

Mafs Workshop 2

Estratti degli interventi

Nel periodo dal 20 al 23 settembre 2006, si è svolto a Malta il secondo Mafs-Workshop, organizzato dal Mediterranean Academy of Forensic Sciences.

La definizione delle attività del Mafs sono riassumibili nella presentazione ricavata dal sito web dell'Istituto: "The Academy aim is to realize an exchange of informations and a collaboration among all the experts on the Forensic Sciences (forensic psychiatry, bioethics, legal odontology, genetics, fingerprinting, toxicology, ballistics, materials analysis, digital reconstruction, legal medicine, criminology) with the aim of improve the actual strategies to prevent the crime in its various forms and to discover and to deliver the offenders to justice of the single countries".

Il convegno del 2006, cui hanno partecipato ricercatori e specialisti di varie nazioni, non ha sfortunatamente prodotto degli atti pubblicabili per intero. In accordo con la dirigenza del Mafs, Antrocom Online ha deciso, considerando il valore delle problematiche discusse, la pubblicazione almeno degli estratti di tutti gli interventi.

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1.

Title: Optimizing the number of cold hits in DNA databases

By: Moreau-Horwin, Raphaela, MA, MFS

Aims: This study was designed to compare DNA databases within the United States to determine which factors optimize the number of "Cold Hits." Cold Hits allow authorities to solve crimes by matching the DNA profile from an unsolved crime to an offender in the database.

Background: Although every state's DNA database is linked through the FBI database CODIS, each state's database is unique. There are many differences among states including: types of criminals included, maturity of the database,

and the number of offenders and queries.

Method: Eight states with varying levels of success in using their respective databases to identify Cold Hits answered a 22 question survey. These responses were then analyzed and various associations identified.

Results: The effectiveness of a state's DNA database in optimizing the number of Cold Hits depends upon several variables including: the number and types of profiles in the database, the age of the database, and the number of unsolved crimes queried.

Conclusion: To optimize the number of Cold Hits all felons should be entered into the database, backlogs should be eliminated, and the maturation of the database should be considered.

2.

Title: DNA Profiling of Degraded Skeletal Material

By: Dr. William Goodwin

DNA profiling has become an important tool for forensic investigations and has been used widely to assist in the identification of individuals that have been subjected to extreme environmental insult.

Two variations of the classic phenol-chloroform method were tested on samples recovered from four different sites in Kuwait that contained victims of the First Gulf War. The extractions were undertaken with and without the chemical N-phenacylthiazolium bromide (PTB). PTB has been found to be effective in releasing DNA from ancient DNA samples, acting by breaking some of the chemical bonds that form between the bone matrix and the DNA over time.

Reactions that contained PTB yielded both larger amounts of DNA and also longer pieces of DNA. This allowed conventional STR profiling to be undertaken on most of the samples tested and also enabled the successful genotyping of large loci, thereby increasing the power of the DNA analysis.

3.

Title: SNP Typing in Forensic Genetics

By: Niels Morling, Claus Boeristing, Jonas Mengel-Joergensen, Juan Sanchez.

Department of Forensic Genetics, Institute of Forensic Medicine, University of Copenhagen, 11 Frederik V's Vej, DK-2100 Copenhagen, Denmark.

Single Nucleotide Polymorphisms (SNPs) typing has been introduced to various branches of forensic genetics. Identity and relationship testing with SNPs have certain advantages that relate to the facts that SNPs with short amplicons are well suited for typing partly degraded DNA, that SNPs have low mutation rates, which make them useful for paternity and relationship testing, and that SNP typing has a high potential for automation. When SNPs are used in paternity and crime case testing, 50 – 100 SNPs are needed to obtain useful results.

We present our preliminary results of multiplex PCR SNP typing of forensic samples with limited amounts of DNA, paternity and immigration cases. The SNP typing was performed with single base extension (SBE) and capillary electrophoresis with multi colour detection with equipment that is in general use in forensic laboratories. We also present preliminary results obtained by Maldi-Tof mass spectrometry for the detection of the SNPs.

Certain physical traits such as the colour of the hair, eyes, skin, etc. are genetically controlled. The genetics behind the traits is complex but certain SNPs are associated with physical traits. We present a multiplex PCR with 20 SNPs in the three genes *mcr1*, *matp* and *oca2* that are associated with the colours of skin and hair.

4.

Title: Inferring geographic origin using autosomal ancestry-informative markers in a single multiplex assay

By: Chris Phillips and Angel Carracedo

Institute of Legal Medicine, University of Santiago de Compostela, Spanish National Genotyping Center

Knowledge of the geographic origin of a DNA sample is increasingly important as a pre-requisite for admixture mapping, design of association studies and in the analysis of differences between populations in susceptibility to disease or drug response. We have developed a single 32-plex assay for the assignment of geographic origin using an extensive collection of ancestry informative marker (AIM) SNPs exhibiting some of the most highly contrasting allele frequency distributions between populations. To predict geographic origin from the profiles obtained, a classification algorithm was developed based on maximum likelihood. Genotyping of individuals from two population samples each of four continental regions (Africa, Europe, South Asia and East Asia) provided training sets for the classification system. The system showed negligible theoretical and practical error with consistently high assignment probabilities, even when using a reduced subset comprising the six best SNPs. Individuals of recent admixed African-European and African-Caribbean ancestry were also genotyped and the algorithm performed well in the analysis of these samples. The classification algorithm has been incorporated into an open-access web portal (<http://madma.usc.es/snipper>) that gives a predicted geographic origin for a profile submission and measurement of apparent error.

5.

Title: AmpFISTR® MiniFiler™ PCR Amplification Kit

By: Rijad Konjhodzic

In an effort to increase the amount of information derived from compromised DNA samples we have redesigned as miniSTRs the largest eight loci in the AmpFISTR® Identifier® PCR Amplification Kit. Five of these loci (D16S539, D21S11, D2S1338, D18S51 and FGA) also represent five of the largest loci in the AmpFISTR® SGM Plus® kit. This highly informative 9-locus multiplex, which includes the sex determining locus Amelogenin, employs a 5-dye labeling technology and mobility modifiers to enable simultaneous CE separation of the DNA fragments. In this presentation, results from a developmen-

tal validation study of the AmpFISTR® MiniFiler™ PCR Amplification Kit will be described.

As the demand for processing DNA evidence has continued to grow, so has the development of new technologies for DNA analysis. These factors can make it difficult for a crime laboratory to strike a balance between successful case workload management and the evaluation and implementation of new technologies. This presentation will introduce attendees to a software tool developed in the Human Identity group at Applied Biosystems. The goal of the AB Validation Software is to help support, simplify and standardize validation studies while meeting SWGDAM/DAB recommendations.

6.

Title: Validation of Forensic Techniques as part of an overall quality framework

By: Dr Kevin Sullivan.

