Proceedings of International Congress of Speleology in Artificial Cavities

HYPOGEA2015

Roma, 11/17 Marzo 2015
CNR - Consiglio Nazionale delle Ricerche, Sala Marconi
Comune di Roma - Musei Capitolini, Sala Pietro da Cortona
© Hypogea Ricerca e Valorizzazione Cavità Artificiali

Supplemento al numero 1/2015
Opera Ipogea - Journal of Speleology in Artificial Cavities
Memorie della Commissione Nazionale Cavità Artificiali
www.operaipogea.it
Semestrale della Società Speleologica Italiana
Autorizzazione del Tribunale di Bologna n. 7702 dell’11 ottobre 2006

Coordinamento Editoriale
Mario Parise
Carla Galeazzi, Roberto Bixio, Carlo Germani

Comitato Scientifico
Mario Parise (President), Kyung Sik Woo, George Veni, Fadi Nader, Mladen Garašič,
Philipp Häuselmann, Boaz Zissu, Michele Betti, Roberto Bixio, Vittoria Caloi,
Sossio Del Prete, Andrea De Pascale, Carla Galeazzi, Mario Mazzoli, Adriano Morabito,
Roberto Nini, Cristiano Ranieri, Stefano Saj, Simone Santucci.

Comitato Organizzatore

Composizione ed impaginazione
Carlo Germani

Progetto grafico
Carla Galeazzi

Foto di copertina
Andrea Bixio

Foto IV di copertina
E.A. Uzel, M. Vattano, M. Vitelli, E. Aygün, G. Belvederi, C. Crescenzi, L. Sanna, G. Cresciani

Stampa
AGE Arti Grafiche Editoriali Srl
Via della Stazione, 41 - 61029 Urbino - Tel. (+39)0722.328756 - commerciale@ageurbino.it

Con il contributo di
International Union of Speleology
Società Speleologica Italiana
Contents

Preface Carla Galeazzi, Mario Parise ................................................................. 7

UIS Artificial Cavities Commission Mario Parise ........................................ 9

Opera Ipogea - Journal of Speleology in Artificial Cavities Stefano Saj .......... 11

**SESSION 1 - HYPOGEAN CIVILIAN DWELLINGS**

New surveys on underground structures in Cappadocia: a dialogue between art historians, conservators, archaeologists and speleologists
Andaloro Maria, Benucci Michele, Bixio Roberto, De Pascale Andrea, Romagnoli Giuseppe .......................... 15

Cave settlements in Southern Apulia. Rupestrian evidence in the Valleys of Otranto
Calò Stefano ............................................................................................................ 30

The San Pellegrino rock-hewn complex at Matera: a magnificent example of the rupestrian culture in Southern Italy
Lionetti Gianfranco, Borneo Vito, Santarcangelo Samantha, Pelosi Marco, Viva Marco, Parise Mario .............. 41

A huge cultural and historical heritage at risk: the underground settlements of Southern Italy
Parise Mario ............................................................................................................. 53

The rupestrian heritage of Djabal Nafūsa: a study on settlements and architectural forms
Polimeni Beniamino ................................................................................................. 61

Underground anthropogenic landscape in the Armenian Highland: from the Late Stone Age to the Middle Ages
Shahinyan Samvel, Davtyan Smbat, Pogrosyan Gacik ............................................. 64

Artificial caves cut into cliff tops in the Galilee and their historical significance
Shivtiel Yinon ............................................................................................................ 67

Dovecotes and cave dwellings of Gesi - Kayseri (Turkey)
Tok Ezgi, Yamaç Ali .................................................................................................. 77

Cave dwellings of Halfeti - Urfa (Southeastern Turkey)
Yamaç Ali .................................................................................................................. 82

Surveying some of the touristic underground cities of Cappadocia (Turkey)
Yamaç Ali, Tok Ezgi .................................................................................................. 86

