposed to be Osero, or Ossero, near Cherso (Kherso)\* in the Sinus Flanaticus (hod. Quarnero, or Gulf of Fiume, and its section between Cherso and Arbe the Quarnerolo). The earlier name was Ἀψωρος, Ἀψορος, or Ἀψορῶρος; and the neighbouring Ἀψυρτεῖς, Ausyrtides, or Absyrtides (cf. Strabo vii. 5, vol. i. p. 484, Bohn) as far as the Nestus (Tilurus) river of Cettina, † not to be confounded with the Nestus of Epirus (hod. Mesta or Kara-sú), a coast wholly wanting islands. After occupying "usque ad Salangonem (Salona?) fluvium, Mestidaque terram" (Carrara), they moved off to Issa (Lissa) or Kerkyra Nigra (Κέρκυρα μέλαινα, mod. Curzola) and Melite (Meleda). In lib. Δ, l. 524 (Merkel's Edit. Leipsig, 1854) we find mention of Ἰλλήϊς, and in line 535—

Ἀμφι πόλιν Ἀγανῆν Ἰλληίδα

"where some read ἄγανῆν, and others, μεγάλην," the greatest of the fifteen cities of Scymnus Chius (407), and possibly hence the corruption Salangon, twice referred to by Carrara (pp. 1-4). In lines 562-3 we have

Ἄλλ' ἔθειον γαίης Ἰλληίδος ἔξαινόντες  
Τηλόθι

And this Hyllis is supposed to have been colonised by Hyllus, son of Hercules (B.C. 1230), father of the Ἰλλῆϊς or Ἰλλεῖοι

The learned Abbé adds that if the Siculo-Issani (of modern Lissa) built, as we know they did, Epetium (mod. Stobrez) and Tragurium, afterwards the "oppidum Romanorum marmore notum" (hod. Traù), they would hardly have neglected the admirable position of Salona, which lies between the two, and

\* The Abbé Fortis, "Saggio d'Osservazione sopra l'Isole di Cherso ed Ossero," Venice, 1771 (pp. 1-12), treats this subject with abundant erudition. I fail to see the reason why a barque, manned by about 50 men, should not have coasted along the Black Sea, have ascended the Danube, and even have been portaged to the Istrian coast. Yet the "Myth of the Argonauts" is a favourite thesis for German nebulosity, and the last treatment was administered by Dr. A. Kuhn ("Über Entwickelungsstufen der Mythenbildung," Berlin, 1874).

† "Nastus (alii Nastos) urbs et fluvius Illyrii hinc Nestius," says Steph. Byzant, quoted by Giovanni Lovrich, "Osservazioni sopra diversi pezzi del Viaggio in Dalmazia del Sig. Ab. Alberto Fortis," &c., Venezia, 1776. He is a severe critic who chooses for his motto, "His quæ narrata sunt non debemus cito credere; multi ementiantur ut decipeant, multi quia decepti sunt" (Sen. de ira); and "Credat Judæus Apella" is a favourite exclamation. The learned Abate's book was so famous that it could not fail to find its Zoilus.

which is far superior to both. Moreover, he assures us that Illina is the name still locally given to the ground lying west of the oldest Salonitan gateway, the Porta Cesarea; and that Illino-vrilo (Hyllus-fount) is the peasants' name for the spring between the chapels of SS. Cajo and Doimo at the foot of Mons Caprarius.

On the other hand, the Herakleia of Scylax Caryandensis is proposed by other antiquaries, especially by Professor Francesco Dr. Lanza di Casalanza,\* a highly distinguished geologist,

\* The following is a detailed list of Professor Lanza's meritorious works:—

1. "In Cyanuretum rubium, inquisitiones chemico-pharmacologicae." Ticini Regii, 1831. Vol. i. in 8vo.
2. "Sopra le Terme dell' antica Salona." (V. *Bullettino dell' Istituto di corrispondenza archeologica.* Roma, 1837, pag. 131).
3. "Relazione nosografica statistica sull' epidemia colerosa che invase la Dalmazia nell' anno 1836, corredata di osservazioni pratiche specialie generali, aggiuntavi la descrizione dell' Aretermo inventato dall' Autore, per la immediata applicazione del calore all' esterno." Trieste, 1838, un opusc. in 8vo, con una tavola.
4. "Saggio storico-statistico medico sopra l'antica Narona e lo stato presente del suo territorio, corredata di una carta topografica." Bologna, 1842, vol. i. in 8vo.
5. "Doveroso tributo di un figlio." Torino, 1846, un op. in 8vo.
6. "Dell' Mausoleo dell' Imperatore Diocleziano in Spalato: Lettera all' illustre Sig. Cav. Geo. Dr. Labus, Spalato, 1 Agosto, 1846. (V. *Giorn. La Dalmazia*, 1846, n. 52.)
7. "Ancora pochi cenni sul Mausoleo di Diocleziano." (V. *Giornale, La Dalmazia*, 1847, n. 14.)
8. "Confutazione alla illustrazione del supposto sepolcro di Diocleziano e vera interpretazione dei bassirilievi che vi si trovano scolpiti." (V. *La Dalmazia*, 1847, n. 48-49.)
9. "Le Bocche di Cattaro, descritte ed accompagnate da vari costumi." (V. "il Mondo illustrato," di Torino, ed il *Giorn.*, *La Dalmazia*, del 1847.)
10. "Il Montenero." (V. *Enciclopedia popolare di Torino*.)
11. "Dell' Isola Lesina." (V. *Encic. pop. di Torino*.)
12. "Dell' Isola Lessa." (V. *Encic. pop. di Torino*.)
13. "Narenta." (V. *Encic. pop. di Torino*.)
14. "Dello stato economico di Castilnuovo nel Circolo di Cattaro." (V. *Gior., La Dalmazia*, 1847.)
15. "Sugli attuali bisogni della Dalmazia: Lettera ad un amico." (V. *La Dalmazia costituzionale*, 1848, li. 16.)
16. "Delle condizioni presenti dell' Austria: paroli di un dalmato." (Art. pub. nel *Giornale La Dalmazia costituzionale* e riprodotto nel *Giorn. del Lloyd Austriaco*, del 1848, n. 173.)
17. "Delle cognizioni di chimica indispensabili alla scienza agraria." (V. *Gazzetta di Zara*, 1848, n. 11, 12.)
18. "Metodo efficacissimo per la guarigione di ferite d'arma da fuoco agli arti complicati a fratture delle ossa per cui può risparmiarsene l'amputazione." (Art. pub. dall' *Ecc. Governo del Litorale Aust.* in Giugno, 1848, e diramato al personale sanitario dell' armata Austriaca.)
19. "Antiche lapidi salonitane inedite illustrate." (Spalato, 1848, e 2da ediz. Zara, 1850, un vol. in 8vo.)
20. "Sulla importanza della storia naturale e della economico rurale: Discorso inaugurale, Zara, 1849, un op. in 8vo.
21. "Della Topografia dell' antica Salona, con una carta topografica." (V. *Annali dell' Istituto di corrisp. Archeol.*, Roma, 1849.)
22. "Rapporto generale degli Scavi di Salona, dalla loro primo istituzione sino al giorno d'oggi." (V. *Annali dell' Instit. di corrisp. Archeol.*, Roma, 1850.)

numismatist, and antiquary, who has travelled in England, and who has written his travels. He kindly gave me a copy of his useful study "Dell' antico Palazzo di Diocleziano in Spalato," &c., &c. (Trieste Tip. del Lloyd Austriaco, 1855), in which he has made sundry corrections of Adams' the architect's classical folio, "The Palace of Diocletian," and of his "Antiche lapidi Salonitane inedite illustrate." In this volume the inscriptions are translated, not merely copied, after the lazy fashion of many authors, and the learned writer has freely acknowledged the assistance of the celebrated Abate and Professor Furlanetto, and of his distinguished father, the late Carlo Lanza, a surgeon in the French army of occupation. I can only express a hope that his manuscript, "Discorsi critici sulle antiche Storie degl' Illirici, dei Dalmati e dei Liburni," may soon see the light; and that the learned author will republish, for the benefit of travellers, his valuable essay, entitled "Monumenti Salonitani inediti," printed in its Transactions by the I. R. Academy of Sciences, Vienna, and in a separate form, also at Vienna, 1856.

We find the only notice of Illyrian Herakleia in the Periplus attributed to Scylax Caryandensis, and written—such is the difference of commentators—between the middle of the fourth century B.C. and the third and fourth centuries A.D. (Müller). P. Farlati has charged the Greek author with inac-

23. "Poche parole ancora sul colera, e specialmente degl' insetti che furono osservati generarsi nei cadaveri dei colerosi." (D. Gazzetta di Zara, 1849, n. 124.)

24. "Sulle opinioni riguardo alla contagiosità del colera: Lettera al Sig. Redattore dell' Osservatore Dalmato." (V. Osservat. Dalmato, 1849, n. 131.)

25. "Sulla Topografia e scavi di Salona dell' Ab. F. Carrara Confutazione." Trieste, 1850, un opusc. in 8vo.

26. "L' Agronomo raccoglitore; Giornale ebdomadario di economico rurale." Zara, 1850.

27. "Elementi di Mineralogia basati sui nuovi principi di cristallografia e di chimica, ad accerupagnati da pratiche applicazioni economiche industriali con molte figure intercalate nel testo." Trieste, 1852, un vol. in 8vo.

28. "Di alcune ricerche geognostiche sulle formazioni dei dintorni di Zara." (V. Programme dell' I. R. Ginnasio Superiore di Stato in Zara, 1851-1852.)

29. "Nuove ricerche sulla formazione geognostica della Dalmazia: Rapporto rassegnato all' I. R. Direzione dell' Istituto Geologico dell' impero in Vienna." (V. Il Collettore dell' Adige Verona, 1853, n. 4.)

30. "Elementi di Zoologia ad uso degli, I. R. Ginnasij e delle scuole Reali Austro-Italiane," 2nd ediz. Vienna appresso Gerold, 1855, un vol. in 8vo, con molte figure intercalate nel testo.

31. "Dell' antico palazzo di Diocleziano in Spalato." Illustrazione con 12 Tav. orig. Trieste, 1855, un vol. in 4to.

32. "Monumenti Salonitani, inediti illustrati," con 10 tavole originali. Vienna (per cura ed a spese, dell' I. R. Accademia delli Scienze.)

33. "Sur les formations géognostiques de la Dalmatie: memoria pubblicata nel Bulletin de la Société Géologique de France, nel f. di Dicembre, 1855, con una tavola litografata."

(For publication.)

34. "Discorsi critici sulle antiche storie degli Illirici, dei Dalmati e dei Liburni," un vol. in 8vo.



curacy concerning the Narenta, but he is fully rehabilitated, on this point at least, by the Abbé Fortis (ii. 152, Fr. ii. 208). As the passage of Scylax, though evidently corrupted, and in places, with its "lacunæ et interpolationes," almost unintelligible, is of the highest importance, it will be advisable to quote it at full length (cap. xxii. p. 28, "Geog. Græci min." C. Müller, Paris, 1860).

ΙΛΛΥΡΙΟΙ. Μετὰ δὲ Λιβυρνοῦς εἰσιν Ἰλλυριοὶ ἔθνος, καὶ παροικοῦσιν οἱ Ἰλλυριοὶ παρὰ θάλατταν μέχρι Χαονίας τῆς κατὰ Κέρκυραν τὴν Ἀλκιδίου νῆσον. Καὶ πόλις ἐστὶν Ἑλληνὶς ἐνταῦθα, ἣ ὄνομα Ἡράκλεια, καὶ λιμὴν. Εἰσὶ δὲ καὶ οἱ λωτοφάγοι καλούμενοι Βάρβαροι οἳ δεῖ Ἱεραστάμναι, Βουλῖνοι (Ἰλλῖνοι?). Βουλῖνῶν ὁμοτέρμονες Ἰλλοὶ. Οὗτοι δὲ φασιν Ἰλλον τὸν Ἡρακλέους αὐτοῦ κατοικίσαι· εἰσὶ δὲ Βάρβαροι. Κατοικοῦσι δὲ Χερρόνησον ὀλίγη ἐλάσσω τῆς Πελοποννήσου. Ἀπὸ δὲ Χερρόνησου παραστόμιον ὄρθον [var. lect. Ἀπὸ δὲ Χερρόνησου (Σίτσα νῆσος) παρα (τείνει) ὡς ταινίον ὄρθον?] τάντην παροικοῦσι Βουλῖνοί. Βουλῖνοὶ δ' εἰσὶν ἔθνος Ἰλλυρικόν. Παράπλους δ' ἐστὶ τῆς Βουλῖνῶν χώρας ἡμέρας μακρᾶς ἐπὶ Νέστον ποταμόν.