Forensic Science Service, Birmingham, England

The work undertaken in forensic science laboratories carries with it an onerous responsibility, given the impact it may have on the outcomes of criminal investigations and prosecutions. Therefore it is essential that all reasonable steps are taken to ensure that risks of error are minimised to prevent investigations or the courts from being misled. This can be achieved by establishing a quality framework around the forensic service being provided, comprising both quality control and quality assurance measures. Assurance can be provided through an appropriate auditing and trials programme, whilst effective quality control may be achieved through a number of measures such as self-checking and independent checking of results, and adopting a "right first time" approach. Key to ensuring the latter is the validation of techniques as this provides assurance that a given technique or process both generates fit for purpose answers, and will continue to do so after introduction by ensuring that other essential quality requirements are in place, including calibration and maintenance of equipment, documentation of procedures and training and competency assessment of staff.

This presentation describes the principles

of a quality framework for forensic work and discusses the key role within this of scientific validation.

7.

Title: 3D and quality assurance - The difference between "virtual reality" and "real virtuality" in digital crime scene reconstruction

By: Georg Sasse MD, Benno Sauter MD
Institute for Digital Crime Scene Reconstruction, DCSR forensics, Inc.

Quality assurance is getting more and more an issue in digital crime scene investigation. Many computer based approaches to digital crime scene investigation have been introduced in the forensic community. All methods aim to reconstruct the crime in three dimensions pretending a better perceptive quality of evidences. Some methods show the reality in a virtual model (real virtuality), some of them produce just a virtual reality. In the scientific context of crime scene investigation there has to be a strict

separation of these methods. We compare these different approaches by quality aspects that we found to be important for forensic conclusiveness. With a set of basic key criterias for best practice in 3D-reconstruction we give the possibility to distinguish these methods and to use them for different purposes.

8.

Title: Identification of bacterial toxins in cadaveric tissues

By: Pietro Traldi¹, Alessandro Teatino², Laura Molin¹

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Phenazine compounds produced by fluorescent *Pseudomonas* species are biologically active metabolites that function in microbial competitiveness and virulence in human and animal hosts.

The most widely studied phenazine-producing fluorescent pseudomonad is *P. aeruginosa*, a gram-negative opportunistic pathogen of animals, insects, nematodes, and plants.

In humans, *P. aeruginosa* infects immunocompromised, burned, or injured

patients and can cause both acute and chronic lung disease. Strains of *P. aeruginosa* produce a variety of redox-active phenazine compounds, including pyocyanin, phenazine-1-carboxylic acid (PCA), 1-hydroxyphenazine (1-OH-PHZ), and phenazine-1-carboxamide (PCN). In the case of infections by *Pseudomonas* the above metabolites are usually found in circulating and excretion fluids (plasma, urines) and in tissues supplied by these fluids. In absence of metabolites in plasma, the absence of metabolites themselves is to be expected at tissue level. In other words, when the suitable therapy for *Pseudomonas* infections has been performed, the metabolites would not be present either in circulating fluids or at tissue level.

Contrary to this view we have recently observed the presence of phenazine-1-carboxamide and phenazine-1-ol in different cadaveric tissues or organs.

Tissues have been homogenized in phosphate buffer at pH 6, left to rest for a night, filtered and then purified by the SPE method. The extracts so obtained have been injected in a GC/MS system. The biological fluids have been diluted with the same buffer and purified by SPE.

These results seem to indicate that, even after a successful pharmacological treatment of *Pseudomonas* infections, these metabolites accumulate at organ level and, considering the cytotoxicity of these compounds, a suitable therapy must be undertaken for their removal.

9.

Title: Comparative identification of ballistic evidences through objective approach: unedited statistic diagnosis criteria unbidden to empiric evaluation error and subjective to the operator.

By: Dr. UGOLINI Antonio, Dr. MAN-DRACCI Alberto

It is known that, the diagnosis of ballistic identities among ballistic evidences and shooting tests with suspected weapons, is based upon subjective matching examination of prints family empiric processed by the expert charged of that enquiry by law authority.

It is known that, nowadays, inquiries are processed with simple optical system (comparative microscope) or throughout digitalization and electronic elaboration, but diagnosis is always reached by a sub-

jective evaluation of the operator, who might be more or less expert or, more or less, subject to explanatory errors, due to his own human nature.

Thus for a judiciary evidence must be obtained a certain test and beyond any reasonable doubt, the human subjective factor of the operator, might give suspect of incorrect diagnosis, if based upon subjective and human empiric evaluation only, without an objective proof.

In the U.S.A., due to Daubert Challenges, technical tests are, nowadays, considered valid, only if demonstrated as certified free of any operator subjective errors.

As far as Italy, it is since a short time ago that has been introduced the evidence "beyond any reasonable doubt", where a technical test cannot be any more based upon an operator simple subjective evaluation only.

In order to elaborate a type of acceptable diagnosis to be used as judiciary evidence, modernly agreed also upon aseptically scientific methods: the research which we present you is an objective one, where you can find an integration of very modern statistic analysis evaluations criteria and computerized.

The proposed method as proof is the separation and reassembling of images which significant fields are the ballistic prints and the statistic indexes of qualitative and quantitative correspondence individuation, among prints areas through well known computerized systems also, because they are correctly utilized in the modern science of measurements evaluation under acceptable tolerances in scientific and technologic fields.

10.

Title: "Expert testimony in forensic ballistics. New perspectives in judicial application, following the most recent issues of legal doctrine and Jurisprudence and confronting the principle "Beyond any reasonable doubt"."

By: Avv. Giuseppe Nicosia

Lawyer in Grosseto, Florence and Rome – expert on forensics and new technologies

Trial is a "machine" to verify and to "certify" the truth so it needs a severe surveillance on the introduction and the evaluation of the evidences. This is also more important when they need to

introduce in the civil and criminal lawsuit, expert testimony related to the results of a scientific knowledge, that will be the foundation of the legal decision.

Remembering that "science" is not "truth" especially in legal matter, because of the fact that the scientific knowledge is in perpetual evolution and that the judge is, however, the "expert of the experts", we will report the most recent principles and methods of induction in the trial of the "scientific evidence", especially regarding to the ballistic evidence and toolmark analysis, examining the legal value of the results obtained using different scientific methods and the consequences for the judge and the lawyers.

In conclusion we'll compare the results exposed, using also the "Daubert Challenge", with the most recent issues of legal knowledge, under the light of the BARD (Beyond any reasonable doubt) principle, proposing a method of induction in the civil and criminal lawsuit.

11.

Title: The development of forensic entomology as a scientific tool in criminal investigations

By: Dr Martin J.R. Hall

Department of Entomology, The Natural History Museum, London, UK

Insects are commonly encountered at crime scenes, either by coincidental association or because of their active response to some specific feature of the scene. Forensic entomology involves the analysis and interpretation of such insect evidence. At suspicious deaths, the most important providers of insect evidence are blowfly larvae (Diptera: Calliphoridae), which colonise the body most rapidly after death and in greater numbers than other insects and, therefore, provide the most accurate information regarding time of death. Many other families of fly, beetle, wasp and moth may also be associated with cadavers, resulting in a succession of insects. In temperate Europe, the most important forensic species is the urban bluebottle blowfly, *Calliphora vicina*. However, many other blowflies can be involved at death scenes around the Mediterranean basin, mainly in the genera *Calliphora*, *Lucilia*, *Phormia*, *Protophormia* and

Chrysomya. Adult blowflies are attracted in large numbers by the odours of decay, often within a few hours of death and show great precision in their location of the odour source. Interpretation of insect evidence relies on a detailed knowledge of their taxonomy, biology, physiology and ecology. Further research in these areas will help to improve the accuracy and robustness of the case reconstructions that forensic entomology can make.