Underground cities of Kayseri (Turkey)
Yamaç Ali, Tok Ezgi, Filikci Betul ............................................................................ 92

The necropolis of Hellenistic Maresha Judean Foothills, Israel
Zissu Boaz, Kloner Amos ......................................................................................... 100

**SESSION 2 - HYDRAULIC UNDERGROUND WORKS**

Lost Costantinople: subterranean water structures - application of speleology techniques in the archaeological research
Aygün Çiğdem Özkan, Eğilmez Ali Hakan ............................................................. 117

Urban hydrographic network of Genoa’s historic centre: the underground course of the Fossatello stream
Bixio Roberto, Saj Stefano, Traverso Mauro ............................................................ 129

Ancient and medieval underground hydro-technical structures of Armenia
Davtyan Smbat R. .................................................................................................... 141
The old aqueducts of the Valley of Logulentu (Sassari, Sardinia)
Dore Pier Paolo, Dallocchio Eleonora ................................................................. 145

A new stretch of the *Turris Libisonis* aqueduct in Punta di lu Cappotto (Porto Torres, Sassari, Sardinia):
preliminary considerations and recent acknowledgements
Dore Pier Paolo, Piras Giuseppe ........................................................................ 149

The Campanian Aqueduct stairway rediscovered
Ferrari Graziano, Lamagna Raffaella ................................................................... 159

Shafts and survey errors of ancient tunnel engineering in Jerusalem and Caesarea water systems, Israel
Frumkin Amos ...................................................................................................... 170

The Albano outlet (Castel Gandolfo, Rome, Latium): the Project Albanus and new acquisitions
Galeazzi Carla, Germano Carlo, Casciotti Luigi .................................................. 178

Trajan Aqueduct: the Santa Fiora branch
Germano Carlo, Colombo Vittorio ....................................................................... 192

Water tunnels of Güvercinlik Valley (Cappadocia, Turkey)
Gilli Eric, Yamaç Ali ............................................................................................. 202

Survey, analysis and relevant interpretation of further interventions in the underground site of Claudium
(Rome)
Gradozzi Marco .................................................................................................. 208

Water supply tunnels of Istanbul Küçüçkemceke lake basin (Bathonea)
Kuruçayır lí Emre, Eğilmez Ali Hakan, Küçükhali Gülsen, Albukrek Metin, Uzel Elif Aytekin, Aydıngün Şengül G. .... 214

Issues concernig ancient roman aqueducts
Lombardi Leonardo, Santucci Elettra ................................................................... 221

Infiltration galleries, ancient constructions and geology integrated in the landscape of Nemi Maar
(Alban Hills, Central Italy)
Loret Emanuele, Medici Franco, Medici Giacomo, Testana Carlo .......................... 229

The map of the ancient underground aqueducts in Italy
Parise Mario, Galeazzi Carla, Germano Carlo, Bixio Roberto, Del Prete Sossio, Sammarco Mariangela ................. 235

The Aqueduct Paul: new archaeological discoveries
Ranieri Cristiano, Felloca Elena ............................................................................ 244

**SESSION 3 - MINING WORKS**

The Cozzo Disi mine (Casteltermini, Sicily, Italy) a multi-disciplinary approach to record, study, preserve and
develop the mining heritage in Sicily
Badino Giovanni, Chiappino Claudia, D'Aquila Antonio, Fiorenza Fiorenzo, Spitaleri Giuseppe, Vattano Marco ... 251

Ancient underground channels near Orvieto
Bilocchi Edwardo, Morucci Marco ........................................................................ 258

Perticara mine (Emilia-Romagna, Italy): first re-exploration, documentation and problems
Belvederi Giovanni, Garberi Maria Luisa ............................................................. 262

An underground historical quarry in the Hanbury Botanical gardens of Ventimiglia (Italy)
Faccini Francesco, Corvi Marco, Perasso Luigi, Raso Emanuele, Mariotti Mauro G. ........................................ 269