Müller offers the following Latinisation:—

"22. ILLYRII. Post Liburnos sequitur Illyriorum gens, habitant que Illyrii secundum mare usque ad Chaoniam, que est ex adverso Corcyrae, Alconoi insulae. Est que ibi urbs Graeca, cui nomen Heraclea, cum portu. Sunt ibi etiam lotophagi qui vocantur Barbari hi: Hierostamnæ, Bulini (Hyllini?); Bulinorum vicini Hylli. Hi Hyllum Herculis filium sedes ipsis assignasse ferunt; sunt autem barbari, incolentes peninsulam paullo minorem Peloponneso. Post peninsulam vero (insula?) orae præ-tenditur quasi tænia recta; juxta quam accolunt Bulini [Holstenius "Post Chersonesum litus directum accolunt Bulini"]. Bulini autem sunt gens Illyriorum. Præternavigatio regionis Bulinorum usque ad flumen Nestum est longi diei unius."

Of Corcyra (*Κέρκυρα μέλαινα*) we have no doubt. As regards Heracleia, the theory of Müller is that the city's name found its way into the text as a mere gloss to the words Ἰλλου τὸν Ἡρακλέους αὐτοῦ κατοικίσαι. It has long been suggested, and with much probability, that the Ἱεροστάμναι is a corruption of Ἰαδερατῆναι, the people dwelling upon the river of Salona, so well known by Lucan's oft-quoted couplet (iv. 404):—

Qua maris Adriaci longas ferit unda Salonas  
Et tepidum in molles Zephyros excurrit Iader.

The name of the streamlet is also written Hyader, Jader, and Ider, the latter in the fifth century by Vibius Sequester (glossary): Pliny and the Anonymus Ravennæ prefer Salon; and the Acts of S. Domnius Salonus; whilst Carrara (p. 1) believes it to

have derived its name from the city. Similarly, according to Lovrich ("Osservazioni," p. 11) the Rumin, Buda, and Grab streams, took their names from the villages through which they flowed. This writer would make Nastos, or Nastus, an Illyrian word, Na-sto (above a hundred), corresponding with Cettina, alias Zentina or Zentena, because it was the chief of a *hundred* castles or cities.

Of the words *Βουλινοί* and *Ἰλλυνοί*, Müller remarks, apparently without sufficient reason, "ejice vocem natam ex ditto-graphia nominis precedentis." The Bulini are the *Βουλιμεῖς* of Dionysius Periegetes (387), who makes them contermini of the Hylic Region, and Eustathius explains that these "Boulimeis" are also called *Βουλινωῖς* or *Βουλινοῦς*. In the anonymous poet vulgarly called Scymnus Chius (B.C. 92, if he be so old?), we find, 404—

*Τούτοις* (Pelagones et Liburni) *συνάπτου δ' ἐστὶ Βουλινωῶν ἔθνος.*

The learned historian Lucius (Giovanni Lucio), of Traù, would place the Bulini about the present village of Bossiglina, commonly pronounced Bussiglina, an old fief of the Bishops of Traù, famous for fleeces. It is mentioned by Fortis as a pauper settlement, where the people cooked and ate arum, asphodel, and juniper berries.\*

We now approach the most debated part of the passage. Scymnus Chius (405) mentions the *Μεγάλη Χερρόνησος Ἰλλυκὴ*, believed equal (in extent) to the Peloponnesus, and containing fifteen cities inhabited by the Hyllæi. These people are described as *Κελτικὸν ἔθνος* (Etym. M. pp. 776, 39) and as Pelasgi by Niebuhr (R. G. i. 53). Pliny also (iii. 26) gives the Peninsula "Hyllis" a circumference of c. m. paces.

Lucius of Traù, would confine the great Hylic Peninsula to the lozenge-shaped, rocky-tongue of land projecting from Mossor, and bounded north by the Iader, and south by the Xarnovizza (the stream of the Xarn or mill), the latter unknown to the classics. This spear-head divides the little bay of Spalato from the long gulf of Salona, and its bold apex is the Promontorium Diomedis, perhaps the later Fanum Dianæ, a western projection of Monte Mariano, not "Marglian," so given by Wilkinson (i. 113). As Fortis very justly remarks (ii. 4, Fr. ii. 5 and 6) the Greek author must not be credited with the blunder of comparing with the Morea a slip of land, a triangle

\* The shrub grows wild all over the limestone formations of Istria and Dalmatia. In the remoter parts, a wine is made from the fermented berries, and the fresh fruit is used in medicine. A favourite prescription against rickets in children is to pound to a paste in a stone mortar the freshly-gathered berries, to mix with an equal part of fresh butter, and to apply this pomade to the articulations and the parts affected, every night and morning before the child rises.

only 12 miles long by 5 of maximum depth, between the Islet of Rogosnizza and the Bossiglina village. The learned Abbé would, therefore, identify the Hyllic Chersonesus with the rich riverine peninsula from the mouth of the Titius of Pliny (iii. 24), the Titus of Ptolemy (*Τίτου ποταμοῦ ἐκβόλαι*, ii. 17, § 3), now the Kerka of Sibenico, and the Tilurus, the modern Cettina or River of Almissa. This tract contains the "belle campagne" of Kniv, of Petrovopolje, and of Cettina or Sign, and the site of Promona, the chief Illyrian settlement in the days of Augustus. This tract, he justly says, is still able to support a score of cities. At the same time, he objects to the theory which would find "Hyllis" in the rocky tongue of Sabbioncello, which is distinctly alluded to by Scylax (cap. 23).

Finally, we are tolerably sure about the Nestus river and its *accolæ*, the Nesti. The stream cannot be the Titius or Kerka, because the course of the *Periplus* is evidently southwards to the Naron, which it names; the latter is clearly the Narenta, or river of Mostar (old bridge) with its "island 120 stadia in circumference," still represented by the site of Fort Opus. Nothing, therefore, remains for it but to be the Tilurus or Cettina. Fortis holds the Nestians to be the people of the modern Primorje and the riverines of Cettina. This coast, fronting Brazza, Lesina, and Sabbioncello, was called, in the middle ages, Parathalassia, which the Slavs translated by the synonymous Primorje (along-sea). In the days of the Avar invasion it took the name of Pagania, from the Poganin or pagan Illyrico-Serbs who tenanted it; and, subsequently, the Archdeacon of Spalato, Giovanni Tomaso (in Lucio di Traù),\* preserved the barbarous "Maronia," also a synonym of Primorje.

Prof. Lanza would place the Nestoi in the highlands of Pogliza or Poglizza; the ghats north of Dalmatia Proper, extending from Clissa Fort (Spalato) to Duare Town, or between the debouchures of the Xarnovizza and the Cettina streams. The name of this rugged oak-clad country, which has not, and, probably, never had a city, is by no means unknown to modern history; and its annals are so curious that I am tempted to a digression. According to Fortis (ii. 92, Fr. ii. 124-128), who ably sketches the picture of the last century, this little aristocratic republic, never containing more than 15,000 souls, freed itself from the Porte, and, like its sister, Makarska, in A.D. 1646, threw itself into the arms of the "Serenissimo Governo," (Venice).

\* Thomas (nat. A.D. 1200, ob. 1268) wrote the "*Historia Salonitanorum Pontificum atque Spalatensium.*" Joannes Lucius has left us the valuable "*History de Regn. Dalm. et Croatiae.*" He died at Rome in 1679, and his valuable MSS. are supposed to have been neglected.

Society was divided into three classes, which suggest the Sixties and Four-candles, the Forties and the Twenties of aristocratic Guernsey. The first consisted of 20 noble Hungarian families, whom troubles had compelled to emigrate; the second were Bosniac (Christian) \* nobles; and the peasantry represented the third. On the Fête of St. George† (Greek, April 19; Latin, April 23), an annual Zbor, Diet, or Assembly met on the plain of Gatta for the election or re-election of magistrates, each company camping apart. The Veliki-knès (Knjaz, or Knight), the "Great Count" of Fortis, was always a Hungarian; the electors or little counts, Bosniac nobles, represented the village communities which they governed. Whilst the Governor was being chosen, the plebs held their comitia to elect the local chiefs for the next year, or to confirm those who deserved the honour. The "First Order" chose a captain and two procurators to supervise the voting, and election riots were common; whilst the "voto segreto" or "scrutin" was proceeding, some zealous partisan would seize the box containing the provincial privileges (cassetta de 'Privilegi del Paese), which the law committed to the keeping of the Great Count, and run away with it to the house of his favourite candidate, in which case the latter became "bello ed eletto." The difficulty of this proceeding was that all the electors might shoot at him, chase him with their khanjars (long Turkish daggers), or throw stones, in which exercise they are proficient, like the Syrians. The laws of the Poglizani preserved the rudeness of the ages from which they date. In cases of land disputes, the judge repaired to the spot, sat upon a cloak or rug to hear the pleadings, and pronounced a decision, from which, usually, there was no appeal. After a murder, the local court or governor and his notables went to the criminal's abode, and ate and drank him out of "house and home"—a form of "dragooning" well-known to all Easterns—and, finally, the Great Count and his comity pillaged all that remained. Formerly assassins were stoned, and this patriarchal custom long endured in the modification which bears the name of Judge Lynch. For simple

\* Many Dalmatian families derive themselves, truly or falsely, from the nobles of Bosnia, as we do from the Normans. Lovrich (p. 213) shows the difficulty of genealogy by the system of taking the father's name as surname; e.g. Philip, the son of Mark, would be Marcovich. He shows us the gradual growth of family names. "Quanto meglio la intendono i Dalmatini di oggi giorno (parlo di quelli, che non si vergognano del cognome Slavo, e che non lo Italianizzano) a non mutar cognomi da padri in figli, ma quello che lasciano i padri, tramandano ai figli, ed ai nipoti."

† An Illyrian proverb, cited by Lovrich (p. 78) is "Jurjev danski Hajduki sastanski." "George's Day; bandits array," because at that time the woods became leafy enough for ambuscades. If it rain on St. George's Day, cereals will be abundant.

manslaughter, unaccompanied by atrocity, the "platiti kervarinu" (lit. blood spilt),\* or blood-money, the *Diyat* of Moslem law was fixed at "quaranta tolleri," \$40 or 8 zecchini (each = flor. 4.75—5). The object of the fine was to prevent the criminal appealing from the decision of the Great Count to the Venetian *Provveditore Generale* of Dalmatia.

Those remnants of the blood-and-iron ages, ordeal by fire and boiling water, were common, and bore the usual results, injuring and even permanently maiming the innocent, and allowing the sturdy ruffian to escape punishment. One form was worthy of Persia in the last generation: splints were thrust under the finger-nails; the material was always the "sapino" (*Pinus maritimus*),† because specified in the statutes, and the people would tolerate no innovation.

The Poglizzan Morlaks were a robust and well-made race, and Fortis gives them a good character, despite the patriarchal barbarity of their code. Sober and hardworking, they could boast—

*Durum a stirpe genus, natos ad flumina primum,  
Deferimus, sœvoque gelu duramus et undis.*

They made a practice of bathing the babes in icy streams. These Morlaks were, and are, excellent irregular troops, and they were humane, hospitable, and friendly to strangers, except when their ready suspicion was aroused. They even refused to speak of old documents, or to show inscriptions, lest the stranger who could read them should find treasure. Like certain identical institutions amongst different nations, this wariness belongs to a particular stage of development, and must not be attributed only to race.

The village of Pirun Dubrawa (forest of Pirun) preserves the remembrance of the god adored by the Slavs of the city and province of Novgorod, before its conquest by Ivan Vassilovich, Grand Duke of Muscovy. As the old Pagans worshipped Vid, so the Christian Poglizzans have an especial devotion for St. Vitus, and celebrate his festival by burning odoriferous woods round their huts. Believing that if the perennial ice be

\* Fortis, Lovrich, and Wilkinson all write *karvarina*; though the root is *kerv*, blood. Hence south of Cattaro the *Kervosje*, popularly written *Crivosje* tribe. The Morlaks fixed blood-money as high as 50, and even 60 sequins.

† The tree flourishes all over the coast and the islands of Dalmatia, except where the winds are too strong: I need hardly say that in the present state of civilisation no use is made of it but fuel. Yet it might take rank with the growths of the Thuringian mountains, which now supply the "forest-wool products and preparations," cloth, yarns, waddings, oil, spirit, balsam, and soap, medicinal articles so much used in cases of catarrh, rheumatism, arthritis, and even paralysis. Dalmatia still imports these articles from Trieste, with the pine growing all around her house. Yet the Morlaks (Lovrich, p. 11) used "*peco di sapino*" in obstructions and phthisis.

removed from their mountains, the Bora or north-easter would increase to the ruin of their farms, they object to collecting and shipping it. Like all Morlaks, they are exceedingly jealous and yet they despise the sex, and hold the name so impure that it is never mentioned without a "saving your honour's presence." De prostité, moya zena\* is the equivalent of the Maltese "Con rispetto (or con perdono) parlando, la mia moglie," as if his wife were something impure or offensive. Fortis seems to think this contempt justified by the personal neglect of the women after marriage, but does he not confuse cause and effect?