12.

Title: Elucidation of post-mortem interval from entomological evidence

By: Dr. A.D. Aggarwal, MD, Assistant Prof., Forensic Medicine, MMIMSR, Mullana, Ambala, India

Prof. O.P. Aggarwal, MD, Professor, Forensic Medicine, MMIMSR, Mullana, Ambala, India

Prof. R.K. Gorea, MD, DNB, Head, Forensic Medicine, Govt. Medical College, Patiala, India

Dr. Devinder Singh, PhD, Reader, Zoology, Punjabi University, Patiala, India

Earth is a predominantly insect world, and humans come in contact with them. There is a dearth of forensic experts all over world, but number of forensic entomologists can be counted on fingers. Most of studies to estimate PMI from insects used animal carcasses, while studies reported on human dead consist of small number of cases. In view of this fact, this study was carried out on human dead bodies. More than 50 actual cases of decomposing human dead have been studied for insect evidence with an objective to determine the post mortem interval from them. The study involved collection, rearing, preservation and study of insect evidence available on human dead bodies. The data available with entomologists was tested by applying it practically on human dead bodies and the results were found to be highly useful. The important part included derivation of formulae to calculate PMI from insect stage and temperature. Findings of this unique study involving painstaking hard work of authors will be presented in this paper. It is only with team work of entomologists and forensic medicine specialists that the field of forensic entomology will raise to status of a specialized field.

13.

Title: About death of Merovingian men in Angers (France)

By: CSAJAGHY J.Ph. Dr

The necropolis of St Martin d' Angers has been excavated from 1988 to 2005 ; the anthropological study of the Merovingian people is not yet completed but we can say that out off 241 skeletons which were found, several adult males yielded traces of injuries on the skull, from different kind of sharp metal weapons.

We propose a study from those traumas, interesting to discuss particular events which happened in the city of Angers during the 6th or 7th century. Those wounds are specially helpful to understand the technic of fight, the use of such weapon.

In St Martin d' Angers, we were lucky to find most of the skeletons in a good state of conservation into a large variety of sarcophagus.

One of the particularity of this necropolis is the number of adult males' skulls with traces of ante-mortem trauma , 12% of the identified men , but 27% of all the men's skull.

Therefore, this study is only a preliminary work, before a complete synthesis of the Merovingian necropolis of St Martin d' Angers giving the very relations between injured people and other inhumed population.

14.

Title: Death in Custody

By: Harry Bonell

The injury or death of a suspect, being taken into custody by law enforcement, frequently results in public outrage or media exploitation. The appropriate use of force is almost always questioned. If death results, the forensic pathologist has the task of not only documenting injuries and the cause of death but also anticipating all the questions by the public and the media that might need to be answered. The recent use of the Taser device has resulted in several law suits as well as an outcry by the American Civil Liberties Union.

Dr. Bonnell approaches this subject from the aspect of the forensic pathologist as well as a member of the San Diego Citizens' Review Board on Police Policies and Practices. The deployment and guidelines regarding use of the Taser will be addressed specifically.

15.

Title: Anogenital Anatomy: Use of Colposcopy to Study Postmortem Interval Changes for Comparison to Sexual Homicide.

By: Sharon R. Crowley, R.N., M.N., Forensic Clinical Nurse Specialist and Public Health Nurese III, Bioterrorism, Santa Clara County Health & Hospital Systems, San Jose, California, U.S.A.

Aims:

- The primary aim of this study is to describe the nature and appearance of the anogenital tissues in a normative group of baseline female cases.

- Secondary objectives are to continue to evaluate the efficiency of a mobile system of technology for postmortem genital examinations, and

- To refine and expand a previously defined taxonomy, developed by Crowley & Peterson (*AAFS, 2004*).

Background: There exists a paucity of data on what constitutes "normal" for the postmortem presentation of the anogenital anatomy. In living sexual assault victims, scrutiny and photodocumentation of these anatomic sites has been studied in both adults and children. Thus, there exists a more favorable comparison for antemortem cases of rape and child sexual abuse. The lack of comparable data for the postmortem arena prompted the author to begin to study this subject.

Methods: The present discussion focuses on cases that present from various causes of death, i.e., natural, accidental, suicide, and homicide of non-sexual etiology. This normative, core group constitutes the baseline cases that will comprise the first study of "normal" post-mortem genital anatomy. The selection of cases in this prospective design is based upon availability of cases and accessibility to the primary researcher. The mobile system of technology with colposcopy was described by Crowley (*JFS, 2004*), and is the modality for the examination of this sample. This technique employs colposcopic magnification at 7.5 X, 15X, or both, combined with a 35mm photography. Colposcopy is well-established as a technique for the evaluation of both adult and child sexual assault victims.

Postmortem interval categories range from ? 24 hours (fresh), 48-72 hours, 73-96 hours, ? 5 days (decomposed), and unknown. The reproductive status is

loosely categorized as prepubertal, reproductive, peri-menopausal, and post-menopausal. The salient anatomic sites are routinely inspected and photographed, using colposcopic documentation via 35mm SLR camera. These 12 sites include: *labia majora, peri-clitoral area, peri-urethral area, labia minora, hymen, vagina, cervix, perineum, fossa navicularis, posterior fourchette, anus, and rectum*. It is important to document any concomitant gynaecological lesions that may be present in order to contrast these with changes due to trauma or the normal processes of decomposition. Consistency in the use of terminology used to describe the superimposed processes of decomposition during various postmortem intervals is vital.

Results/Discussion: Colposcopy and colposcopic photographs result in improved visualization of the anogenital tissues. This is accomplished via the magnification potential of the colposcope. The capacity to photodocument these findings allows for scientific peer-review and subsequent comparison to cases of fatal sexual violence. The inability of the deceased victim to provide a detailed history makes the need for reliability and accuracy paramount. The astute examiner must possess the ability to reliably and accurately assess the nature and appearance of the anogenital tissues at all anatomic sites *and* at various postmortem intervals, while normal changes of decomposition are simultaneously superimposed.

Conclusion: Vital attention must be paid to examiner technique, taxonomy, and interpretation. The dearth of information on what is "normal" in the postmortem arena provides the most compelling argument for the use of the colposcope. That "normal" has never been defined remains a pivotal issue. Experienced pathologists routinely recognize findings such as mucosal autolysis, skin slippage, dilatation, and lividity. However, these may be mistaken for traumatic changes by even experienced clinicians whose expertise is previously limited to antemortem cases. While the Forensic Pathologist can certainly remove en bloc specific areas of tissue, e.g., vagina and rectum, for dissection and microscopic evaluation, there may be valuable information gleaned by in situ examination via colposcopy of the anogenital site.

Key Words: colposcopy, postmortem anogenital anatomy, forensic nursing.

16.