Sarmanovsky copper mine
Gunko Alexey ...................................................................................................... 277
Abandoned and deactivated mines in the Eastern Italian Alps (Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia)

Laureti Lamberto ..................................................................................................................................................... 281

Formignano mine: a study for the research project of Emilia-Romagna Regional Speleological Federation “Eastern Romagna Gypsum and Sulphur”

Ponti Elisa ............................................................................................................................................................... 283

An ancient highway to the tufa quarries. New considerations on a forgotten monument North of Rome

Schatzmann Andreas .................................................................................................................................................... 292

Underground history of Domodedovo District

Yanovskaya Ekaterina, Garshin Dmitry .................................................................................................................. 305

SESSION 4 - RELIGIOUS - CULT STRUCTURES

Artificial Christian religious cave “Skanovo” in the Penza Region, Russia

Agapov Ilya, Leontiev Mihael .................................................................................................................................... 319

Religious buildings in Ortahisar (Turkey). The survey of the complex of Sakli and Ali Torun Kilise

Crescenzi Carmela, Giustiniani Claudio, Ricchera Giacomo .................................................................................. 323

Man made cavities on the South-East side of the Albano lake, within the Albano Volcanic Area (SE of Rome, Italy)

Felici Alberto, Cappa Giulio, Cappa Emanuele ........................................................................................................ 336

Armenian central dome churches, the issue of their rock carved samples and the miphological bases of Armenian architecture

Shahinyan Samuel M. ............................................................................................................................................... 343

Caves in Divnogorye and Belogorye: monastic and folk tradition in the river Don caves construction

Stepkin Vitaliy Viktorovich ....................................................................................................................................... 351

The artificial cavities of Bulgaria

Zhalov Aleksey ..................................................................................................................................................... 355

SESSION 5 - ARCHAEOLOGICAL STUDIES

Archaeological study of Kvemo Kartli region rock-cut monuments in Georgia

Bakhtadze Nodar ......................................................................................................................................................... 361

The underground cemetery of San Senatore

Libera Roberto .......................................................................................................................................................... 373

Artificial cavities within the hill of Prima Porta (Rome, Italy)

Pellandra Davide Ivan ................................................................................................................................................ 378

SESSION 6 - NEW TECHNOLOGIES FOR ARTIFICIAL CAVITIES

Rock hewn architecture survey: the problem of construction of the geometrical model

Carpiceci Marco, Cresciani Giovanna, Angelini Andrea ............................................................................................. 389

Potential and limitations of new technologies for the survey of morphology and colour of rupestrian habitat

Carpiceci Marco, Inglese Carlo, Colonnese Fabio ................................................................................................... 399

Recent developments of 3D scanning in real time

Catoni Gabriele .......................................................................................................................................................... 408

Laser scanner survey and tru view applications of the “Grotta della Lucerna” (Ravenna, Italy), a Roman mine for Lapis Specularis

Santagata Tommaso, Lugli Stefano, Camorani Marco Ennio, Ercolani Massimo ...................................................... 411
SESSION 7 - TYPOLOGIES, SYMBOLS, TERMS AND CADASTRE OF ARTIFICIAL CAVITIES

Underground structures from Istanbul Çatalca/Maltepe
Aydıngün Şengül G., Eğilmez Ali Hakan, Aydıngün Haldun, Gürbüz İlker, Gürbüz Gülhun, Albukrek Metin, Küçükali Gülşen, Kuruçayırlı Emre, Erdem Bülent .......................................................... 419

Contribution to the definition of cartographic symbols for artificial cavities
Bixio Roberto, Saj Stefano, De Pascale Andrea .................................................................................................................. 429

The underground cavities in the territory of Rome: typologies, distribution and sinkhole susceptibility
Ciotoli Giancarlo, Ferri Gianluca, Nisio Stefania, Succhiarelli Claudio ................................................................. 433

Classification of artificial underground structures
Dolotov Yuri .................................................................................................................................................................................. 440