The churches of Poglizza affected the Slavonian liturgy, and were served by the Glagolitic fathers of Almissa, who also laboured amongst the islandry. The military spirit is not extinct in a hardly accessible land, where every man is a man-at-arms. The mountaineers made a determined stand against the Napoleonic occupation in 1806. More than once they have threatened Almissa, and discharges of cannon are the only things which they respect. Poglizza meridionale, the maritime lowlands, are well-planted with fruit trees, and are now well known, because they supply Zara and Spalato with the best Marasca cherry, the basis of "Maraschino di Zara."

Returning to that debated ground, the Hyllic Peninsula, I may observe that some local antiquaries have been so enthusiastic as to find the sepulchre of Hyllus in the fine sarcophagus which has been placed for protection in a chapel dedicated to St. Cajo the martyr. Its triple division, representing three of the labours of Hercules, is described by every traveller. The learned Wilkinson, however, has neglected (i. 162) to notice, in the third or eastern compartment of the triglyph, the confusion of the Birds of Stymphalus with the Apples of the Hesperides.

Prof. Lanza considers the existence of Herakleia established by two coins in his fine collection; one with a metric diameter of 0.024, bears the head of a youth guardant right, and covered with a lion's hide (Herakles Imberbis?); on the reverse are the bow and the club, contained in a circle, and based by the exergue *HPA*. The second (0.013—0.016) bears the same obverse, but on the other side the bow and club are not in a circle, and the legend is *HPAKL*. Both have the letters

\* Lovrich (p. 164), in the days before Slav orthography was fixed (1777), writes, "S'proscetgniem nasce xene, nasce chieri, nasce rodizce" (con perdono, nostre moglie, nostre figlie, nostre parenti," &c.), which must be pronounced Italianistically, and he tells us that there is no excusatory formula when naming a man, the latter being nobler than "quo 'sporchì, vili e sozzi animali," as the Morlaks hold women to be. The idea is probably the result of an ultra-Spartan affectation of manliness and contempt for effeminacy.

well raised, and are tolerable specimens of the Greek type. According to Strabo (vii. 5, i. 484), who notices the redistribution of lands every eighth year, the Dalmatæ did "not use money, which is a peculiarity also when compared with the habits of the inhabitants of this coast; but this is common among many other tribes of barbarians." The Romans had no mint in Dalmatia, and only during the decline of the Byzantine Empire, Cattaro, Ragusa, and Spalato established their respective "Zecche."

Two medals of the Herakleian type are found in the I. R. Ginnasio Superiore of Zara, and are described by the Abate Simeone Gliubich (*Numografia dalmata*, in Italian, printed in vol. ii. "Archiv für Kunde Oesterreichischer Geschichtsquellen," and in the Slavic "Arkiv za poveštnicu Jugo-slavensku, Knjiga druga," Razdel i.) Heckel (Pt. i. "Catalogus Musei Cæsarei Vindoboniensis, numorum veterum") figures, in fig. 1, tab. ii., a roughly made coin, with bow and club, and the exergue *HPAK*; and in p. 47 he ascribes it to "Heraclea Taurica." He is supported by Sestini (*Moneta vetus urbium, populorum et regum*). On the other hand, the late Pietro Nisiteo, of Cittavecchia di Lesina, a distinguished student of Dalmatian antiquities, "proved," says Dr. Francesco Danilo (p. 173, "Programma dell' I. R. Ginnasio Completo di Prima Classe in Zara," 1849—1860; "Zara Tip. Governiale," 1860), "that these and other congeners belonged to the Illyrian Heraclea, mentioned only by Scylax Caryandensis, and placed on the sea-shore near the Liburni; in this opinion he was followed by Gliubich." The only "Congenero" I can find noticed is a feminine head, coiffée with a bushel, and guardant right; on the reverse is a fish, naïant dexterwise; the diameter is 0.02, and the material copper, silver being the only other metal used.

Prof. Lanza's two medals were found near Spalato; but this proves nothing; coins travel as far as beads, Holloway's pills, and cowries. My old friend, W. S. W. Vaux, writes to me that either or both may belong to Heraklæa of Thessaly, or Heraklæa of Bithynia (Taurica), which had the same type and legend; but that, without seeing the coins, it is impossible to assign the place of fabric—it can only be said that the Bithynian are the more common. To this objection Prof. Lanza rejoins, that the same type might also have been assumed by a third Herakleia, "Mentre sappiamo come gl'antichi popoli nella fondazione di nuove colonie accostumassero talvolta imporre a questo il nome ed adottare gli usi della madre patria." "At any rate," he concludes, "the find proves a commercial intercourse with the Grecian cities further east."

I visited Salona for the first time in company with Professors

Lanza and Michele Glavinić, Curator of the I. R. Museum at Spalato; the unaffected kindness of this *savant*, and his ready sacrifice of valuable time, have endeared him to a number of our countrymen. The act of escort was all the kinder in such weather; far from tepid was the turbid Iader, and no soft zephyrs were the storm-winds. The shape of the old city has been compared with a rudder, the base eastward, and the narrow part to the west. Fortis (ii. 45, Fr. ii. 59) has noticed the corruption of Cæsar's text (Bell. Civ. ii. caps 8, 9) "Salona, in edito colle," when the "oppidum munitum" lies in the riverine valley of the Iader, or Giadro; possibly, however, the conqueror may have included the fort of Clissa, the Andetrium of Pliny (iii. 26), which Fortis (ii. 48) writes "Mandetrium," and the Anderium ('Ανδῆριον) of Dion Cassius (lib. iv.). Here I saw at once the form of the double city, which, after the fashion of Athenæ and Thebæ,\* converted Salo, Salon, and Salona, into Salonæ. The base of the word may be Keltic, with the terminal *on*, or *ona*, signifying a town—as Albona (high town) and Lisbona, to mention no others. The chronicler, Thomas Archidiaconus (nat. A.D. 1200), derives Salona from Salo, the sea; Rosacci from Calone (Joktan?) son of Salah (Σαλα), son of Arphaxad (Genesis x. 25). Ortelli has doubts about the identity of Salona with the Salangon of Apollonius Rhodius (Carrara, p. 1). The Greeks, Strabo (vii. 5, § 5, loc. cit.); Dion Cassius (lv. p. 586); Ptolemy (ii. 17, 4, viii. 7, 7); "Pæonio ix." (? Pæonian, Epitome of Eutropius); Procopius (di Bello Goth. i. 7); Zonaras (Chronicon. De Diocletiano), and others use Σάλο, Σαλών, Σαλώνις, and Σαλώναι κολονία. Amongst the Latins we find the old marbles (Gruter, "Inscript. Ant. Amstelodamæ," 1707); a leaden tube of the aqueduct; Pliny (iii. 22); Mela (ii. 3); Hirtius (de Bell. Alex. cap. 43); the Anonymus Ravennæ ("Europa," lib. iv. No. xvi.); Jornandes (De Regnor Success., cap. 58); and the old martyrologies preferring Salona, nœ. The inscription referring to the road between Salona and Andetrium ("Lucio Inscript. Dalm.," p. 34; "de Regn. Dalmat. et Croatia," p. 34; Cæsar ("de Bello Civ.," iii. 8); Lucan (iv. 4); Vibius Sequester (Glossary); M. Aurelius Antoninus (Itinerarium) affect the less usual Salonæ, narum. So states Carrara (loc. cit. p. 1), but the use of the plural has evidently its reason. Colonia Martia Julia Salona, occurs in an inscription (Gruter); Col. Jul. Salona on a medal of Claudius (Goltz de re nummaria Antiq.); Col. Claudia Augusta Pia Veter. Salona, on a coin of Tiberius; fragments of pottery have Salonas, and others, according to Farlati,

\* Αθήνη and Θίβη (the Greek and the Egyptian), I need hardly say, are both used; but they would signify the old, or official town.



(III. Sac. i. 27) Silena. The names of the citizens and the adjectives are *Σαλῶνες*, preserved in the Acts of S. Domnius (Salones); Salonus (*e.g.* Salonia quercus) in Claudian and Servius; Saloneus in Priscus the Byzantine (A.D. 445); and Salonites in Stephanus Byzantinus; the most general are Salonitanus and Salonensis. Three other Salonae are mentioned by the classics, one in Bithynia, a second in Gallia Narbonensis, between Marseille and Avignon, and a third in the Gulf of Corinth.

I am compelled to differ with my learned friend, Prof. Lanza, who, against the opinion of Carrara, believes the eastern to be the older portion of the double city. The western part contains the little theatre, the *Thermae*, which have evidently been converted into an early Christian baptistery, and the amphitheatre, which would hardly accommodate a large and opulent community; its long oval is only 86 metres, and Mr. Paton reduces it to 126 feet. Again, the double *Porta Cæsarea*, the city gate\* separating old town from new town, has the towers (G) projecting eastward, and the re-entering form is by no means the rule in Roman fortification. Carrara makes this royal approach connect the old Greek town with Julia Martia Salona, as the western gate of Diocletian's palace, popularly called *Porta Ferrea*, united it with the suburb. Moreover, in the most massive and the earliest part of the north-easternmost angle (about F), near the *Porta Andertia* of Carrara, I saw a Roman inscription built up in the wall, and several others are recorded by the learned Abbé, suggesting a comparatively modern origin. Finally, the western half has for its northern boundary the eastern part of the "*Murazzo*," or "*Muro Ciclopico*," and, like the long walls of the *Piræus*, the western part of the venerable fragment may have been left as a defence, commanding the high road to the Syracusan city *Tragurium* (Traù). Thus, I would believe, with Wilkinson, the long wall of Salona to be Greek, not Roman, and with Carrara to be pre-Roman.

## PART II.—THE RUINED CITIES OF PHARIA AND GELSA DI LESINA.

My conviction that the long wall of Salona is Greek and pre-Roman relies also upon the fact that similar constructions exist in the neighbourhood. Fortis (ii. 56, Fr. ii. 76) mentions them at Stobrez (Stobrech), east of Spalato, the *Epetium* founded by the *Siculo-Issani*, the Syracusan colony which held the island now called *Lissa*: "*Veggonsi ancora lungo le rive del picciol*

\* This double form gave rise to the Greek *πόλαι*, and we still see the grooves for the *Cataracta*, which the modern Italians call *Saracinesco*. This man-trap was a *portcullis*, let down from above like the gate of a sluice by chains, and imprisoning those who had forced the outer entrance (Dennis, ii. 150).

Porto riconoscibili vestigj delle antiche mura d'Epezio, ch' erano fabbricate bensì di solidi materiali, ma senza quella squisitezza di connessione, che si ammira nelle fabbriche Romane." There are also ruins of a Cloaca; the parish church, distant one mile from the fort which defended the land side, is built upon the old walls; and the foundations of a tower may still be traced. Fortis (i. 33) carefully distinguished these Greek remains from the Roman ruins, those, for instance, at the modern Podgraje (*i.e.* Pod-grad, under the city), the Asseria or Assesia of Pliny (iii. 21, Bohn i. 258). Here the walls are described as 8 to 11 feet thick, 8 feet high, and "lavorate a bugna" (draughted and bossed).

The Spalatines spoke of classical ruins in the island of Lesina, which was undoubtedly colonised by the Hellenes; and my attention was drawn to one not mentioned by any foreign traveller, when reading the useful "Manuale del Regno di Dalmazia (per l'anno 1873, compilato da Luigi Maschele, Consigliere Imperiale," anno iii. Zara Tip. Fratelli Battara, 1873). The following passage occurs in p. 103: "GELSA—JELSA.\*—*Monumenti antichi.*—Due vetusti interessanti fabbricati trovansi nelle vicinanze di Gelsa, entrambi posti sopra eminenze a mezzogiorno della borgata ed alla distanza di meno d'un miglio da essa. Il più antico e posto a cavaliere d'un monte. Questo edificio, o a dirsi meglio questo avanzo di antico monumento, viene comunemente denominato *Gor* (read *Tor*) in lingua Slava. La fabbrica presenta un' opera di lavoro *ciclopico*, e fra i tre generi di tali lavori quello che veniva costituito di massi regolari di forma quadrilunga già sovrapposti uno all' altro senza cemento. Anche l'intero (interno?) fabbricato è di forma regolare, quasi pienamente quadrilatero. Per rimontare alla sua origine, bisogna ascendere ai tempi di *costruzioni ciclopiche*, che, come si sa, sono anteriori di più secoli all' èra volgare. Lo scopo di tale fabbrica non può ben determinarsi; isolata, posta sopra un monte di accesso aspro ed arduo, di non troppa estesa, non saprebbe conciliare in essa un' idea di abitato, e nemmeno di fortificazione, perchè senza argomenti di difesa. Forse più accettabile sarebbe l'idea, che si trattasse d'un tempio antichissimo. Ad ogni modo il monumento rimane interessantissimo alla curiosità ed alle ricerche archeologiche e storiche. L' altro monumento, a non molta distanza dal primo a levante, eretto anch' esso a cavaliere d'un' eminenza, chiamasi *grad* in slavo, che corrisponde a *città* o *cittadella*. Per il genere di costruzione con pietre comuni ed a calce, per la distribuzione interna delle mura, per l' esistenza entro tale circuito di avanzi d'una Chiesa Cristiana

\* The first form is Italian, the second is Slav, pronounced Yelaha.

con entro una tomba, e per l'applicazione degli avvenimenti storici del luogo si deduce, che la fabbrica stessa rimonti a tempi ben conosciuti e storici, ed abbia avuto per oggetto la costruzione d'una fortificazione per ritirata e ricovero degli abitanti da incursioni nemiche nel sottostante paese di Gelsa, che si sarebbe inclinati a riferire—anzichè alle incursioni turchesche che non possono ascendere in su del secolo xv,—alle incursioni dei secoli anteriori, e probabilmente a quelli dei Saraceni sopra l'isola di Lesina."