Title: Isotope profiling of Ecstasy samples – A comprehensive study

By: Miss Lisa Reidy, Dr Wolfram Meier-Augenstein, Professor Robert Kalin Queens University Belfast, Environmental Engineering Research Centre, Belfast

3, 4 methylenedioxymethamphetamine (MDMA) more commonly known as 'ecstasy' is a popular synthetic drug in Europe. The UNODC estimates that around 2.6 million adults in the EU have used ecstasy recently which accounts for 0.8% of all adults.

The application of Isotope Ratio Mass Spectroscopy to forensic science to analyze both natural and synthetic substances has been of increasing interest in recent years, due to the ability to provide additional information to current analytical techniques.

The aim of the investigation was to determine the application of IRMS to seized ecstasy tablets from a variety of locations, through the application of bulk and compound specific isotope analysis.

The results underlined the significance of Bulk isotope analysis with differences in tablets profiles ranging by over 40‰ for ^2H and 18‰ for ^{15}N ; however the profiles are readily affected by the addition of other components such as sugars and other fillers.

The results from the compound specific ^{13}C profiles of the MDMA provided additional information and hence increase the separation capabilities of these isotope techniques to analyze synthetic drugs of abuse.

The results from this study demonstrate that isotope profiling has a useful place in the analysis of drugs of abuse when trying to determine origin and batch identity.

17.

Title: Success rates of mini-STR typing by bone type for human remains recovered from secondary mass graves in former Yugoslavia.

By: Cheryl Katzmarzyk, MA, Mortuary Manager and Senior Forensic Anthropologist,

International Commission on Missing Persons

Skeletal assemblages recovered from secondary mass graves, resulting from

the 1995 Srebrenica massacre in the former Yugoslavia, pose significant obstacles to victim identification. The skeletal remains are often disarticulated, highly commingled, and fragmentary. In addition, since secondary graves originate from a single primary grave, remains of the same individual are often located in multiple graves.

The International Commission on Missing Persons (ICMP) uses a combination of anthropological and DNA methods to re-associate individuals based on anatomy and STR typing results. Following anatomical review of the skeletal assemblage, bones are systematically selected for DNA testing and processed using mini-STR multiplexes with reduced length amplicons. In combination with anatomical expertise, the mini-STRs provide an efficient means to re-associate individuals.

This paper addresses the standard operating procedures for selection of DNA samples and reviews the success rates of over 1500 mini-STR multiplexes according to bone type. The teeth and lower leg bones demonstrate high success rates, whereas the upper limb bones perform poorly.

18.

Title: Constructive integration of forensic doctors in crime scene management

By: Anthony Busuttill

The increasing application of scientific subspecialties in the investigation of crime scenes has resulted in such investigations becoming more complex, time-consuming and more crowded. However the management of crime scenes involving serious non-fatal trauma, e.g. house fires, rapes, vehicular collisions; major incidents of whatever aetiology, involving joint injury and loss of life of several persons; or homicide, should always seek the early attendance and the close involvement of a forensic clinician and / or pathologist in a carefully managed manner. Participation in such investigations requires that the medical personnel who attends are fully aware of their specific role and remit, and of their limitations, and more so of the need to integrate seamlessly and unobtrusively with the other scientific and police investigators at the crime scene. In addition to the gathering of evidence and information

from the injured and deceased, the medical person will have a crucial 'health and safety' role. These activities may require training and the production of joint protocols thus ensuring that there are no conflicts of interest between the various parties involved in the investigation. Each such incident should be carefully debriefed and audited in joint meetings, at which all the parties concerned are represented, and the lessons learnt from each individual scene incorporated and programmed into future manuals and protocols.

By reference to several crime scenes, the specific role of the forensic doctor, and the optimal integration of the medical activity in crime scene management, will be described and discussed. The meticulous, and comprehensive collection of the evidence, its correlation and collation from the various sources from which it has been gathered, for its eventual presentation in court, should be the ultimate and ever-dominant goals of each crime scene investigation.

19.

Title: Characterisation of stab wounds produced by serrated blades in a pig-skin experimental model

By: Prof. Derrick Pounder, Ms. Shivani Bhatt, Mr. John Millar, Dr. Bill Hunt

Department of Forensic Medicine, University of Dundee, Scotland, U.K.

Using a pig-skin model we explored the possibility that evidence of the use of a serrated blade in a stabbing might be found on the dermal face of the wound, which is not usually closely examined, if at all. Pig-skin stretched over firm supporting material was stabbed with non-serrated, coarsely serrated, finely serrated and mixed coarse-fine serrated knife blades as well as non-serrated blades uniquely focally damaged on the cutting edge. Under magnification the epidermal margins of stab wounds produced by serrated and uniquely damaged blades displayed identifiable irregularity. More striking, and easily seen, were striations passing between epidermis and subcutaneous fat on the exposed dermis within the wound, and corresponding to the knife serrations. Dermal serrations were easiest to recognise in stab wounds produced by coarsely serrated blades and were consistently replicated in 100 consecutive stabs. For optimum viewing of

the dermal striations, the excised stab wound is extended to the excision margins by cutting with a scalpel, so dividing the stab wound in half through its long axis and fully exposing the dermal face. We suggest that the application of this technique to skin wounds in fatal human stabbings may permit the identification of the weapon as having a serrated or uniquely damaged blade.

20.

Title: Autopsy, do or not. Do? An important challenge in daily forensic practice of Moslem countries.

By: H.R.SHARIFZAD, M.D. ANATOMICAL & CLINICAL PATHOLOGIST, CHIEF DEPARTMENT

OF FORENSIC PATHOLOGY AND TOXICOLOGY, FARS PROVINCE LEGAL MEDICINE CENTER, SHIRAZ-IRAN,

Introduction: Autopsy, the scientific post-mortem procedure for evaluation of internal viscera by incising and opening the body to discover the main and/or contributing cause(es) of death is still believed to be as a gold standard for quality control of all medical managements, diagnostic procedures etc. as well as a powerful scientific tool for forensic evaluation of any suspicious or violent death. History of autopsy is as long as the history of medicine, however classic, modern and scientific autopsy only ages about few decades with the contributing role of pathology and microscopic fields. Rudolf Virchow, William Osler, and many other famous scientists have had valuable role in introducing the autopsy as the origin of modern medicine by diagnosing and documenting a large number of disease entities as well as causative agents or organisms. In routine daily practice of forensic pathologists in Moslem countries, excess resistance is noted by the relatives of the expired individuals specially in purely medical cases. The incorrect cultural and religious beliefs about the autopsy make them uncooperative and many times aggressive about the autopsy.

Materials and Methods: In this prospective study, annual autopsy rates in Fars province legal medicine center during a 10-year period (1995-2005) is calculated by the formula:

(Total number of autopsies performed in Fars Province legal medicine center/

year X 100) : Total number of deaths in Fars province/ year

At this period hundreds of questionnaires were also distributed through 3 different population samples listed below; 1. Medical staffs including specialists, physicians, nurses and medical students. 2- First degree relatives of the dead individuals and 3- Random sample of normal population in different educational and intellectual grades. In the questionnaires we evaluated the individual insights about the "Autopsy", associated problems and the opinions about how to increase the rate of autopsy.