Terms about artificial cavities in UIS caver’s multi-lingual dictionary
Garašič Mladen ............................................................................................................................................................................. 455

First remarks on some very interesting artificial cavities in Croatia
Garašič Mladen, Garašič Davor ........................................................................................................................................ 458

The Cadastre of artificial cavities of Rome and Lazio
Germani Carlo, Galeazzi Carla, Galeazzi Sandro ...................................................................................................................... 464

Artificial caves of Divnogorye (Russia)
Gunko Alexey, Kondratyeva Sofya .......................................................................................................................................... 469

The UIS symbol set for cave maps and its possible extension for artificial cavities
Häuselmann Philipp ......................................................................................................................................................................... 476

SESSION 8 - MISCELLANEOUS

The (underground) architecture as subtractive act
Di Donato Stefania ......................................................................................................................................................................... 485

The galleries of Palmanova (Friuli-Venezia Giulia, NE Italy)
Feresin Fabio, Diqual Augusto, Giacomin Antonio .................................................................................................................. 490

Exploration and documentation of underwater artificial structures
Mazzoli Mario ..................................................................................................................................................................................................... 499

Speleology in artificial cavities and archaeoastronomy: the cave of Casnea in Briaglia (Cuneo, Italy)
Milla Fabrizio .................................................................................................................................................................................................. 507

Subaqueous anti-stalactites: a new type of speleothem from the old aqueduct of Sassari (Sardinia, Italy)
Sanna Laura, Forti Paolo ................................................................................................................................................................. 511

Palaeoclimate and palaeoenvironmental reconstructions from speleothems in artificial caves (Lazio, Italy)
Tuccimei Paola, Soligo Michele ......................................................................................................................................................... 519

Urban undergrounds: the worldwide perspective
Varriale Roberta ........................................................................................................................................................................................................ 525

AUTHORS INDEX
..................................................................................................................................................................................................... 537

GUIDED TOUR “HYPOGEA2015” ................................................................................................................................................................. 539
For the first time the city of Rome hosts a speleological event of wide interest and international relevance. Rome is a site naturally entrusted to receive cavers and scholars from all over the world, since, beyond being the capital of a country with a remarkable archaeological richness, its subterranean cultural and historical heritage is worldwide known. Such an extraordinary underground resource must be better known, safeguarded and exploited, in a way similar to that of the very famous Roman monuments. In this setting, that is one of undoubted attraction for the foreign colleagues, we had however to face great difficulties in organizing the event.

Two years of work, with 70 contributions from 122 authors, and participants from 11 countries, in addition to Italy: Armenia, Bulgaria, Croatia, France, Germany, Georgia, England, Israel, Czech Republic, Russia, Switzerland, Turkey. We meet to discuss and compare the experiences acquired in the field of speleological and cave-scuba diving surveys in underground settlements, catacombs, quarries, rock-cut churches, ancient aqueducts, drainage tunnels, and abandoned mines. Looking at the large amount of works received and published in the Congress proceedings, it appears clear that the speleology in artificial cavities has done significant improvements in the last years, and nowadays it takes advantages of multi-disciplinary expertise from important collaborations with different categories of professionals (geologists, archaeologists, architects, engineers, etc.), and of the new available technologies as well: 3D scanners, drones (unmanned aerial vehicles, UAV), underwater and land robots.

The images in the front cover of the proceedings testify that the difficulties encountered in surveying environments with peculiar factors of risk may be overcome by techniques and tools that include, but are not limited to, the simple topographic survey, and the most sophisticated and updated technologies as well.

At the same time, it appeared also evident the need to proceed toward the definition of international standards for adopting a common cartographic symbology for artificial cavities, a multi-language dictionary specific for artificial cavities, the implementation of an internationally-shared computer network (within the framework of the International Union of Speleology - UIS), with the possibility to extend to such context some Italian projects of great importance, such as the Map of the Ancient Underground Aqueducts, since several years carried out by the Commission on Artificial Cavities of the Italian Speleological Society (SSI).