Here, then, was at least one object well worth the traveller's study. My good friend, Sig. Francesco de' Vitturi, A. H. Lloyd's agent at Spalato, managed the transport for me. MM. Paolo and Luigi Palese, civil engineers constructing the mole and new port which are to connect with the Spalato-Siveric Railway, the first of its kind in Dalmatia, kindly lent me their little paddle-wheeler, "Messagero," and absolutely refused to be reimbursed, even for the expenses of crew and coal. On Monday, December 28th, we steamed out, despite the furious sirocco or south-easter, one of the twin tyrants of these seas, which was blowing great guns in the offing. Spalato, by force of situation, which determines the rank of the world's cities, almost monopolises the rich trade of Bosnia, comprised in cereals, hides, wax, and orpiment; silk, wool, and cotton, "liháfs" (bed-coverlets), copper pots and metals, iron, and perhaps gold and silver to come. The staples of local production being oil and wine, great efforts are being made to improve them; and the Oenological Society, worked by my friend, M. Aristide Vigneau of Bordeaux, is doing much good, not only in making money, but in teaching the peasant on the islands as well as the main, a new lesson, to prefer quality to quantity. The port is not only the single settlement in the old kingdom which, I have said, shows any sign of progress, she is also the sole one that boasts of a truly beautiful approach. Yet when Eurus is abroad, making the sea high and the currents like mill-races, the noble amphitheatre, with its "peaks of lapis lazuli rising in majestic splendour to the sky," the "imponente baja," as Dr. Lanza justly entitles it, is compelled to veil its charms from the admirer's eye. Thick whirling mist-clouds cap the straight dorsal lines of Mons Caprarius, the Kozjak or goat-mountain of the tradition-loving Slav; the snowy peaks of Mons Auri (Mossor), which supplied the precious metal\* to the Roman capital;

Ibis litorias Macer, Salonas;  
Felix auriferæ colone terræ.

\* Lovrich quotes Pliny (Nat. Hist., xxxiii. 4), "ut nuper in Dalmatia, principatu Neronis singulis diebus etiam quinquagena libras fundens, cum jam inventum in summo cespite," and prefers the Mossor of Promina to that of Olissa as the origin of this gold.

and the regular, white-grey cone of Biókovó, still retaining in translation (Albicans or Albiggiantes) the Albius and Adrius of the classical occupants. The rack cowers before the blast low enough to hide the gap of historic Clissa, and Monte Mariano gleams ghastly white against the angry purple sky. The deep blue of the Adriatic changes complexion to an unnatural ghastly green, upon which white horses course, rear, and fall; and the bold and beautiful outlines of the islands fronting the baylet are hidden by a curtain of cold grey fog.

A few words concerning the Dalmatian archipelago, and especially this section of it. Fortis justly describes the islands as the sad remnants of a land which has been torn by torrents, mined by subterranean streams, shaken by earthquakes, and finally submerged by a new sea. In vol. i. p. 18, he asserts "il mare guadagna continuamente sopra Zara;" and he gives many names of submerged cities between Istrian Sipar (the Roman Siparum) destroyed in the ninth century, and the Bocche di Cattaro. Such are the flooded remnants of old Scandona, at the Lake Morigne, north of Sibenico; Nona, north of Zara, where the new settlement, called Privlaca by the Morlaks, is the Brevilacqua of the Zaratines, the Latin "Brevia aquæ," or shallows; the ruined wall at the entrance of Makarska port, and the remnants of Naroná, now under the swamps of the Norin river, the northern affluent of the Narenta. Even at Venice, in the sixth century, it was found necessary to defend the mouths of the cisterns from seawater by raising the masonry. The whole coast of Primorje (Dalmatia Proper) has sunk, as may be seen by the sluggishness of the debouchures affecting the climate, which once was so much praised. At Lissa Island there are pisolithic cliffs, and at Lesina and other items of the Archipelago there are large tufaceous beds of rivers, apparently proving an original connexion with the coast. Finally, at the Pelagosa rock, called the "last Austrian ironclad," a long dot of land seamost of the whole archipelago, where a fanal is now being placed, two tusks of an extinct animal are said to have been found in the calcareous tufa, whose age, denoted by splendid Venuses, especially the *Pectunculus* (*pelosus*?) which still lives in the Adriatic, cannot be of great date. When Sig. Topich, mayor of Lissa, and now H.M.'s vice-consul, under whose charge is the historic cemetery of our seamen, was removing stone for the lighthouse platform, he came upon an artificial cistern or gallery, containing human bones and other matters, concerning which he has sent me notes and plans for the Institute.

Whilst the Dalmatian Sea is believed, since the days of the Paduan Vitaliano Donati (nat. 1717; ob., Bussora circ. 1760), Manfredi, and Zandrini, to have risen, that is to say, that the

shore has sunk and is still sinking, it is generally held that the maritime part of Adriatic Italy has risen, even since classical times. This seems proved by the site of Etruscan Adria, which named the great gulf;\* once upon the coast, it is now twelve miles inland; and the same is the case with Padua, Rimini, Ravenna, and Spina towns. This slow but persistent upheaval suggests the shores of the Baltic; and in neither case can the phenomenon be explained by the constant erosion and consequent deepening of the sea, which Mr. H. P. Malet proposes to substitute for secular upheaval. When, therefore, a modern writer states of Dalmatia, "è poi ben conosciuto che la sponda nostra dell' Adriatico gradatamente acquista sul mare," he evidently confounds the eastern with the western coast.

The drowned continent of the Dalmatian shore first consisted of riverine and maritime plains; these were raised by the earthquake and the volcano to hills, and, lastly, they sank below the sea-level. This theory, if correct, would give an indefinite lapse of ages for the formation of the archipelago. The older geologists made the depression synchronous with the bursting of the Atlantic into the Mediterranean basin, and thence through the Bosphorus, events usually placed at the beginning of the glacial, which followed the first quaternary, age. Geologists still hold that in the second period of the stone-age Scandinavia, Jutland, and the Danish Archipelago were connected into a single continent. And the process of island-making still continues. The bold and serrated peninsula of Sabbioncello is supposed once to have been the left bank of the Narenta embouchure; it is now connected with terra firma by a narrow isthmus, and the sinking of a few feet will reduce it to sea-level, causing total insulation. Between the Quarnero Gulf and Spalato the northern section of islands and islets, often in double chain, subtend the shore-line, whose trend, to speak roughly, is from north-west to south-east, and, as a rule, they present two parallel ridges of high ground, as if a continent had been shattered into a hundred fragments. The double chain of sunken mountains, broken by bays, sounds, and inlets, seems, when viewed from an elevated point of the coast, to fit into the terra firma as if once joined on to it. But about the parallel of Punta Planca, the westernmost projection of Dalmatia, the shore-line bends into an important chord concave to the north, and here the chief islands, Brazza, Lesina, Lissa, Curzola, and Lagosta change from a diagonal (north-west—south-east) rhumb to a parallel of latitude, the length of all four being disposed almost due east and west (magnetic). Finally, further

\* A few, but very few, have called the Adriatic from Adria (Hat or Hatri, hod. Atri) of Picenum, the modern Abruzzi.

south, as far as the Bocche di Cattaro, where the archipelago abruptly ends, the groups re-assume the diagonal trend of the northern section.

We had some grief in traversing the Canale della Brazza, between that island and the continent, and again the little steamer was heavily shaken by a cross sea in the Canale da Greco di Lesina, which has Brazza to the east. Fortunately, however, my kind-hearted and obliging friend, Cav. Pietro G. di Leva, an old Pacific voyager, now port-captain of Spalato, had taken the precaution to send with us Gospod Dumantich, his chief and most experienced pilot. After four hours, we found ourselves running S.E. in smooth water, with Port Pellegrino to starboard, and the highlands of Port Kubal to port. At the bottom of the bay lay Cittavecchia, or Starigrad, and here I was hospitably welcomed by Capt. Pietro Ivanisovich, the Podestà or mayor.

The island of Lesina, says Capt. Giacomo Marieni (pp. 331—349), in that fine folio the “Portolano del Mare Adriatico,” (Milano, Dall’ I. R. Stamperia, 1830) is one of the largest and the most populous of the Dalmatian Archipelago. Its length from east to west is thirty-seven (Italian) miles, whilst the breadth varies from two to three. Fortis gives these figures forty-four, and a maximum of eight. Until the early part of the present century it was well wooded; its forests of the *Pinus maritimus*, which Linnæus ignored, combined with its peculiar, long, narrow shape, gave rise to its two known names, the original Liburnian having wholly lapsed into oblivion.

The Greeks called it Πάρος or Φάρος, which we find in Scylax Caryandensis (chap. 23) ἐνταῦθα γὰρ ἐστὶ νέος Φάρος, νῆσος Ἑλληνίς, καὶ Ἴσσα νῆσος, καὶ πόλεις Ἑλληνίδες αὐταί. Appolonius Rhodius, describing the passage of his knight-errants, the Argonauts, terms it Πιτυεῖα, or pine-island (πιτύς = pinus) in this verse (iv. 564):

Ἴσσα τε, Δυσκελαδός καὶ ἡμερτὴ Πιτυεῖα.

Upon which the Scholiast remarks, *Δίγουρνοι ἔθνος οἰκοῦντες ταύτας τὰς νήσους, Ἴσσαν . . . μεθ’ ἃς εἰς Κέρκυραν ἦλθον. τὴν δὲ Πιτυοῦσσαν καλουμένην Πιτυεῖαν εἶπεν Ὀμήρω ἐπόμενος.* Some authorities have applied “Pityeia,” without sufficient reason, to the wooded rock of Sant’ Andrea, where pitch was drawn by incision. “Dyskélados,” according to Fortis (ii. 163; Fr. ii. 222), is the title of Issa (Lissa); the “harsh-sounding” is generally understood to be Cratia (Κρατία), Crathis (Κράθις), Bractia (Βρέκτια), or Brattia, the Βάρτζω of C. Porphyrogenitus, and the modern Brazza, still so heavily visited by the howling Bora (north-easter). Pliny (Nat. Hist. iii. cap. ult.) applies to

the fifty islets and rocks of Sibenico the collective name of Celadussæ, supposed to be derived from Dyskéladoi; and Fortis (i. 170, Fr. i. 235) thus amends the corrupted text, "Nec pauciores Trucones (insulæ) Liburnicæ. Celadussæ contra Surium (Zuri Island). Bubus (Bua of Spalato), et capris laudata Brattia."\*

Scymnus Chius (Periegesis, l. 427) adds another detail:—

*Φάρος δὲ τούτων (the Illyrians) οὐκ ἄπωθεν κειμένη  
Νήσος Παρίων κτίσις ἐστίν.*

Diodorus Siculus (xiii. 3, 4) relates the decree of the oracle which determined the Parian emigration, and dates the foundation of Neo-Paros from the year "when the Elæans were celebrating the 99th Olympiad (B.C. 385). The new-comers expelled the barbarians, who took refuge in a very strong village, and quickly founding their city near the sea, walled it round and held it for 166 years. Strabo (vii. 5, s. 5) refers to it as *Ἡ Φάρος, Πάρος λεγομένη πρότερον*. It is the *Φαρία* of C. Ptolemy (ii. 16, s. 14), who applies the term to isle and capital, and the *Φάρα* of Const. Porphyrogenitus (De Admin. Imp. cap. 36). The Romans, as we learn from Pliny (N.H. iii. 30), preferred Pharia, probably pronounced Pharía, and the Slavs, who convert Ph and F into Hv (= Kh in such Persian words as Khar and Khwár), have retained Hvar, evidently from Phar(ia) or Far(ia). "The name is given in ancient documents to the island and, after the foundation of Lesina town, to Cittavecchia."†

There can be no reasonable doubt of this identification when we inspect the coins turned up at Cittavecchia. In the days of Fortis (1772) a single specimen was known. Prof. Boglić (loc. cit. p. 18) mentions but three silver in 1873, one described by Sestini, a second owned by Sig. G. Macchiedo, and a third in his own cabinet. The "Programme" before alluded to describes (p. 171) five copper medals in the Gymnasium of Zara, not to speak of the many preserved elsewhere. The characteristics are the virile heads, bearded (Jove?), or imberb, nude, laureated or crowned, and guardant dexter or sinister. The reverse often shows the goat (Caprone), derived from Paros of the Cyclades, and No. 5 bears four rays above it. Prof. Lanza's copper specimen seems to have an olive branch over the animal's crupper. The exergue is Φ, and the diameter varies from 0.019 to 0.024. Prof. Ljubić (or Gliubich), of whom more presently, declares (p. 8) that the different *types* found at Cittavecchia exceed *one hundred*, a number surpassed by few ancient cities.