Results: 1- Mean autopsy rate during a 10-year period all over the province is 5.09 % 2- Using statistical and analytical criteria, 2 major factors contributing to low autopsy rate (compared with American and European's) were: **A.** Lack of morality and appropriate insight in the medical staff about the necessity and diagnostic importance of **autopsy.** **B.** Incorrect religious and cultural beliefs in Moslem people about the autopsy as well as the sense of fear and unrespectiveness to their body in autopsy.

Conclusions: What are we expected to do? Could we forget the Autopsy? Comparing the autopsy rate of more than 58% reported in one of the general hospitals associated with Texas university of medical sciences at USA (yet as an alarming sign of decreased autopsy rates at that center), we are facing with much lower autopsies and consequently less post-mortem diagnoses and also suboptimal evaluation and quality control if pre-mortem approaches and managements. In my personal experience performing thousands of medico-legal autopsies, we should firstly brighten our medical staff insights about autopsy and at the same time fight with resisting beliefs about autopsy by educating people, taking religious orders and updates regarding this valuable non-replacing diagnostic procedure.

21.

Title: Signalling of a case of neonaticide by means of arm from tip and cut and successive abandonment.

By: Bramante°, G. Gentile*, A. Lazzaro*, I. Merzagora Betsos°, M.R. Roselli*

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Key words: neonaticide, abandonment foetus, died in rubbish bin

The exceptional killing of a child by his own mother arouses dismay and deep collective anguish. The hitting of an innocent and defenceless being is unacceptable and provokes even more pain in case of the murder happens in the same place where the child expects safety and protection. The authors point out the event concerning a newbornomicide committed by means of sharpened weapon (scissors) few hours after a free medical assistance delivery. Subsequently the woman wrapped the body in a towel and in a plastic bag, she squeezed it in a backpack and therefore she abandoned it in a rubbish skip. This paper has the purpose of analyze the case of a maternal neonaticide under various aspects: medical, legal, criminological and psychiatric-forensic, taking advantage of the psychiatric survey that highlights the dynamics of the pregnancy denial.

22.

Title: Identification in forensic anthropology

By: Eugénia Cunha, PhD

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In a forensic anthropology expertise identification is indeed one of the main objectives to be achieved. The increasing importance of forensic anthropology has lead, among others, to technical developments in personal identification of human remains. More and more it is an interdisciplinary work where the knowledge of several sciences are crossed to give back identity. Identification, by means of the search of factors of individualization, is above all, a comparative process. No matter how good are the factors of identity, the ante-mortem and post-mortem data comparison is a mandatory step. Whatever the classical methods of establishing personal identification used, such as visual recognition, fingerprint, DNA, dental records, this comparison is irreplaceable. We will here discuss some methods more specifically related with forensic anthropology, when

skeletal remains are the only physical evidence of the individual. Since each bone can be considered as a fingerprint, we will here consider features such as the morphology of the skeletal elements to exceptional peculiarities, such as osteophytes and other lesions. Contrary to dactyloscopy and genetic identification, the identification results provide by those characters can not be quantified, thus an important point is to know how many morphological elements are sufficient for a positive identification. Some practical cases are presented to illustrate the usefulness of morphology and pathology to attain a definite identification in forensic anthropology.

23.

Title: Research in Forensic Anthropology: Present and future

By: A.Chadly

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Forensic Anthropology is getting a growing importance for legal and humanitarian procedures. Examining human remains or a living person in order to bring answers to civil or criminal questions needs as far as possible to have reliable methods. Beyond the daily practice, several teams have undertaken research projects in this field. Many problems as for a human being sexing or aging, estimating his stature or the post-mortem interval by the means of bones examination are still to be solved nowadays. More recently, forensic anthropology showed a growing potential with new issues dealing with the study of the living, such as identifying an individual on the basis of his gait or his shape after surveillance video-recording. A great advance was performed in the two last decades in building the biological profile. Trauma analysis by examination of bones is a newly developed area, mostly boosted by human rights inquiries.

Research in Forensic Anthropology is worth to be considered for forensic medicine progress. Nevertheless, it generates methodological, organizational, financial and ethical questions, some of which must be stressed:

- There is still a lack of validation for anthropological methods which remain approximate, leading to significant differences between researchers.

- There is a need for federating (nationally and internationally) teams involved in research in forensic anthropology as well as setting up cooperation and expertise exchange between working groups facing the same challenges.

- Research in Forensic Anthropology is not attractive for investors and researchers are suffering from a funding shortage ; it is consequently important to make institutions and governments interested by this field of research.

- Anthropological methods imply the human body dignity. Ethical rules are to be respected, additionally to national and international laws.

More generally, promoting knowledge in the field of forensic anthropology during residency in forensic medicine or during continued forensic medical education is a necessary stage for developing research.

24.

Title: Forensic engineering by DelftTech forensics

By: W.J.E. van Spanje MSc CE

DelftTech is a company from the Netherlands that provides software and services for the forensic market. It is active in the field of 3D laserscanning and photogrammetry for Forensic applications all over the world. DelftTech is the only company developing dedicated 3D Forensic Software based on 3D laser-scanning and images.

We have developed our so called Sensor Fusion Software for suspect measurements and with this tool our clients can successfully determine within 1 cm the height of a person from a picture (or video) taken from a surveillance camera). This takes only approx 20 minutes compared to over 1 week if you do it with photogrammatry only.

Furthermore DelftTech has developed modules for 3D (with mm accuracy from 3D laserscans) real photo like reconstruction and interactive scenario's (VR: serious gaming) with the purpose of : witness verification (to validate if witnesses could have seen something) witness awareness (to remember more) Crime Scene Scenario testing Interactive 3D Crime Scene Management Training (already trained 250 police officers in Rotterdam)

At this moment DelftTech is developing Bloodstain Pattern Analysis Software where one can analyse the point of impacts. The software is introduced during the International IABPA conference in Middelburg, February 2006.

25.

Title: Managing the quality of police actions as part of the forensic process

Because forensic investigation has definite “outputs”, in many countries it is the one area that is the subject of intense scrutiny and performance monitoring. This answers questions about how good the department or individual staff are at the recovery and analysis of evidence. This is meant to ensure that a quality service is provided. Unfortunately some managers and police chiefs tend to focus on the quantity issues rather than quality. The biggest error is that they ignore the “inputs” such as scene preservation by the first officers and the “outcomes” of the identification. In fact, in the UK, the failure of police to act on the information provided by forensic support was called the “Black Hole” as in some cases 60% + of identifications were not followed up.

For the police service to get the best from forensic investigation it is essential that scenes are properly preserved. This means a small amount of training for police officers. Preservation standards of officers should be graded by CSIs to ensure the best chance of recovering evidence. When an identification is made there should be a tracking mechanism to ensure that the police have followed up on the information.

26.

Title: Preliminary study of a facial reconstruction statistical method using a CT-Scans database

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Aims :

We thus chose to interest us in the relations which exist between the morphology of facial soft tissues and the subjacent craniofacial skeleton. The aim of this study is thus, for a sex, an age bracket and a morphological type given, to bring precise details on these reports/ratios.

Method :

The study will be undertaken starting from craniofacial CT-scans carried out on adult subjects. They will be distributed according to their sex, their age and their morphological type.