The round table, dedicated to the Italian situation, represents the successful completion of the congress sessions, and allows a discussion among experts and bodies appointed for the safeguard of the historical, cultural and environmental heritage of the subterranean world in Italy, with particular regard to the aspects of exploitation of the underground environment, and the related risks.

We hope that the visits to some Roman hypogea, and the post-congress excursions could show good examples of the prevailing typologies of artificial cavities in Italy. The Congress was organized by the Federation HYPOGEA – Research and Exploitation of Artificial Cavities, with the patronage and/or collaboration of International Union of Speleology (UIS), Italian Speleological Society (SSI), Department of Sciences of the Earth System and Technologies for the Environment of the National Research Council of Italy (CNR), Institute of Research for the Hydrological Protection (IRPI) of CNR, Regional Park of the Roman Castles, Italian Society of Environmental Geology (SIGEA), and in synergy with the UIS and SSI Commissions on Artificial Cavities.

We deeply thank CNR for hosting the Congress in the Marconi Hall, and the Director of the Musei Capitolini, Claudio Parisi Presicce, for hosting the round table in the Pietro da Cortona Hall. Without this crucial support from the two bodies, the congress could had not been taken place in Rome.

Eventually, a sincere acknowledgment to all the participants, with the auspice that the international congresses and meetings might have in the next future a cyclic nature, in order to allow a constant discussion on the issues regarding artificial cavities. This is the main aim promoted by the UIS Commission on Artificial Cavities, as testified by the previous meetings: the 2012 Workshop in Turin, dedicated to “Classification of the typologies of artificial cavities in the world”, and the successful session on the theme “Speleological research and activities in artificial underground”, within the framework of the 16th International Congress of Speleology, held at Brno (Czech Republic), in 2013.

Therefore, see you at the next meetings ...