\* Bostock and Riley (Bohn i. 266) thus pervert the passage: "Opposite the Liburni are some isles called the Cratææ, and no smaller number styled Liburnicæ and Celadussæ. Opposite to Surium is Bavo, and Brattia famous for its goats."

† This statement of Prof. Ljubić (p. 33) is contradicted by Prof. Boglić (p. 34).

He gives as the chief obverses the heads of Ceres and Homer; the reverses bear the serpent, the goat, the pine, and the two-handled wine-jar, emblems of agricultural prosperity; the exergues are mostly  $\Phi A$  and  $\Phi AP$ , sometimes  $\Phi API\Omega N$ , and  $\Pi A$  (Boglić, p. 18) in only one specimen found at Lesina town.

According to Sig. Giacomo Boglić (p. 31, *Studi Storici sull' Isola di Lesina* di G. B. Prof. nell' I. R. Ginn. di Zara: *Zara Tip. di Gio. Woditzka*, 1873, Fasc. 1, pp. 5, 31), the Slavs originally called Pityeia "Lisna," and subsequently Lesna, Liesna, Liesena, and Lesina. He quotes the Lesignano, Vinc. Priboiwo (Venetiis, 1525), who terms it "Lisna," adding, "corruptius autem Lesina dicitur." Yet Prof. Ljubić (p. 30, "Faria," &c.) notes that in a document dated June 19, 1103, by Koloman (A.D. 1095), son of St. Ladislaus, of Hungary, and quoted by Lucio (vi. c. 4), and Farlati (iii. 164) has "et villam Lesina Stolez." Ambrogius Calepinus (p. 226, "Onomasticon propriorum nominum. Basilie," 1598) speaks of the "insula quæ nunc vulgo Lisna Illyrico sermone dicitur." Prof. Boglić would derive Lisna (the woody) from Lies (a wood), quoting the *Lexicon Serbico-Germanico-Latinum* (p. 328, Edidit Vuk Stef-Karadschitsch, Vindobonæ tip. Mechit., 1852) "Lies (u Hrcgovini) *Silva*. Blagi jezika Slovincskoga (in the blessed Slav tongue), (p. 232, Laureti, 1694) *Lis, Lies*. To jes driva za poslovati (i.e. wood to work). . . . *Lignorum apparatus*. In Bosnia there is a Mount Lisina and a River Liešnica; Serbia owns three villages called Lješnica, and at Rudine, near Cittavecchia di Lesina, we find the Valle Lesnà and the Punta Lesnirat. As the Slavs make little difference in the articulation of the i, the e, and the diphthong ie, the name was written in the public documents of Venice indifferently Lisna, Lesna, Lesina, and Liesina. Finally, in the early 19th century, the shape of the island suggested the modern and popular Italian form "Lesina," meaning a "cobbler's awl," and the true term (Lisna) lapsed into oblivion.

According to Professor Boglić, the island abounded in pre-historic or proto-historic remains, whose origin he wisely hesitates to determine. His description is as follows (pp. 7 & 8):—

"Monumenti sepolchrali ci restano sull' isola, e molti intorno alla città di Lesina, i quali senza dubbio rimontano all' epoca seconda dell' età di bronzo. Parecchi ne furono aperti, sono dodici anni circa (about 1861), per cura dei Signori Gregorio Bucić e Pietro Boglić. Erano essi formati da grosse lastre di pietra non isquadrate, lunghi dai tre ai quattro piedi, larghi due, e a un dipresso altrettanto alti. Enorme la grandezza del coperchio, e di alcune delle lastre laterali poste sempre per coltello (on edge).



“Ecco quello che mi scriveva il Sig. Gregorio Bucic' riguardo il coperchio—‘una sola era la lastra che serviva di coperchio, e sempre massiccia assai e greggia—una volta massiccia tanto che conviene frangerla col farvi cadere dei grossissimi sassi, essendo stato impossibile sollevarla a braccia, sebbene molti operai si lavorassero intorno.’

“È siccome non poterano estrarsi sopra luogo, chè a ciò non prestavasi la natura del terreno, fanno suporre sforzi e fatica somma, perchè potessero trarsi lassù senz' ajuto di macchine. Queste tombe costruite sopra terra, senza calce, sempre in cima di qualche collina, protette erano dalle ingiurie del tempo e degli animali da un tumulo di sassi, alto fine a dieci piedi, di una periferia che talvolta aggiungeva i cento, e la cui sommità finiva per lo più in pietre di considerevole mole. Le tombe non giacevano mai nel centro del tumulo, ma erano poste alquanto a levante. In una si trovò conservata una parte di un cranio, e dei carboni, in un' altra pochi carboni, due vasetti di terra cotta; taluna conteneva ossa frammiste di adulti e di bambini. Si raccolse un fuso di bronzo, e dello stesso metallo una fibbia a semicerchio, un anello, un amo, alcune di quelli spirali che sono caratteristiche di quest' epoca, e pezzettini di ambra.

“I vasi, gli oggetti di bronzo coi pezzettini di ambra allora trovati, si conservano a Lesina dal Sig. Girolamo Machiedo, ma le ossa del cranio, ed il femore furono risepelliti, e forse non erano di minor interesse per la scienza. Il Dr. Francesco Unger, Professore all' Università di Vienna, rapito troppo presto all' affetto and alla gratitudine dei Lesignani, avendo esaminato nel 1864, gli oggetti di sopra accennati, anch' egli li giudicò dell' età del bronzo.

“Qualche sepolcro era vuoto, nè pare che prima sia stato aperto, perchè non si vide alcuna traccia di lavoro intorno al tumulo, nè appariva che le lastre delle tombe fossero state smosse. In questo non mancava il terriccio (black degraded earth), prodotto dall' azione dell' umidità e del tempo sui resti animali, che vi erano stati deposti. In nessuna si trovarono oggetti di ferro. Molti anni prima alcuni agricoltori, spinti dalla speranza di arricchire con tesori nascostivi, spianarono dei tumuli, e diseppeivano un grande vaso di terra senza manico, ed un martello di bronzo, scarso compenso al lungo e penoso lavoro. In uno dei sepolchri da essi aperto, tanti erano i carboni accumulati, da dover sospettare che entro sia stato abbruciato il cadavero. La tomba non era sempre lunga così da contenere il cadavero disteso di un uomo, e siccome da ossa trovate senza tracce di fuoco, si vede, che non tutti i cadaveri venivano arsi, convien credere, che in qualche caso si ripiegassero; tanto più

che la periferia di un cranio, desunta dalle ossa parietali e dall' occipitali bene conservati, e la lunghezza di' un femore mostrarono, che gli uomini a cui appartenevano erano di statura anzi alta, che mediocre, e di grosse proporzioni. La forma piramidale dei tumuli, il colore, e la grandezza delle pietre che ne costituiscono l'esterna corazza, il sito elevato, sterile, sassoso, su cui s'innalzavano, li fanno tosto riconoscere e distinguere dalle macerie (heaped stones) di egual mole costruite dagli agricoltori colle pietre tratte dalle pendici delle colline che dissodano. Devesi deplorare che quando si spianarono i tumuli, nessuno si sia pensato di studiare più attentamente questi monumenti dell' età preistorica. Se con questo scopo e con maggior cura fossero stati eseguiti i lavori, si sarebbero ottenute più precise indicazioni, e forse tra i vari sepolcri sarebbesi potuto rilevare un grado diverso di antichità."

The passage is interesting, because it shows that Lesina contained a style of tumular architecture dating before the Iron age, and thus equal in antiquity to the oldest Etruscan remains which lie on the confines between the Bronze and the Iron.

Cittavecchia de Lesina, the "Civitas Vetus," which the Slavs, rendered by "Starigrad" (old fenced city), opposed to Civitas Nova, Novigrad, or Lesina town, is the usual Veneto-Dalmatian port-town, a gathering of big, dull houses rising from narrow alleys, which were neither paved nor lighted till the reign of the present Podestà. The redeeming point is the neat riva or quay of cut-stone—a luxury found throughout this seaboard from Sibenico to Cattaro, and still wanting on the Surrey side of the Thames. The little port requires a prolongation of the rudimental mole, at whose base stands the Sanità-box, as westerly winds drive, at times, the billows right home, to the imminent danger of the shipping. The four churches, including S. Pietro, the Dominican monastery, do not exceed the usual allowance, and the Parrochiale and ex-cathedral (?)\* of S. Stefano, which has a *cachet* of its own, bears over the entrance of the belfry this barefaced inscription in the baldest Latin—

Dederunt hujus primordia molis de mænibus urbis reliquia,  
Et quæ dederat gressum in urbem janua, nunc in templi sacrarium.

The people, who number a maximum of 4,000 out of a total of 14,000 to 15,000 islanders, regret that their "city" was not built on the sloping ground a little farther north, where the

\* For the origin of the bishopric at "Sancte Marie" (Gospoica, the little "Plebana" built in A.D. 1322) de Faria (Cittavecchia) and its "illegal" transfer to Lesina town, see Ljubić, pp. 32-37. He is refuted by Boglió (p. 56). The latter quotes (Du Cange, Glossarium, Parisiis Didot, 1842, vol. ii. 241) "Cathedra ipsa sedes seu Ecclesie Cathedralis. Eodem nomine designantur interdum ecclesie parrochiales, præcipue in urbi episcopali."

drainage would have been better. High-spirited and industrious, stout fishermen and gallant sailors, they leave their women to till the ground—

Femina pro lana cerealia munera frangit  
Impositoque gravem vertice portat aquam—

and they take a pride in calling themselves the English of Dalmatia, a distinction which they amply deserve. Their island yields grain enough for five months only; the other eight must be supplied with bread from the Danube and the Black Sea.\* The chief local cereal is barley, the rains not being heavy enough for "fromenton" or maize. Wine is abundant, alcoholic enough to suit the English market, and much resembling the Lavradio and the inferior growths of Port. The olive thrives everywhere, and at this season the streets and stairs are rank and slippery with oil. The Chambers at Vienna, influenced by a great monopolist company, have lately done an unwise and unpopular thing in refusing an annual subsidy of 20,000 florins to an inter-insular line of steamers. The difficulty of intercourse here causes not only inconvenience and loss of time, it also affects the trade of many communities, and renders their progress and development next to impossible.

I at once inquired about the so-called "Muraglie ciclopiche," a term adopted throughout Dalmatia from Dodwell ("Views and Descriptions of Cyclopean or Pelasgic Remains," &c., a paper posthumously affixed to his "Tour in Greece"); from Petit-Radel, who proposed the theory in 1829, and who developed it in 1841 ("Recherches sur les Monuments Cyclopéens, et description des modèles en relief composant la Galerie Pélasgique de la Bibliothèque Mazarine," Paris); and by Cesare Cantù in 1846 ("Dei Monumenti di Archeologia"). A local antiquary has determined the walls of Pharia to "belong, without doubt, to the second species of Pelasgic construction," the first being "irregular polygons, uncut, or cut after the Lesbian rule, concerning which the author, 'De Mirabilibus,' speaks." Sig. Girolamo Budrovich, formerly Sindaco, and now Agrimensor (land surveyor) of Cittavecchia, has succeeded in outlining the limits of the old city—of course, only the official portion—an oblong measuring about an Italian mile in circumference. The dimensions of the enceinte were 36 feet in thickness, and the height was conjectured to be about the same. Possibly the norm which Fortis applied to Aseria (Podgraje) has been fitted to Pharia. The fragments best preserved are in a cellar (Cantina di Gram-

\* The *Enxine* is in every mouth; for instance, *Fortuna nel Golfo* (Adriatic) *burrasca in Mar Nero*; and during a storm they will exclaim, "*Poveretti nel Mar Nero!*"

motor), where, however, they are almost concealed by gloom and lumber; outside the town, about 10 metres rise above ground near the Casa Domchich; and the foundations remain in many places uninjured. Hence a description and, I believe, a plan were published in the Instituto Archeologico of Rome between 1840 and 1848.