The data are transferred towards software Dicom 2 and SimPlantPro® 9.21 (Materialise) which restores the three-dimensional of the skull and the face. Quantitative and qualitative studies precise the description of osseous and cutaneous morphologies, according to the total facial index.

Results :

This study highlights, for a given sex, age bracket and morphological type, correlations between cutaneous and osseous morphologies. It leads to automate the facial reconstruction in order to improve the success rate of these techniques of facial reconstruction which is still relatively low.

Conclusion :

The automation of the facial reconstitution makes it possible to decrease the completion date and the share of subjectivity left with the operator, and thus to multiply the chances of identification.

27.

Title: LES SCIENCES FORENSIQUES DANS LA REALITÉ ACTUELLE RÈGLES ANTIQUES – EXIGENCES MODERNES ?!

By : Emilio S. Baggi

La “fixation de l'état des lieux” représente inévitablement le point de départ d'importance fondamentale pour une enquête de police.

En même temps, il s'agit d'un moment de collaboration particulière entre magistrature, police judiciaire, police scientifique et médecine légale, sans oublier les

intervenants qui, tout au début, entrent en contact avec la scène du crime.

Elle constitue en effet un aspect déterminant pour les investigations; pour obtenir un résultat positif apparaissent essentielles:

*une observation et une documentation précises de la situation de l'environnement (l'“état des lieux”),
une diligente recherche et prélèvement des traces qui peuvent se trouver.*

L'indéniable, rapide et extrêmement marquée **évolution des Sciences Forensiques** de ces dernières années a-telle conduit à des changements radicaux également dans la méthode d'abord, d'organiser et de gérer les différentes opérations liées à la fixation de l'état des lieux?

Les importants **développements liés aux moyens de preuve de type scientifique**, considérés par les Magistrats toujours plus indispensables et presque obligatoires, surtout dans un contexte “indiciaire” (mais non seulement...) d'une procédure pénale, ont-ils modifié la méthodologie opérative, les procédures de laboratoire, l'interprétation des résultats obtenus?

La réponse paraît claire et sans équivoques: **certainement PAS!**

Bien **au contraire**, dans une époque où l'on privilégie toujours plus la spécialisation, il semble encore plus nécessaire de reconnaître et d'insister sur l'importance des **concepts essentiels qui restent à la base de n'importe quelle enquête de police judiciaire** et qui se réfèrent surtout aux différentes activités de la police scientifique et – successivement – en laboratoire.

L'activité de fixation de l'état des lieux a désormais acquis toutes les caractéristiques d'une vraie **spécialisation dans le contexte du travail de la police scientifique et des plus modernes “sciences forensiques”**.

La figure du **“technicien de l'état des lieux”**, avec des tâches bien définies dans ce secteur précis, tout à fait différenciées des innombrables et amplement reconnues autres activités spécialisées de la police scientifique, devient une solution intéressante, pour ne pas dire indispensable, qui permet d'aborder de façon moderne et rationnelle cette phase initiale très délicate de l'enquête de police judiciaire.

Tout en considérant les contextes très différents dont on est appelés à travailler (du point de vue légal, de compétence institutionnelle, d'organisation interne,

etc.), ces vrais “spécialistes de la polyvalence” sont appelés à exercer leur fonction sur la base d’une **méthodologie opérationnelle rationnelle, précise, complète et scientifiquement correcte, voir universellement reconnue.**

Il faut donc rester bien conscients du fait que le développement scientifique ne pourra pas faire abstraction de la qualité de l’activité de base effectuée par les compétents fonctionnaires de police.

Cette “qualité” doit garantir la fiabilité et la correcte utilisation, dans le contexte judiciaire, d’un indice matériel tel qu’un élément de preuve à tous les effets. De ce fait, la nécessité, toujours plus concrète, de se doter de **Protocoles opérationnels** (des sortes de “Check-list”) même pour l’activité forensique, qui prévoient un plan de travail et une méthodologie bien précis et reconnus.

28.

Title: The use of luminol in a complicated murder case

By: Katia Guglielmoni, Giancarlo Santacroce, Polizia Cantonale, Scientifica, Viale Franscini 3, 6500 Bellinzona/ TI, Switzerland

On April 25th 2005 the putrefied body of a partially clothed male was discovered, dumped in the wooded hills of Claro, surrounding Bellinzona-Ticino in the South of Switzerland. The body had been transported by car and among the evidence found at the crime scene was some interesting tissue and a cover used to remove and transport the body from the place where the victim was murdered.

The subsequent autopsy determined the cause of death to be multiple stab wounds in the back. The victim also suffered a total of 32 stab wounds to the abdomen, side and neck.

During a police search of the flat where the two Balkan suspects lived with their parents, conducted on April 30, the same type of tissue and covers found near the victim’s body were found in a closet.

Additional blood evidence, barely visible to the naked eye, was found in the apartment along with evidence indicating the walls of one of the rooms had been freshly painted. Based on these findings investigators elected to use Luminol inside the flat to detect traces on latent blood.

The results were astonishing, revealing large amounts of blood marks on the

walls of the repainted room. Subsequent DNA analysis confirmed these to be the victim’s blood.

Keywords: crime scene investigation, latent blood, luminol.

29.

Title: Recovering images from a MMC card - An experience using different platforms

By: Ms. Kananbala Jena, Asst. GEQD, O/OGEQD Directorate of Forensic Science, India

Sh. Sujay saha, Asst. GEQD O/OGEQD Directorate of Forensic Science, India

The standard procedure for computer forensic examination is based upon the concept that flash cards can be examined like any removable disk. This paper is based on the experience that examination of a multimedia card may not be as simple as examination of a removable disk and different software platforms even with the soft wares agreed as standards within forensic community may not offer similar results.

The authors has examined one multimedia card with an aim of recovering pictures that were lost due to automatic formatting within the camera. It was first examined by ENCASE and FTK which could not recognize the disk as such. The card was examined inside a card reader as well as camera for eliminating hardware incompatibility without any improvement.

Further examination was done after formatting the card on WINHEX platform, which retrieved all the pictures. The ENCASE and FTK platforms were still unable to recover them.

Therefore question arises regarding uniformity of treatment of all flash cards in forensic procedures and some of the techniques used for retrieval may be treated as invasive by computer forensic standards the formatting may be.

This paper will discuss details about the practical details of the retrieval and draw attention of computer forensic examiners that standard procedure should be more specific in case of removable devices.

30.

Title: The report of a medical malpractice induced death due to Dipyridamol Thalium Perfusion scan

By: Sayed saeed Hasahemi Nazari MD,

Zahra Abolmassomi, Forensic Medicine Specialist

Mohammad Hassan Ghadyani ,Internist

Our patient was a 56 years old woman with a history of hypertension and ischemic heart disease which was hospitalized because of acute pulmonary edema in a hospital in 2003. During hospitalization period her cardiac enzymes rose. Her electrocardiograph showed left bundle branch block pattern and her Ejection Fraction in echocardiography was 40%. 2 days after dismiss from the hospital according to her doctor advice referred to a nuclear medicine center for Dipyridamol Thalium Scan Perfusion test (SPECT) at 8.30 pm. During infusion of scan specific drug she complained of headache, cough and dyspnea which were relived with primary cares. During this period she was under observation of a cardiologist. After infusion she waited in the waiting room until the time of imaging .After one hour and a half gamma camera imaging began and at the 15th min of imaging process she complained of dyspnea and her respiratory rate began to decrease. At this time, 2 imaging technicians and one nurse which were available on her side began primary cardiopulmonary resuscitation and then she was transferred to the emergency center of a hospital. CPR continued and the patient was admitted to ICU. At 1.30 Am of the following day she died at ICU and death certificate was issued for her at the hospital without autopsy.