É la prima volta che la città di Roma ospita un evento speleologico di così ampio respiro e di rilievo internazionale. Luogo naturalmente deputato ad accogliere speleologi e ricercatori da tutto il mondo, sia perché capitale di una nazione che possiede una immensa ricchezza archeologica, sia perché da sempre il patrimonio ipogeo di Roma è conosciuto a livello mondiale. Tale incredibile risorsa sotterranea deve essere, al pari di quella costituita dai suoi celeberrimi monumenti, resa nota, tutelata e valorizzata. In tale contesto, di indubbia attrazione per i colleghi esteri, vi sono però state enormi difficoltà organizzative che hanno reso particolarmente
complesso l’allestimento dell’evento.
Due anni di preparazione, con 70 contributi da 122 autori, relatori e partecipanti provenienti da 11 nazioni, oltre l’Italia: Armenia, Bulgaria, Croazia, Francia, Germania, Georgia, Inghilterra, Israele, Repubblica Ceca, Russia, Svizzera, Turchia. Ci si incontra per porre a confronto le esperienze acquisite nel campo delle indagini speleologiche e speleosubacquee in città sotterranea, catacombe, cave, chiese rupestri, antichi acquedotti, emissari, miniere ormai dismesse.
Dalla vasta mole di materiale pervenuto e pubblicato negli atti del Congresso appare evidente che questa particolare branca della speleologia ha compiuto un importante salto di qualità rispetto agli esordi, e si avvale oggi di competenze multi-disciplinari derivanti da importanti collaborazioni con varie categorie di professionisti (geologi, archeologi, architetti, ingegneri, ecc.) e dell’ausilio di tutte le nuove tecnologie disponibili: scanner tridimensionali, droni (velivoli radiocomandati con pilota remoto), robot subacquei e terrestri. Le immagini di copertina esprimono chiaramente che le difficoltà di indagine in ambienti a particolare fattore di rischio vengono superate con mezzi che vanno dal semplice rilievo topografico manuale alle più sofisticate tecnologie del momento.
È apparso altresì evidente che particolare attenzione vada posta a tutelare e valorizzare cavità artificiali, con la definizione di standard internazionali per l’adozione di simbologia cartografica comune, di un dizionario multilingue specialistico per le cavità artificiali, la creazione di una rete informatica condivisa a livello internazionale (in ambito della International Union of Speleology - UIS) con possibilità di estendere a tale contesto progetti italiani di rilevante importanza, quali ad esempio la Carta degli Antichi Acquedotti, da anni condotto dalla Commissione Cavità Artificiali della Società Speleologica Italiana.
La tavola rotonda rivolto alla realtà italiana rappresenta il coronamento delle sessioni congressuali e pone a confronto esperti ed Enti preposti alla tutela del patrimonio storico, culturale e ambientale del mondo ipogeo in Italia, con particolare riguardo agli aspetti di valorizzazione e rischio dell’ambiente sotterraneo.
Ci auguriamo che le visite ad alcuni ipogei romani e le escursioni post-congressuali possano rappresentare un quadro significativo delle tipologie prevalenti in Italia, pur nei limiti imposti dal tempo.
Il Congresso è stato organizzato dalla Federazione HYPOGEA - Ricerca e Valorizzazione Cavità Artificiali con il patrocinio e/o collaborazione di International Union of Speleology (UIS), della Società Speleologica Italiana (SSI), del Dipartimento Scienze del Sistema Terra e Tecnologie per l’Ambiente del Consiglio Nazionale delle Ricerche (CNR), dell’Istituto di Ricerca per la Protezione Idrogeologica (IRPI) del CNR, del Parco Regionale dei Castelli Romani, della Società Italiana di Geologia Ambientale (SIGEA) ed in sinergia con le Commissioni Cavità Artificiali di UIS e SSI.
Si ringrazia il CNR per la concessione della Sala Marconi, sede congressuale, ed il Soprintendente Direttore dei Musei Capitolini dottor Claudio Parisi Presicce per la concessione della Sala Pietro da Cortona che ospita la tavola rotonda. Senza il rispettivo imprescindibile supporto il congresso non avrebbe potuto svolgersi a Roma.
Infine un sentito ringraziamento a tutti i partecipanti, con l’auspicio che gli appuntamenti congressuali internazionali possano tornare ad acquisire una periodicità tale da consentire un confronto costante sulle tematiche che sono alla base dei nostri studi.
E’ questo un obiettivo che la Commissione UIS sulle Cavità Artificiali, a guida italiana dal 2009, sta cercando di promuovere e realizzare, facendo seguito con Hypogea 2015 al Workshop organizzato nel 2012 a Torino, dedicato alla “Classification of the typologies of artificial cavities in the world”, ed al successo della sessione sul tema “Speleological research and activities in artificial underground”, nell’ambito del 16° Congresso Internazionale di Speleologia tenutosi a Brno, in Repubblica Ceca, nel 2013. Quindi, arrivederci ai prossimi appuntamenti…
THE COMMISSION ON ARTIFICIAL CAVITIES
OF THE INTERNATIONAL UNION OF SPELEOLOGY

Mario Parise
National Research Council of Italy, IRPI, Bari, Italy
President of the UIS Commission on Artificial Cavities

After the 15th International Congress of Speleology, held at Kerrville (USA) in July 2009, the Commission on Artificial Caves of the International Union of Speleology (UIS) was re-organized, and the task to give a new life to the Commission was appointed to the Italians, that in the years immediately preceding the Kerrville Congress were without any doubt among the most active and productive in this field of speleology. Italy, on the other hand, is worldwide known for the high richness of archaeological sites, that include many different types of spaces carved, dug or re-adapted by man in the underground environment. Such a great variety of typologies makes extremely stimulating, from one side, and highly complex, on the other, the study and analysis of artificial cavities. It was not a case, therefore, that the first efforts of the new Commission were addressed toward a definition of the classification of artificial cavities.