Accompanied by the gentlemen of the town, I visited these interesting remains, and found the masonry to be pseudo-isodomitic and isodomitic (regular horizontal layers), parallelipedons of considerable size, cut from the limestone of the neighbouring hills, hammer-dressed, and fitted upon one another without cement. I nowhere remarked bossed and draughted stones, but Sig. Budrovich assured me that they existed near the city, and he presently obliged me with the following three specimens. The measures are in Viennese feet and inches.

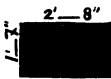


FIG. 1.



FIG. 2.



FIG. 3.

The central projection above the draught is 4 inches in fig. 1; 1 inch 6 lines in fig. 2; and 2 inches in fig. 3.

The good Agrimensur was also kind enough to inform me by letter (Feb. 4, 1875), that about an Italian mile outside the town he had found masonry which appeared to be of the oldest date. Fortis (ii. 176) had previously copied a Latin inscription "perhaps a mile from Cittavecchia."

There has been since the early 14th century—probably long before it—and there still is, a mighty feud between Cittavecchia and her south-western neighbour, the "Hauptstadt" of Lesina, about the right of representing the ancient Pharia of Demetrius of Paros. Fortis (ii. 175), guided by a local tradition, would place the site some two miles further inland, where ruins are also found; these evidently belong to some forgotten item of the five classical towns. In our day the leaders of the war are the two following literati.

Professor Boglić (p. 26, *loc. cit.*) rather "trims" between the two. According to him, the Paros built by the Parians in the 4th century B.C., and utterly destroyed by the Consul Lucius Emilius Paulus in B.C. 219 (Livy, Polybius, Dion Cassius, Florus, Appian, and Justin), occupied the site of modern Lesina. The neo-Pharos, the νέος Φάρος of Scylax (?); the Ager Colonius of the Romans; the Oppidum Pharia of Pliny (iii. 26); and the Pharia city of Ptolemy (*loc. cit.*),\* which

\* Consult the "Faria," &c., of Ljubić (pp. 25–28), for proofs of the Roman epoch between B.C. 219 and A.D. 639.

lasted till the end of the 5th or the early 6th century, when the Slavs found it in ruins, was built where Cittavecchia now stands. On the other side, the doughty abbé, Dr. Simeone Ljubić (Gliubich), at present professor in the I. R. Gymnasium, and Curator of the Museum of Agram ("Faria Città Vecchia e non Lesina," Zagabria. Carlo Albrecht, 1873, an octavo of 68 pages, printed with the aid of the municipality of his native town), sounds no uncertain note. The following is the merest outline of his arguments (pp. 7, 8) in favour of Cittavecchia; of course most of the statements are traversed by Prof. Boglić. The latter localises near Lesina town the attack of L. Emilius Paulus, who razed the city which the Parians built in B.C. 385. He mentions (p. 15) an ancient mosaic two feet below the surface of the Bishop's garden in modern Lesina; another near the Mandracchio, or dock port; a fragment of granite column about two inches long; a pair of the sepulchral lamps called by the Italians "lume eterno"; and a multitude of coins, especially twenty-two of Ballæus, found in late years on the slopes crowned by the Forte Spagnuolo.

a. The existence of the old walls of Cittavecchia resembling the Palæokastrá of Albania, &c., &c.

b. The many Greek inscriptions bearing the initials or the words *Φάριοι* and *Φαρίων*, and showing the old democratic republic to have been governed by Archontes, Prytaneis with their *Πρυτανεῖον*; a Senate (*Βουλῆ*) and a Scribe (*γραμματεῖος*) in the public *Ærarium* (*ἐν τῷ δημοσίῳ*). Another inscription, "di argomento inverecondo," is a Psephisma, or decree regulating the public prostitution which seems to haunt every port.

c. The multitude of Pharian coins inscribed *ΦΑ*, *ΦΑΡ*, and *ΦΑΡΙΩΝ*, and bearing the name of Ballæus (*ΒΑΛΛΑΑ*, *ΒΑΛΛΑΑΙ*, *ΒΑΛΛΑΑΙΟΥ*, and *ΒΑΛΛΑΑΤΟΥ* (?)), at first Archon, and lastly tyrant (*Βασιλεὺς*)\* of his native Pharos.

d. The number of other classical coins which have come to light.

e. The incised gems and cameos.

f. The sarcophagi "of primitive or Greek style, almost invariably anepigraphic," containing mortuary objects. One of these, discovered in 1869, when prolonging the riva southwards, yielded a gold ring with incised stone, and an exquisitely made chain of the same metal; both are now in the Museo del Tri-regno of Agram. "Some of the mortuary urns much resemble in shape those of Issa, which are undoubtedly in the Liburnian style."

\* Prof. Ljubić (p. 9) gives *Βασιλεὺς*, but as there is no accent, the omission may be a misprint. He is also the authority for the form *ΒΑΛΛΑΑΥΟΥ* (p. 9). Prof. Boglić says that the coins bearing *ΒΑΣΙΑ* are very rare (p. 18).

*g.* The marble bas-reliefs and similar objects, the three principal being—1. A mortuary genius, with reversed torch in the right hand, and in the left a bunch of grapes; it is a coarse production, placed on a pedestal of cut stone at the corner of the little square fronting the parochial church. 2. A Milo of Crotona, in mezzo rilievo. 3. A marble slab, showing an archaic Grecian galley, steered by a pilot. The last is high up in the Campanile; it is noticed by Fortis (ii. 175, Fr. ii. 238) as “un bassorilievo sufficientemente ben conservato in marmo Greco, che rappresenta una barca a vela, col timone alla destra della poppa, ed il pilota che lo governa.”

On the other hand Lesina, says the Abate (p. 11), shows no signs of those “primitive (Pelasgo-Illyrian?), Greek and Roman monuments. The town (whose origin is lost in the glooms of the middle ages) is stuck against a nude and savage rock; it has no *agro* (open ground) even to the south, and the few yards of dry surface forming the actual square, and bearing, amongst other edifices, the Duomo and the Episcopal Palace, were covered by the sea within the memory of man; in ancient times they must have been deep water,” &c., &c. Finally, the crudite professor quotes a host of authorities, who reject Lesina and support Cittavecchia.

He has, however, omitted to notice that the position of Cittavecchia is exactly that of ancient Salona—a recess, a sinus opening westward with higher ground to the north and south, thus defending it from the Bora, as well as from the Sirocco. Lesina, seated like Spalato, on the very edge of the mainland, faces the south with a much greater amount of exposure.

All the Cittavecchiani declared, to my unpleasant surprise, that they had never heard of “Cyclopean stones” at Gelsa. I determined, however, to judge for myself, and, kindly guided by the Deputato di Sanità, Sig. Gio. Actinovich, I set out to cross the island. The distance from Cittavecchia to Gelsa measures upon the map 4,000 Viennese klafters (= 8296.82 English yards, = 4.714 statute miles). Under the *justum et per mundum approbatum regimen* of the Serenissima Republica, to which Lesina was yielded in A.D. 1420 by its last Count, Aliota Capenna,\* this highway was a good *calçada* of cut stone and lime; now it resembles nothing more than a torrent bed, except during heavy rains, when it becomes a shallow torrent, a

\* According to Prof. Boglić (p. 50), Petrana, the Venetian Count of Zara, compelled Lesina to undergo the yoke about A.D. 1144. There was a second rendition in A.D. 1278 (p. 73); the final subjection after the last sway of the Hungarian sceptre was in A.D. 1420 (p. 103). The three commissioners who acted in the name of the Roggenza (count and judges); the nobility and the university (popular assembly), were Giovanni Ozor (de Ozoris), Vital di Silvestro, and Vito di Tomaso (Jan. 3, 1421).

fiumara, or, in local dialect, a "potok." It is everywhere enclosed, first by tall masonry, and afterwards by dry walls.

The almost level surface of the ground, a shallow prism, with highlands to the right and left, would represent the old Pharian *ager*. Its clothing of rich, ruddy clay, the produce of degraded chalk and ferruginous lime, is scattered with water-rolled bits of "breccia corallata," from the summits of the southern range. Fortis supports that this material is the "Tragurian marble," so highly prized by the Romans—angular fragments of white calcare encrusted in a cement of petrified ochraceous earth, susceptible of a high polish, and often confounded with the African. He never found amygdaloid, nor pudding-stone, but always large, flat, angular, and irregular pieces, interrupting the continuity of the texture. These breccias, being frequently met with *in situ*, upon the summits of the Dalmatian ranges, confirm him in the belief that the islands were once part of the continent. I remarked that in some cases the white marmorine limestones set in the blood-red paste were rounded like true conglomerates, and I heard of a vinous coloured rock, probably the "Rosso da Cattaro" of Venice, which may be seen in the pavements of streets and churches at the place which gives it a name.

The route became more sandy as we approached Gelsa. The ground on both sides, broken into hill and dale, was enlivened by white-churched settlements, which are rather miniature cities than villages, and nowhere in Dalmatia had I seen dimensions so considerable. Thus we read in 1798 ("Engel, Geschich. v. Dalm. Allgem. Welthist." Halle, xlix. 228), "Verschiedene Dörfer derselben (Lesina) verdienen dem Namen von grossen Flecken, und sind stärker bewohnt als viele kleine Städte." The phenomenon is doubtless due to the comparative wealth and abundance of the island, which bears besides wine and oil, figs and almonds, saffron and honey. The rakia (raki of the nearer East) is particularly good and plentiful; the aloe flowers as in Greece, and at Lesina the fibre is made into fancy articles, purses, and nettings. Although the woods have been unwisely thinned, and re-forested is requisite, palms and carobs, oranges and mulberries everywhere thrive. Sheep-wool and cheeses have taken the place of the salterns which, in 1772, formed the chief local industry, and the habit of long voyages has not abolished the fishery of anchovies, mackerel, and sardines, with which Lesina, in the days of Bosching, supplied Italy, and even Greece.\*

\* In 1861 a certain Sig. Carlo Warhenek began to cure sardines in oil at Fiume, and presently transferred his establishment to Gelsa, the centre of the Dalmatian sardine-fishery. But the want of transport and the excessive taxes on

On the right I remarked the settlements of Dol, Sfirze (Svirze? in Ital. "Sfirce"),\* and Verbanj, whilst to the left rose the fine large houses with which the little port of Verboska was adorned some three centuries ago. Half-way we passed a dilapidated little chapel, which my good guide called S. Cosmo, and which appears as S. Vito in the official map of the Austrian Empire (Special-Karte des Königreiches Dalmatien, &c., &c., von dem K. K. Militärisch-Geographischen Institute in Wien, 1861—1863). Beyond Verbanj we fell into the valley of the "Potok," as the streamlet of Gelsa is generically termed, and crossing a big stone bridge, we presently found ourselves in the little town. Here we were met by the Podestà, Capitano Nicolò Dubrocovich, for whom I bore a letter from the friendly Prof. Glavinić. He led me to his house, introduced me to his family, and made me feel thoroughly at home. Most of the mayors in the Dalmatian Archipelago are retired *Capitaines de long cours*, substantial men with large estates, who, during their voyages, have accumulated not only capital, but a large stock of refinement and general information. In this point insular Dalmatia much resembles Switzerland.

Gelsa, in the official map Gjelsa, and by the Slavs called Jelša, is often mentioned in local history. It appears to have been an ancient city, whose name is now lost. The Statuto di Lesina, compiled in A.D. 1331,† as the preface says, by a Russian lawyer, whom lung-disease drove to Venice, thus speaks of the ruins in A.D. 1407, *Civitas Vetus (Gradina) in Jelša* (p. 202); and in 1425 we read (p. 217) "*inter civitatem Jelsæ . . . prope civitatem veterem in Jelsa.*" As will be seen, it was presently distinguished from the other *Civitas Vetus (Cittavecchia)* by taking the name of its fine fountain. Also Rafaele Luacovich (in *Parlati Ill. Sacr. i.* 197) says, "*Pagos habet (the island) civitatibus haud absimiles; Gelsam fontibus perennibus divitem. Verboskam ubertate agri pinguem,*" &c., &c.

The townlet occupies the head of a bight opening to the north-east, crossed by a masonry dam, and made tolerably safe for shipping by two short moles on the north and south sides. A few good houses, amongst which is the Podestà's, prefer the northern shore; the mass of the settlement lies opposite. It evidently owes its origin, as well as its name, to a perennial spring of the purest water, which wells up near the piazza.

oil compelled him to remove the "Fabbrica di conserve" to Barcola (S. Bartolo), in the Bay of Trieste.

\* All the names of towns (except *Cittavecchia*), hills, and dales are purely Slav. The orthography would be *Vrbanj* and *Vrboska*.