Following protest of her family, the case was propounded in one of the especial commissions of legal medicine organization and the final decision of the commission was declared as follows:

The role of burden of disease in death of the patient: 75%

The role of technical assistant of the institute in death of the patient because of not existence at the institute during the test and not programming for attendance of a cardiologist during all phases of the test: 15%

The role of cardiologist in death of the patient because of not following the patient procedure and leaving institute before the end of imaging process: 10%

Conclusion:

At the majority of cases, the only reason that causes our physicians in spite of their wisdom and specialty are found guilty in the courts is unawareness of their legal responsibilities. The other important point in this case is issuing the

death certificate without referring the cadaver to the legal medicine center for biopsy which could change the outcome of the court.

31.

Title: The occurrence of a sudden unexplained death, during a vaginal cryotherapy!!!

By: Mehran Freidouni

Cryotherapy is one of the most common, and the least complicate minor procedure which has a broad application for treatment of diseases in different fields of medicine. Meanwhile the rate of mortality with this procedure is completely unusual, and is very far from the mind.

In this article, I am hereby to introduce a healthy young woman who referred to a gynecologist in April 2005.

Cryotherapy was suggested to her based on examination. Few minutes after starting of the procedure in lithotomy position, the patient developed syncopal attack.

Unfortunately resuscitation was ineffective. Her corpse transferred to legal medicine department of Shiraz, Iran and medico-legal investigations was performed.

32.

Title: Studio del polmone nella niganosi da annegamento: Comparazione tra istomorfologia e morfometria

By: M.R. ROSELLI, O. FONTANA, G. GENTILE, A. LAZZARO, R. ZOJA
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Introduzione:

Le diatomee costituiscono uno dei pochissimi elementi utili ad avvalorare la prospettiva di una morte per annegamento, soprattutto nei casi di cadaveri scheletrizzati, depezzati o rinvenuti in avanzato stato di decomposizione grazie alla loro caratteristica di possedere uno scheletro di natura silicea che si conserva anche post-mortem, rispetto agli altri microrganismi acquatici.

Materiali e metodi:

gli Autori utilizzando la casistica del settore medico-legale milanese dal 1993 al 2005 relativa all'asfissia meccanica da annegamento, effettuano una comparazione tra l'esame istopatologico e lo stu-

dio morfometrico del polmone dell'annegato con rilievo di diatomee come microrganismi bioindicatori utili per risalire al luogo del rinvenimento del cadavere, alle caratteristiche biologiche del luogo in cui si è verificato l'annegamento e del periodo in cui è accaduto l'evento letale.

Conclusioni e discussione:

I risultati ottenuti confrontando le misurazioni dei setti polmonari con la dilatazione alveolare confermano la validità delle indagini morfometriche ed istomorfologiche a supporto della diagnosi medico-legale di annegamento.

33.

Title: Criminal Profiling - Aspetti psicologici del criminale

By: Prof. M. Marasco, Dr. ssa A. Micoli

Ciò che concerne la diagnosi, la terapia e la guarigione in ambito medico viene concretizzato in un profilo psicologico, procedimento di inferenza delle caratteristiche dell'autore di un reato violento a partire dall'analisi, nei suoi minimi dettagli, del crimine che ha commesso, nasce dal tentativo di leggere le dinamiche psicologiche e comportamentali dell'omicidio seriale, elaborando ogni aspetto del vissuto di un crimine, dato che la personalità ed il comportamento di un criminale durante l'esecuzione di un reato riflettono le caratteristiche personologiche.

Il profilo psicologico, inoltre, è di maggiore utilità quando la scena del crimine riflette la psicopatologia., come per esempio aggressioni a sfondo sadico. I reati in cui il "criminal profiling" trova elevata applicazione sono: omicidio singolo, omicidio seriale, omicidio di massa, omicidio compulsivo, incendio doloso, attentato dinamitardo.

- Lo schema di un profilo criminale prevede:
- L'analisi della scena del crimine.
- Informazioni tratte dalle scienze forensi.
- Rapporti di polizia.
- Rapporto dei testimoni.
- Tentativo di ricostruzione del crimine.
- Ipotesi del comportamento agito dal criminale verso la vittima.
- Motivazione per il crimine.
- Informazioni demografiche inerenti i possibili sospettati.
- Tipologia del crimine.

34.

Title: L'omicidio commesso mediante l'uso dell'arma da fuoco a milano negli anni 1995-2005 considerazioni criminologiche, medico-legali, balistico-forensi.

By: Dott.ssa Sara Cipolla, Dott. Dario Redaelli, Dott.ssa Giuseppina Menna, Dott.ssa Antonella Lazzaro, Dott. Alessio Battistini, Prof.ssa Isabella Merzagora Betsos

L'analisi statistica del fenomeno omicidiario occorso in Italia negli ultimi anni (Eures 2002,2003,2004), mostra la significativa presenza dell'arma da fuoco come mezzo elettivo per la causazione violenta della morte di un uomo e che il maggior numero di omicidi verificatesi sono da attribuire alla criminalità organizzata, nel cui ambito l'arma da fuoco risulta il mezzo più impiegato per la causazione della morte.

Ciò premesso, alla luce della situazione che caratterizza il panorama criminale italiano nazionale, gli Autori si sono proposti di fotografare la realtà criminale milanese negli anni 1995-2005 ed in particolare, di verificare l'incidenza sul totale degli omicidi commessi nell'arco temporale considerato, dell'uso dell'arma da fuoco.

Riscontrata una diminuzione rispetto all'andamento che il fenomeno ha avuto negli anni precedenti, del numero degli omicidi commessi con tale mezzo, si è proceduto ad una analisi criminologica, medico legale e balistica dei dati acquisiti attraverso l'esame dei fascicoli di sopralluogo e delle consulenze balistiche messe a disposizione dal Gabinetto Regionale di Polizia Scientifica per la Lombardia e dei verbali di autopsia del settore medico legale di dell'Istituto di Medicina Legale e delle Assicurazioni di Milano.

35.

Title: Study on the profile of the perpetrator of sexual crimes reported in the Italian news media from 2001 to 2005

The aim of such a statistical research consists in sketching a profile of crimes of sexual assault in Italy, involving women and minors according to the ways in which it is represented in media, particularly in the national press.

About 1250 newspaper articles in the period 2001-2005 have been analyzed.

In this study different variables have

been analyzed regarding the persons involved which are age, gender, nationality, number of aggressors.

For the purposes of this study, the data taken into consideration is the following: type, gender and number of victims, crime category, development of assault and victim/aggressor relationship.

36.