Among the main initial purposes of the Commission on Artificial Caves we list the following:
- inventory and cataloguing of artificial cavities in accordance with procedures established and accepted at an international level;
- geographical documentation of each territory and its peculiarity;
- support and coordination during scientific research and exploration;
- to contribute in developing proper land management, integrating the tools and codes of the local governments;
- the protection and enhancement of the urban environment and the cultural heritage.

The above issues, and in particular the need to standardize a classification, were dealt with in 2012, with the organization of a specific international workshop, dedicated to “Classification of the typologies of artificial caves in the world”, held on May 18-20, 2012, in Turin (Italy). The eleven invited lectures covering several aspects of the classification of artificial cavities, the additional 10 posters, and a final discussion devoted to establishing a general classification of artificial cavities, formed the basis of the workshop proceedings, that were published in a special issue of the journal Opera Ipogea (Parise, 2013). Starting from the original classification proposed by the Italian Commission on Artificial Caves during the late 90’s, the interesting discussions at the Workshop in Turin brought the UIS Commission to adapt the Italian classification, with slight changes and improvements, as the official classification of artificial cavities (Parise et al., 2013). This was presented at the 16th International Congress of Speleology in Brno, within the framework of the session entitled “Speleological Research and Activities in Artificial Underground”. The session was very successful, receiving 18 abstracts from 10 different countries worldwide, that were organized into oral and poster presentations, and included in the volume 2 of the Congress Proceedings (Filippi & Bosak, 2013). Organization of this congress in Rome, under the title “Hypogea 2015” was the next step. Since the very re-start of the UIS Commission we were looking forward to an event in Rome, that is, to us, among the most appropriate places in the world to discuss about artificial cavities, history and the underground. It was not easy, but, thanks to the hard works of several Commission members, eventually you have today in your hands this heavy book of proceedings, that is by itself a precious reward for the efforts we put into this adventure. The overall quality of the articles presented, accepted for publication after a careful peer-review process, satisfies us, and we hope all of you will eventually share our positive feeling.

Further, the new contacts established with other Commissions and Working Groups of UIS have to be mentioned. In our opinion, in fact, one of the weak points of the UIS Commissions is represented by the fact that in the past too often they worked individually, with very few attempts in putting together the forces among near themes or issues. Thus, the presence in Rome, at Hypogea 2015 of two Chairmen of different Working Groups of the UIS Informatics Commission (respectively, the Working Group on Caver’s Multi-Lingual Dictionary, and the Working Group on Survey and Mapping) is important to testify the reciprocal will to co-operate, and to discuss these themes also in the fields of the artificial cavities, pointing out to the differences with natural caves, and the peculiarities of the man-made voids. The available version of the Caver’s Multi-Lingual Dictionary (see http://www.uisic.uis-speleo.org/lexintro.html) could be integrated by adding terms typically used for artificial cavities. On the other hand, the basic cave mapping symbols for cave surveys, developed by the Survey and Mapping Working Group (see http://www.uisic.uis-speleo.org/wgsurmap.html) could be integrated by adding symbols related to artificial cavities.

To all of the above, contacts with another UIS Commission, that on Pseudokarst, need to be added, too. In a few words, we are trying to link together cavers, scholars and scientists dealing with artificial cavities, from many different disciplines, and with a variety of expertise, strongly convinced that only through a multi-disciplinary approach the analysis of artificial cavities can be considered exhaustive.

To disseminate the activities carried out by the Commission Members, and to spread news about works in artificial cavities, publications, meetings and conferences, a Newsletter of the Commission
was created, starting from 2013. Realized in digital format, and edited by Luc Stevens, it has been so far published once per year, distributed through e-mail services to interested people, and made available at the Commission website as well.