† Of this *Liber Statutorum Communitatis Phara*, afterwards printed under the name "*Statuta Communitatis Lesinae*," Venetiis, 1643, see Boglić (pp. 112-129).



The Statuto (pp. 50, 51) says, "usque ad fontem vocatum Jclsam, quæ est apud mare salsum." It has its "Parrochiale"—

Half church of God, half castle 'gainst the Moor;

and its cemetery around the deserted Augustine monastery. It wears a thriving look, and I heard with pleasure the sound of the bell which rang the boys to church. A wire connects it with Spalato, the *chef-lieu*; and, indeed, nowhere about the Mediterranean have I found this instrument of our later civilisation so generally used as in Dalmatia. The principal want here is communication; those who would embark must ride for half a day over the roughest path, spanning mountains and valleys, to Lesina town, the only station of the Austrian Lloyds.

In 1772 Fortis (ii. 178, 179; Fr. ii. 242) described Gelsa as "un grosso villaggio ben situato," well-peopled with citizens dressed à la Française, and boasting not a few good houses and villas. The port receives many perennial streams, and the hills, which slope gently to the sea, produce the finest marmorine breccias, which are used for coarse pavement, or are built up in pauper huts. Besides the "corallata" before mentioned, there is a stone with irregular stains of pavonine colour, taking a polish which equals that of the finest Roman conglomerates. Mgr. Blascovich, Bishop of Makarska, took from its quarries all the material for the columns of his new cathedral, and for the steps and pillars of his altars. Unhappily, the cutters will save time and trouble by contenting themselves with the upper strata; the softer portion, especially the natural cement, containing the marble, is thus degraded by the atmosphere, perhaps also by seawater, and it soon deteriorates when exposed to sun and rain. Fortis also remarked a black and white lumachella, composed of hardened bituminous earth, and orthoceratites, changed, as usual, into a sparry saline calcaire. He does not notice the ruins either at Cittavecchia or at Gelsa, for the good Abbé was a naturalist rather than an antiquary, and he seems somewhat sore about his reception. The fishermen were perhaps at sea, and "quando io giunsi colà non trovai quella cortesia, che suole abitare colla povera gente." Thus his experience and mine differ *toto cælo*.

Tuesday (December 29th) appeared in its very ugliest guise. The climate of fair Dalmatia can, like certain Madonna-faced beauties, show an amount of ill-temper as serious as it is startling. I rose in the dark, hardly hoping to see my host, but he was no "marinero di acqua dolce," justifying the old saw,

Di sera leone,  
Di mattina babbione;

and he cared not a jot for the frenzied gusts, the Scotch mists,

and the showers which fell as if buckets were being emptied upon the hills—in these latitudes, when it rains it *does* rain. During the evening we had learned that two ruins were to be visited, the “Grad” and the “Tor,” the former bearing from his house, “Ostro quarta e mezza Sirocco” (S. by E.  $\frac{1}{2}$  E.), and the latter “Ostro e tre quartini Levante” (S.  $\frac{3}{4}$  E.). The time would take an “oretta”—beware of the “little hour” in Dalmatia and Istria. On this occasion, however, it was only double.

Passing through the townlet, we began the ascent of the low and ruddy outliers of the Gvezdjena Gora (Gvezd Berg of the map), or Iron Mountain, a long range running nearly upon a parallel of latitude. The reason of the metallic name is unknown; perhaps it is derived from the steel-grey spines, bands, and cornices of the hardest limestone, which accident the slopes. Beyond the Madonna della Salute the goat-path became stiff and stony, slippery withal under mud and rain.

On these islands the traveller in search of prehistoric remains becomes, after a fashion, an explorer. He must visit everything that bears the name of “grad,” or its multiform derivations,\* and, as in Africa, he must labour to ascertain what there is not, as well as what there is—*ea quæ sunt, tanquam ea quæ non sunt*. After breasting the iron height, we reached this particular “grad,” and the first glance told me that the masonry, which might have been Venetian, was more probably post-Venetian and Slav. The aneroid at 28·9, and at a sea-level, 29·9, showed an altitude of a thousand feet, and the site was that of an Etruscan city, a “Mull,” the Icelandic “Múli,” or loop of high ground, with a declivity more or less precipitous on all sides but one—here the western. The rock fell sheer to the south; the neck had been fortified, but the outworks were so ruinous that their form could hardly be ascertained. The enceinte followed the contour of the ground; in places it was based upon the limestone, at this and in other parts forming parallelepipedons by stratification and cleavage, which easily suggested the “Cyclopean wall.” Here and there it is difficult to distinguish the natural from the artificial, so exactly do the joints correspond. Fortis remarks the same of the sandstone, and he figures (Table xii. vol. ii. 100) the natural wall (“filoni simili a muraglie”) of Rogosnizza. In Istria I should have thought that the origin of this “grad” might have been one of the so-called Castellieri. A dilapidated cistern-shaped affair, showing the spring of the arched roof, and facing southwards with westing, is, according

\* The curious reader will consult the paper on the “Castellieri of Istria,” which it was my evil fate to publish with the Anthropological Society of London (“Anthropologia,” No. iii. Oct. 1874).



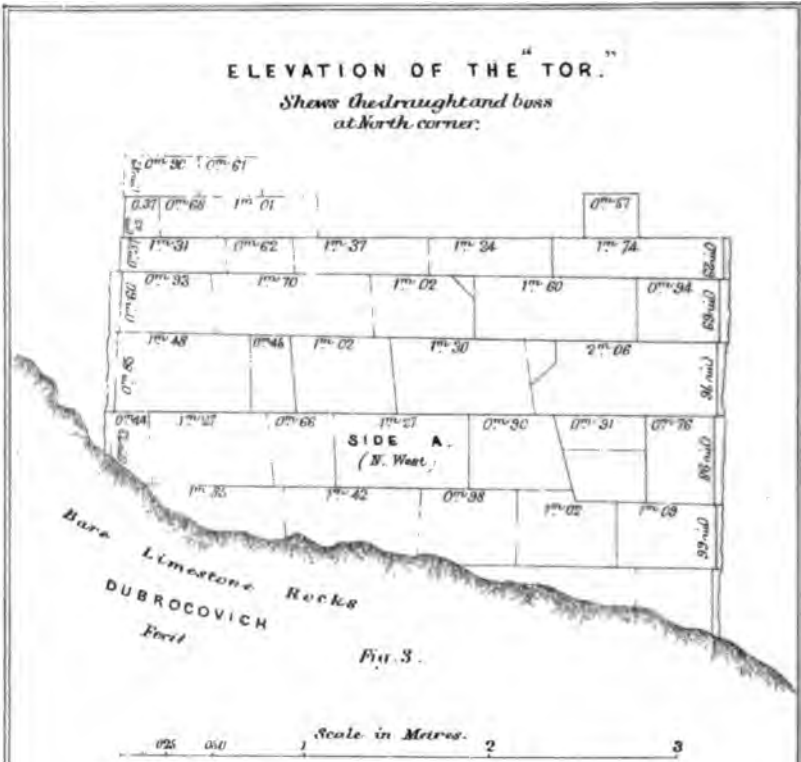


Fig. 3.

Fig. 2  
DALMATIAN FIND.



Axe of fine Greenstone found at Salona near Spalato. Apparently broken about half way.

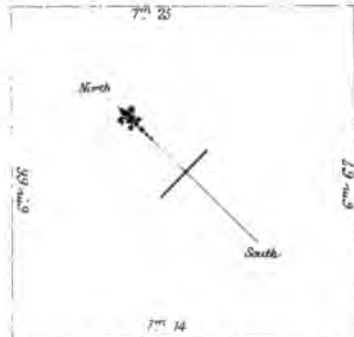


Fig. 4.

Fig. 1.  
DALMATIAN FIND.



One of the two Silurian implements in the Museum of Spalato, the first found in Dalmatia. Flake of clay colored flint; edge jagged, possibly used for lighting pipes. Found close to the frontier of Bosnia.

to the legend, the burial-place of its "king," Subich (Subij). All traces of the tomb have lately disappeared.

Professor Boglić tells us (pp. 126, 127) that this "Grad Galicnik" is described by the monk Priboevo, of Lesina, and quotes as follows from a manuscript letter addressed to H. E. Gio. Bragadin in A.D. 1723: "Sulla di lui sommità (the mountain near Gelsa) v'è un recinto di mura, da Oriente (poggia) sull'orlo di sasso dirupato. L'opera è in quadro, lunga 30 e più brazza (a minimum of 21·83 yards); larga nell'ingresso brazza dodici (8·73 yards); in fondo brazza otto (5·82 yards) incirca. Si vedono nel di lui mezzo due casette, una diroccata ma angusta; l'altra a volta di pietra, bastante a ricettare sotto il tetto la statura del più alto homo, ma capace di poche persone. . . . Intorno nelle mura interiormente si distinguono continuati buchi di travi (the modern buchi per i falconi, dowel-holes to receive the ends of floor-joints) di mezzo carro in linea uguale. Danno a credere si sia stato un tavolato intorno per gente, che coperta da merli delle mura possa tutelare il recinto. . . . Questo luogo vien chiamato Galicinich. Corre un idiotismo (trivial legend), che due regoli fossero patroni, di Gradina, che nell'idioma illirico suona città diroccata, e di Galicinich; tra loro inimici, et in continua guerra; e vi fu chi in Galicinich egualmente credulo ad avaro sudasse per trovare tesoro nascosto."

Somewhat despairing about the other building, I walked across the slope of the Iron Mountain, about three-quarters of a mile to the west, by a path rounding the heads of two small ravines. At one sheltered spot appeared a newly-planted vineyard: in Dalmatia, as in Istria, cultivation rises high above sea-level.

Presently we came upon the Torre di Gelsa; the Slavs call it "Tor," or sheep-fold (*e.g.* ú-Tor, nell'ovile), but perhaps the latter is a mere corruption of the former. I was delighted; my rough and rainy walks had not been in vain. The site is singular; the apex of a rocky arête, utterly without water, except from rain, and apparently isolated, although large cut-stones, which may have belonged to it or to its outworks, were scattered around. The inside was filled up with earth; externally it showed from four to five isodomic lower courses of large ashlar, calcaire from the mountain on which it stood, and nowhere was there a trace of mortar. The largest parallelepipedon measured 2·06 metres (=6 feet 9 inches) by 0·76 (=2 feet ·59 inches) in height. The angles, especially the north-eastern, showed the draught extending through the courses from the lowest to the highest. The western exterior consisted of four lower courses of large stones, capped by three modern, or, at least; smaller layers; and the emplectori, or "old English bond," popularly called "headers and stretchers," were apparently not unknown to the

builders. The stones were all boldly bossed, like those of Salona, with chiselled draughts, and the height of the projection might have been 6 to 8 inches. The magnetic meridian passed through the angles, and the slope was an oblong rather than a square. The northern side measured 7·25 metres (=23 feet 9 inches); the southern 7·14; the eastern and the western 6·66 (21 feet 10 inches).

My sketch was utterly spoilt by the deluging rain at the time of inspection; the nebulae malusque Jupiter determined to do their very worst. But my excellent host promised to send me plan, elevation, and measurements. He kept his word with truly British punctuality, and enabled me to present to my readers the sketch which accompanies these pages (Pl. xiii. figs. 3, 4). I gladly take the earliest opportunity of thanking him once more.

Professional archæologists will determine the *rapport* between this mysterious building and the Pantellarian "Sesi," which have yielded stone implements; the Nuraghi of Sardinia and the Balearic Talajot (Arab. *تالجات*, *i.e.* watch-towers). The general aspect reminded me of the garrison-stations on the Roman high-roads, especially of that near Khan Khuldeh, supposed to be the "Mutatio Heldua" of the Jerusalem Itinerary, near Bayrût, on the way to Sidon. But here there is no sign of cement. I found no traces of a highway, and the site, commanded on the southern side, and occupying the roughest of rocky ground, where enemies might everywhere lie in ambush, and where half a dozen square yards of tolerably level surface cannot be had, renders it equally unfit for a refuge place and for a settlement. It might perhaps be an outwork and a look-out commanding the sea; still there remains the curious contrast of elaborate finish with an object for which the simplest building would suffice.

Prof. Boglić appears to think (pp. 11-12) that the "Tor" was connected with certain ruins near the Gelsa townlet, which have disappeared only lately, either buried under alluvium or removed by the peasantry. He quotes Priboevo of Lesina, who, in a discourse or harangue (*De Origine et Successibus Slavorum*) pronounced (1525) before an "Academy" in his native town, describes in these words the ruins of Cittavecchia and Gelsa. I preserve the quaint contractions of the original.