Title: Indicator of aggressive behaviour into a group of drug addicts.

The study takes a group of drug addicts (N=55) in residential treatment under investigation of the Irritability and which Dissipation-Rumination scales QI-R (Caprara et al. 1991).

The object of the research has been to gather the measurements about the tendency to react impulsively (IRRITABILITY) and that to nourish feelings of grudge and reprisal (RUMINATION/DISSIPATION).

Through opportune analyses statistics they have been inquired the eventual meaningful differences in the scores obtained between males and females, in the various substances used and between coming from subjects in treatment from the jail and subjects sent by Ser.T.

Afterwards the drug addicts group has been compared with a control group N=48 (not use of substances).

Di Muro, Luccarelli and Castrogiovanni (2005) identify three divergent theoretic positions:

Aggressiveness as phenomenon aimed at the destruction, aggressiveness understanding as innate instinct of control and command and at the Aggressiveness like result of two fundamental human instincts death and destruction against love and life. This research measures the pointers of the aggressive conduct through the soministration of the Irritability Questionnaire/Dissipation - QI-R (Caprara ET, 1991). In the specific one, inside of a group of drug addicts in residential treatment, they will come estimated the irritability delineated like tendency to react and the rumination impulsively/dissipation understanding like the tendency to nourish retort and rancour feelings. Using later on opportune analyses statistics the eventual meaningful differences in the scores obtained between males will be inquired and females, in the various substances used and between coming from subjects in treatment from the jail and subjects sent to you from the

Ser.T. The search has been carried out on a group of 55 drug addicts (47 males and 8 females) with a medium age of years 34 (D.s.= 6,62; Range= 19-55 years) in residential treatment near the Community Emmanuel has been so ministration the Irritability -Dissipation/Rumination Questionnaire QI-R (Caprara ET, 1991). The reliability of the measures has been inquired through the Alpha di Cronbach. Such approach finds the inner coherence and the homogeneity between the items that constitute the several one constructions. The Alpha of Cronbach assumes value 1, in case of perfect coherence between the items, and 0 in case of null coherence. Advanced values to .90 are usually consider you optimal, advanced to .80 many bonds, advanced to .70 discreet, advanced ones to .60 problematic ones, while, decidedly poor inferiors to .60 (Ercolani, Runs aground, Mannetti, 1990). However these considerations go according to modulated also the number of the "items".

The Alpha of concerning Cronbach, the scale of Rumination/Dissipation has been attested to an equal value to .86.

One at the beginning deduces from the made considerations of the paragraph as the values of the two scales are many bonds and that consequently testifies the reliability of the measures of the two scales and the homogeneity and the coherence of the items that constitute the two constructions. On the whole the two scales also not exhausting the complex aggressive phenomenology, pick some aspects important like the tendency to react and the pretension impulsively to try rancour feelings. In specific the data that precede beyond supplying coefficients approximately the reliability of the measures and the relation between the two constructions highly indicated to you, they inform us of like statistically meaningful differences, in the taken champion under investigation, they are from searching in the different legal position in which the subjects they are undergone to the residential treatment of reinstatement from the drug addiction and to establish them self in the society. However the being inside of an endowed structure of an own educational and therapeutic functionality that demands to the subject a modification of the behaviour can activate, com' is demonstrated from the scores statistically meant obtained to you in the constructions of the irritability, lived a highly frustrating that would

carry it to act to the minimal disagreement lessened provocation or contrariety in impulsive way.

In practical clinical famous in a these subjects greater inclination to produce itself conduct aggressive that re-enter in the availability of choices learned during the own existence. In other words, the state of danger and experienced uneasiness could have carried to a greater attitude to put into effect possible only aggressive behaviours that have turned out the lead or however that more effective (Caprara 1983).

Significance in construct inherent to rumination, that it represents a pointer of the individual to exceed with greater or smaller rapidity the feelings of rancour and connected desires of retort to the endured or presumed offences that the individual believes to have endured, could be interpreted from part of the coming from subject from the jail like a lack of codifies of the context that would carry it to confuse the therapeutic community with the penitential institution.

38.

Title: Kleptomania in male forensic psychiatric patients

By: Dr Olga Leonova. MD; Professor Boris Shostakovich, MD
Sechenov's Moscow Medical Academy, Russia

The objective of the study was to examine phenomenology and comorbidity of kleptomania and to reveal its course in a group of 34 adult male forensic psychiatric patients 18-49 years old (mean age 27,2±0,8).

Methods: Clinical-psychopathological (structured and semistructured clinical interview, ICD-10 and DSM-IV-R criteria.), non-parametric statistical analysis.

Results: The comorbid disorders were non-psychotic affective states, mostly dysthymic, and personality disorders: schizoid, schizotypal, borderline and emotionally unstable. The latter has presumably perinatal organic etiology. The stealing behavior served as a mean for emotional regulation and has the common features with substance dependence syndrome listed in ICD-10. The behavioral dependence could be described by the syndrome of psycho-physiological dependence from stealing, syndrome of changed psycho-physiological reactivity and increasing personality scarcity followed by rationalization of the urge to

steal at the final stages. Manifesting in adolescence or early adulthood, the urge to steal in its development has the following stages: initial stage (imprinting or learning) – obsessive thinking - compulsive urge – stage of personality scarcity. The regression of stealing behavior in kleptomania with early onset was combined with development of more destructive kinds of abnormal behavior in adulthood: habitual self-mutilation, alcohol and drug dependence, sexual paraphilias (pedophilia, sadomasochism).

39.

Title: New community strategies against organized crime and terrorism: European warrant arrest and international antiterrorism measures

By: Avv. Paolo Carnuccio

(Expert of Penal Right – Amministrative Penal Right at University “Magna Graecia” of Catanzaro – Italy; Teacher

of Penal Procedural Right at the Specialization Course for the Forensic Jobs at University “Magna Graecia” of Catanzaro – Italy)

The European Warrant Arrest constitutes the most modern tool among prevention and repression strategies of organized crime; is a judiciary establishment issued by a State Member of European Union in view of the arrest, and of the consignment, from an other Member State of an individual in order to the exercise of judiciary actions in penal right matter, or the execution of a penalty, or of a security privative measure of the freedom.

Each Member State, to carry out this new collaboration established on the reciprocal trust in structure and in working of the judiciary systems and in the capability of the Member States to warrant an impartial trial, has to adapt its right to judgement 2002/584 GAI (June 13th, 2002) of European Union Council and has to predispose domestic rules of exe-

cution of the warrant.

This work analyzes the mentioned institute through function and aims pursued, as well as procedural mechanisms of acknowledgement in Italian judiciary system (Law 69 April 22th, 2005) and in European ones, verifying compatibility with institutional internal limits, fundamental rights and inquired guarantees, principles of impartial trial.

Close to European Warrant Arrest penal and procedural measures of emergency connotation against terrorism take place.

In consequence of serious crimes of social warning, about reinforcement of prevention and contrast tools against international terrorism, are interesting Urgent Measures adopted by Italy (Law 155 July 31th, 2005), norms concerning with both investigative aspects, and points of view of substantial character inclined to creation of new penal paradigms of crime about terroristic matter and of new penalties for the author.