On the spur of the moment raised by Hypogea 2015, some colleagues have already proposed a follow-up of the Congress, to be organized within two years in Turkey (Hypogea 2017). The idea is fascinating, and goes exactly in the direction we were hoping, that is to give continuity to our activities, researches and meetings, in order to continuously discuss about artificial cavities. And we should not forget that in 2017 there will also be the 17th International Congress of Speleology in Australia, where we plan to be present with a specific session on artificial cavities.

As you can see, much work has been done, but there still is forward a long way to go... This means that help, in terms of new ideas and collaboration, are always welcome in the Commission!

So far, the UIS Commission on Artificial cavities is formed by 12 members from the following 8 countries: Italy, Belgium, France, Great Britain, Ireland, Israel, Netherlands, Turkey.

References

UIS Commission on Artificial Cavities (as on March, 2015)

President: Mario Parise (Italy) - m.parise@ba.irpi.cnr.it
Vice President: Joep Orbons (Netherlands) - j.orbons@xs4all.nl
Secretary: Carla Galeazzi (Italy) - carla.galeazzi3@alice.it

Ordinary members:
Roberto Bixio (Italy)
Martin Dixon (Great Britain)
Hakan Eğilmez (Turkey)
Jean Francois Garnier (France)
James Mc Carthy (Ireland)
Luc Stevens (Belgium)
Jerôme Triplet (France)
Laurent Triplet (France)
Boaz Zissu (Israel)
The idea of the journal “Opera Ipogea” was launched in 1995 by the National Commission for Artificial Cavities of the Italian Speleological Society. The first issue, published in 1999, was a monograph entitled “The underground cities of Cappadocia”. Since then the magazine is sold by subscription and until 2004 it was printed by the Erga publishing house; in 2005 the Italian Speleological Society, owner of the journal, became also its publisher.

In 2013 Opera Ipogea opens a window on the web (www.operaipogea.it): adapting to the challenges of communication 2.0, it becomes easily trackable by all, makes available with free download an archive of the past issues, offers contents and images, and provides information about subscription.

The initial purpose was and remains to interlace and coordinate international studies and researches to summarize the complexity and richness of the underground cavities: urban speleology, speleology in artificial cavities, underground archeology, speleology for archeology, anthropogenic underground sites of historical interest. Sixteen years later Opera Ipogea is still here, having changed its format from medium size book to a journal style. Some numbers: 254 articles, 264 different Italian and foreign authors, 22 miscellaneous, 7 monographs, 3 conference proceedings and 2 supplements.

A well coordinated and collaborative network of partnerships and a scientific committee with leading international experts support the journal editorial staff of Opera Ipogea, that has become the leading journal in the world as concerns speleology in artificial cavities. For this reason, since few years, the original title has been extended to “Journal of speleology in artificial cavities”, and the journal enriched with several articles in English.

Different ways and different skills produced an activity that, starting from the ground of our country, has reached Turkey, Tunisia, Jordan, Libya, Israel, Malta and China.

The importance of this now known as “speleological journal”, thanks to the interest that is acquiring in the international field, is undoubtedly linked to the ability to make available to scholars and researchers a systematic and organic documentary archive of extraordinary importance about underground anthropogenic structures over the centuries.

From this remarkable descriptive, documentary and photographic data-base are emerging stories of hundreds of underground places, not just those best known to the general public, but also those of smaller countries that could certainly identify, in the published studies, new and important opportunity to promote the history, culture and tourism of the territory.

Following this editorial line our audience has expanded and have joined, over the years, curious readers particularly interested on the most evocative aspects of the historical and archaeological underground heritage. Today our journal has become also an essential bridge between archeology and “not just speleology”.

There is still much to do, to document and to say: Opera Ipogea has chosen the quality and commitment way to do this.

Opéra Ipogea
Journal of Speleology in Artificial Cavities
Memorie della Commissione Nazionale Cavità Artificiali
Semestral journal of the Italian Speleological Society
ISSN (International Standard Serial Number) 1970-9692
www.operaipogea.it
operaipogea@socissi.it