"Quapp. neminē capiat admiratio, duas olim, altera ab oriente, altera ab occidente, cui' supra memin' egregios sortita port', hoc ī agro urbis extitisse, ipsā ruina pristinā ear. dignitatē prodente, apparentibus ibidem pluribus magnis ædificiis, et ex pario lapide truncatis, et semicorrosis Herōum imaginib', nec non et lithostratis varias bestiar' et sydir' formas præferentibus. . . . Est et unum adhuc fere integrum inter montis oppidum urbi (*i.e.* Gelsæ) quæ orientalem agri hui' regionem obtinebat

supereminens, juxta quod ad jactum sagittæ, ex quadratis miræ magnitudinis lapidibus turris est, unicum habens angustum hostium, in qua ob antiquitatem nullum cementi vestigium apparet. Sunt et in plerisque aliis hujus insulæ locis, humanæ habitationis vestigia, in quibus antiqui illi Pharenses vicatim habitaverunt. Ex his colligo præ primariam in qua sum' urbem, quæ a meridionali insulæ parte posita, Pharum proprie, vulgo autem (sicut Calepinus prodit) Lisna, corrupti' aut Lesina dicitur, sex in hac insula olim oppida absque villis, quæ numerosæ erant, extetissi" (sic).

Prof. Boglić (pp. 11, 12) thus describes the building:—  
 "Anche una torre, che sorge da un cumulo di sassi sul monte posto a mezzogiorno di Jelsa, offre tutti i caratteri dei ruderi di Cittavecchia, soltanto i massi sono battuti più rozzalemente, ed il lavoro potrebbe credersi più antico. Alcuni di questi sono alti due piedi ed otto polici Viennesi (= 2 feet 9·10 inches); lunghi cinque (= 5 ft. 2·23). Ai tempi del Priboevo nel lato di mezzodì vi era una porticina, che poscia ruinò, e non restano che soli tre lati, che vrebbe la pena di meglio conservare. I pastori ne distrussero una parte, atterrando poco a poco le pietre, che sovrapposte le une alle altre senza cemento, più facilmente si potevano smuovere. I lati della torre che ancora restano, sono alti sedici piedi Viennesi circa (= 16 feet 7·12 inches); lunghi a Settentrione ventidue (= 22 ft. 9·79) diciannove (= 19 ft. 8·46) ad Occidente e Levante."

Professor Boglić wisely refuses to "evocate" the Pelasgi, because similar monuments are found in Eastern Asia, for instance, where those wandering tribes cannot, "even with the greatest indulgence," be made to emigrate. I would here remark that the Samothracian Pelasgi seem of late years to have gone out of fashion, probably on account of the highly absurd etymologies proposed for them, such as Semitic roots for an Aryan race;\* and yet there is no race of which the universal voice of classical antiquity speaks with more clearness and consent. The professor holds that the Gelsa style of architecture was not peculiar to a single people, but rather that it denotes a certain stage of civilisation, of progress, evolved under ethnological conditions the most dissimilar. A nation which either cannot, or which knows not how to make the cement that con-

\* For instance, Pelishti or Felishti, peregrinus, advena, from Palasha (Falasha) migravit, whence, by-the-by, the Falasha Jews of Abyssinia. Some explain the Semitism by supposing that it was applied to the Indo-Europeans by the Egypto-Phenicians; if so, had they no racial name of their own? Also from Pelasgus, the king who civilised them. From Pelargos, a crane (quod gregatim errarent); from Palæos, ancient; from Pélagus, the sea, being a maritime race; from the root of "pellere" and *ex-pel*. Chabas ("Études sur l'antiquité," &c., August, 1872) thinks that he finds them in the Pelestas of the Stela of Medinat Habu, recounting the conquests of Rameses, and dating from the 12th century B.C.

solidates small stones into a mass of masonry, must perforce, when building its defences, employ megaliths whose weight keeps them in place, even when exposed to the shock of battering engines. He finds this specially denoting, in Greece as well as in Italy, the epoch of incipient settled life, the first stage of civilisation. He therefore concludes that the ruins of Cittavecchia, and of the Tor di Gelsa, were the works of the later Illyrians.\* These tribes were found occupying Lesina in the 4th century B.C., and in B.C. 45, according to Diodorus Siculus (xiii. 3), they inhabited "a little settlement of extraordinary strength (*ἐν τινι κωριῶ καθ' ὑπερβολὴν ὄχυρῶ*).

I must here join issue with the learned professor upon sundry points. Diodorus Siculus (xiii. 3) speaks distinctly of the founding (*κτίσις*) and walling of Pharia by the Parians. The walls of Cittavecchia certainly belonged to a Greek colony, as is proved by the thousand remains found within them, to say nothing of their shape, and the form which they enclosed. The Tor di Gelsa does not appear to me a ruder or a more primitive form than the defences of Pharia, although having been exposed for long ages to the violent Bora, it has been more mutilated by time and weather. And I can hardly imagine how he made away with the fourth side; it reminds me of what was said of Ireland, where—

The sly surveyors stole a shire.

Finally, the remarkable resemblance, amounting almost to identity of shape, between the two Lesina ruins and those of the "Murazzo," or long wall of Salona, the subject to which the first part of this paper was devoted, naturally suggests that all three were the work of a single people, and that people not the barbarous Illyrians, but the comparatively civilised Greeks.

A few words to the reader by way of conclusion. The late Mr. Paton, whose acquaintance I had made, and whose memory I would treat as that of a friend, wrote a useful and not unlearned book, which he called by the picturesque name, "Highlands and Islands of Dalmatia." I should be sorry if it induced the archæologist to imagine for a moment that exploration of either feature had ever even been attempted. Whilst Greek and Roman antiquities have occupied the lives of many able men, prehistoric study is only now making itself known by name. The best proof is that at the end of 1874 only two stone implements, both found within the year, had taken their place in the little museum of progressive Spalato (Pl. xiii. figs. 1, 2).

\* Prof. Boglió (pp. 9, 10) adopts the opinion of Niebuhr, that—(1) the Illyrians were a different race from the Liburnians; and that (2) the Illyrians, from whom the Skipitar (Albanians) are descended, inhabited with the Greeks the Pæonians, and the Thracians, "Pelægia," or Macedonia; but they were neither Greeks nor Pelægi.



I need not speak of the Dalmatian highlands; but to explore the islands there is some little difficulty. The traveller will find scanty aid from steamers; he will have no roads, and he must work his way on foot through the roughest bush; he must carefully visit every height; and he must be prepared for few successes and many failures. If he cannot speak Slav, he must be accompanied by one who does, and he had better take with him plain and coloured engravings of stone implements, which will supply the want of technical language; for instance, an arrow-head or axe will be known only as *Mali kamen strella*, the little lightning-stone. He must be prepared to rough it, to live hard, not to murmur against the smaller insects, and, perhaps, to risk an attack of ague and fever. Finally, though life is not expensive, he must prepare for a considerable waste of precious time.

I had preserved, so to speak, the Dalmatian Islands as a happy hunting-ground; but official occupations, and, worse still, a serious illness, interfered with my projects. Next to exploring for oneself, the best work an explorer can do is to promote exploration in others. My highest ambition for these pages is to show how much remains to be done. A party of three or four friends, forming a committee of discovery, could hardly spend their time better than by devoting the best season of the year, from April to June included, to a careful survey of the Dalmatian Archipelago, visiting every site called *Grad*, and collecting the folk-lore which everywhere abounds. I prefer the number four, because it would obviate the delay by enabling the party to separate into two and three sections. Needless to say that all my small amount of experience would be gladly placed at the adventurers' disposal, and that they would have my best wishes for their success.

#### EXPLANATION OF PLATES XII. AND XIII.

Plate xii.—Plan of Salona, near Spalato, showing the Long Wall; with plan of the Amphitheatre and Cæsarian Gate.

Plate xiii.—Fig. 1. The first stone implement found in Dalmatia, now in the Museum of Spalato. Half natural size. Fig. 2. Axe of greenstone, found at Salona. Half natural size. Fig. 3. Elevation of the Tor di Gelsa, in the Island of Lesina. Fig. 4. Plan of the Tor di Gelsa.

#### DISCUSSION.

Mr. HYDE CLARKE said that Captain Burton's paper was of the greater interest, as he had observed that in Istria and Dalmatia the ancient names were largely pre-Hellenic, and conformed to those in Etruria, Hellas, Asia Minor, and generally to the Sumerian class.

Prof. HUGHES said that Captain Burton had brought before them the results of his observations on three quite unconnected remains in different parts of the country. 1st, there were the neolithic remains on the island; 2nd, the ancient camp; and 3rd, the old walls. With regard to Captain Burton's remarks on the first, he thought that, whatever reason there might be for supposing that great changes had taken place in the physical geography of the Mediterranean area since the diminutive Maltese elephant and its contemporaries had walked from Africa to Malta and Europe, or that Palæolithic man had looked on a shore very different from what we see there now, still we have no evidence that would justify our assuming that the Adriatic islands had been cut off from the mainland since neolithic times, even though we know that along the lines of volcanic activity considerable changes of level have taken place in historic times. With regard to the second set of phenomena, it was interesting to find that in that part of Europe, as in Britain, the races which immediately preceded historic times built the same kind of camp, occupying a hill-top and throwing up irregular lines where necessary, and where the position could be most easily defended, but which had no constant size or form. Pottery, however, he thought, was an uncertain test of age when applied to the correlation of remains found in districts far apart and countries imperfectly worked out. For instance, he had seen pottery being manufactured on the northern spurs of the Pyrenees which differed in no respect from that found in caves with the remains of primæval man in the same district. He objected to Captain Burton's definition of Cyclopean and Pelasgic, pointing out that the term Pelasgic had got into disrepute among ethnologists because, if applied to everything pre-Hellenic, it was too vague for their purpose, and when limited, the limitations had been generally founded upon unwarrantable assumptions. Cyclopean was used for those ancient walls, built of stones so enormous that fancy called up giants for their construction. But there was not sufficient evidence to fix the relative age of Pelasgic and Cyclopean, or to justify such a new application of old words as that suggested.

Mr. MOGGRIDGE suggested whether the object of which a model was exhibited may not have been a Muller. It closely resembles a Muller which he found in disinterring one of the most ancient churches in this island, that had long been hidden from the eye of man; so long, indeed, that when he went to work the only clue he had was that tradition said, "under that sand-hill lies the ancient church." If this be a Muller, it may indicate the nationality of those who at one time occupied the spot on which it was found.

The PRESIDENT remarked that as Captain Burton had alluded to the resemblance between the Castellieri he had spoken of and some of the hill forts, described by him (the President), in the "Archæologia," it might be useful to say a few words on that point. It was certainly remarkable, but by no means surprising, that such a resemblance should exist, the chief feature of which appeared to him to consist in the fact of their being situated on the tops of hills,

remote from water, security against attack being the main object sought, and implying a condition of constant warfare between tribe and tribe. A thickly overgrown, marshy, and unhealthy lowland country would also have this result. Whereas, in times corresponding to the Roman era, the encampments and other habitations were often situated in low ground, and generally near water, showing that in a higher condition of culture the interior economy, comfort, and convenience of the inhabitants were beginning to be better looked after. The casts of spear-heads exhibited by Captain Burton, the originals of which are said to be of copper, are of the kind more usually constructed of bronze, and are of what may be called the northern type; that is to say, they are leaf-shaped, with a medial rib, and provided with sockets, the whole of which is cast; corresponding in all respects to those found in England, Denmark, France, Germany, and eastward as far as Siberia, and differing essentially from those found in the island of Cyprus, from those discovered on the site of Troy by Dr. Schlieman, from some of those used in ancient Egypt, and from those found in Hindustan, in which the spear-heads are either fitted into the shafts by means of tangs on the sockets, or formed by being cast flat, and afterwards bent over the head of the shaft, leaving a longitudinal slit at the point of junction. This is a noteworthy distinction between the implements of the two regions. The fragments of pottery exhibited appear to be of at least two kinds; a fine description, corresponding to what we should in this country call Roman; and a somewhat coarser kind, containing grains of quartz, resembling what we might here term Romano-British; but there is none of the looser, ill-baked kind, which is characteristic of early British pottery. Captain Burton had been so kind as to make him a present of these casts for his collection at Bethnal Green, and he need hardly say that he regarded them as of the highest value and interest.

The author briefly replied.

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Mr. Rudler read a communication from Mr. HORACE B. WOODWARD, describing a wooden image and a spear-head discovered near Newton Abbot. They were found by workmen in the employ of Messrs Watts, Blake, Bearne, and Co., clay merchants, of Newton Abbot, by which firm they were exhibited.

In digging for the pipe and potters' clay belonging to the Bovey formation, and which occupies the greater part of the valley between Bovey Tracey and Newton Abbot, there is always met with a superficial accumulation of gravel, sand, and mud, called the "Head" (and sometimes "Pengelly's Head"). This gravelly deposit has no connection with the Bovey deposit, being comparatively of very recent date; nevertheless, when looked at in a large way, and traced on the ground, it is found to extend up the hill-sides at Woolborough and Milber Down, to a height of 330 and 420 feet, and, indeed, in one place, to