Contents

Section 1: Jurisprudence and Forensic Medicine	◆ Oath 51◆ Declaration of Geneva 52	
Chapter 1: Legal Procedure 3	Doctors and Media 54	
 History of Forensic Medicine 3 Inquest 6 Police Inquest 7 Magistrate Inquest 7 Courts of Law 9 	 Press Conference 54 Challenges in Medico-legal cases 54 Communication Skills 55 Conflict 56 Chapter 4: Acts Related to Medical Practice	60
 Subpoena/Summons 11 Conduct Money 12 Medical Evidence 12 Types of Witness 15 Recording of Evidence 16 Conduct and Duties of a Doctor in the Witness Box 18 Chapter 2: Medical Practitioner—Duties and Malpractices 20 National Medical Commission 20 	 The Transplantation of Human Organs Act, 1994 60 The Consumer Protection Act, 2019 63 Medical Indemnity Insurance 64 The Workmen's Compensation Act, 1923 65 Employees' State Insurance (ESI) Act, 1948 65 The Protection of Children from Sexual Offenses (POCSO) Act, 2012 66 The Transgender Persons (Protection of Rights) Act, 2019 67 The Assisted Reproductive Technology (Regulation) Act, 2021 68 The Medical Termination of Pregnancy (Amendment) Act, 2021 69 	
 Powers and Functions 21 State Medical Council (SMC) 22 Duties of a Doctor 24 Professional Secrecy 27 Privileged Communication 28 	 The Preconception and Prenatal Diagnostic Techniques Act, 1994 71 The Protection of Women from Domestic Violence Act, 2005 73 The Mental Healthcare Act, 2017 73 Chapter 5: Identification I	79
 Medical Malpractice 29 Professional Misconduct (Infamous Conduct) 29 Erasure of Name 31 Types of Physician—Patient Relationship 32 Professional Negligence 32 Safeguards Against Litigation 35 Defenses Against Negligence 36 Doctrine of Res Ipsa Loquitur 36 Calculated Risk Doctrine 37 Doctrine of Common Knowledge 37 Contributory Negligence 37 Corporate Negligence 38 Products Liability 38 Medical Maloccurrence 38 Therapeutic Misadventure/Hazard 39 	 Corpus Delicti 79 Race and Religion 80 Sex 81 Disorders of Sexual Development 83 Sex from Skeletal Remains 86 Age 90 Age from Ossification of Bones 94 Bone Age Estimation 97 Age Determination in Adults Over 25 years 97 Medico-legal Importance of Age 100 Stature 100 Scars 102 Tattoo Marks 102 	
❖ Vicarious Liability/Respondeat Superior 39	Chapter 6: Identification II	106
 Consent 40 Chapter 3: Ethical and Social Aspects of Medical Practice 45 	 Anthropometry (Bertillon System) 106 Dactylography 106 Poroscopy 110 	
 Medical Ethics 45 Euthanasia (Mercy Killing) 47 Stem Cell Research 48 Human Experimentation 49 Malingering (Shamming) 51 	 Lip Prints (Cheiloscopy) 110 Hair 111 Medico-legal Questions 111 Superimposition 115 Forensic Odontology 115 Miscellaneous Methods of Identification 117 	

Chapter 7: Medico-legal Autopsy	120	Chapter 10: Asphyxial Deaths	183
 Purpose/Objectives of Autopsy 121 		 Etiology of Asphyxia 183 	
❖ Procedure for Medico-legal Autopsies 121		 Clinical Effects of Asphyxia 184 	
❖ Instruments for Autopsy Examination 122		❖ Hanging 184	
❖ External Examination 123		 Autopsy of Neck (Asphyxial Deaths) 186 	
 Internal Examination (Evisceration) 125 		Postmortem Findings in Hanging 187	
❖ Skin Incisions 125		Medico-legal Questions 189	
 Evisceration Methods 125 		❖ Strangulation 190	
❖ Abdomen and Pelvis 126		Ligature Strangulation 191	
❖ Chest 127		Postmortem Examination 191	
★ Heart 128		Medico-legal Questions 192	
❖ Neck 130		Throttling (Manual Strangulation) 194	
❖ Skull and Brain 130		❖ Postmortem Examination 194	
Description of an Organ 132		❖ Medico-legal Questions 196	
❖ Report 133		❖ Hyoid Bone Fractures 196	
Demonstration of Pneumothorax 133		❖ Suffocation 197	
Demonstration of Air Embolus 133		❖ Drowning 201	
❖ Collection of Samples 134		❖ Postmortem Examination 203	
 Preservation of Viscera 135 Preservation of Samples 136 		 Medico-legal Questions 208 Automatic Asphania (Savad Asphania) 200 	
 Preservation of Samples 136 Samples for laboratory locations 137 		Autoerotic Asphyxia (Sexual Asphyxia) 209	
Samples for Laboratory Investigations 137		Chantan 11, Indicates	242
 Obscure and Negative Autopsy 138 Digital Autopsy 139 		Chapter 11: Injuries	213
Examination of Decomposed, Mutilated and		 Classification of Wounds/Injuries 213 	
Skeletonized Remains 140		❖ Abrasion 214	
• Medico-legal Questions 140		Bruise/Contusion 217	
• Exhumation 143		Lacerated Wound 221	
• Exhamation 173		Incised Wound (Cut/Slash/Slice) 223	
Chapter 8: Thanatology	146	❖ Chop Wounds 226	
chapter of manacology	140	Stab Wound/Punctured Wound 227	
❖ Death <i>146</i>		Defense Wounds 231	
❖ Brain/Brainstem Death 147		Fabricated/Fictitious/Forged Wounds 232	
Cause, Mechanism and Manner of Death 149			
❖ Cause of Death 150		Chapter 12: Firearm Injuries	235
Modes of Death (Proximate Causes of Death) 152		❖ Classification of Firearms 236	
❖ Anoxia 153		Rifled Firearms 236	
Sudden Death 153		 ❖ Smooth Bore Firearms/Shotguns 237 	
Coronary Atherosclerosis 154		Caliber (Gauge/Bore) 238	
CL + 0 C;	450	❖ Bullet 238	
Chapter 9: Signs of Death	158	❖ Cartridge 240	
❖ Immediate Changes (Somatic Death) 158		❖ Gunpowders (Propellant Charge) 241	
 Suspended Animation (Apparent Death) 159 		 Mechanism of Discharge of Projectile 242 	
❖ Early Changes (Molecular Death) 159		❖ Wound Ballistics and Mechanism of Injury 242	
 Postmortem Staining (Livor Mortis) 160 		❖ Firearm Wounds 243	
Algor Mortis (Cooling of the Dead Body) 163		 Characteristics of Shotgun Wounds 245 	
❖ Rigor Mortis 165		 Characteristics of Rifled Firearms Wounds 246 	
Cadaveric Spasm (Instantaneous Rigor) 167		Firearm Wounds on Skull 249	
Heat Stiffening 167		Exit Wounds 249	
❖ Cold Stiffening 169		 Peculiar Effects of Firearms 252 	
Putrefaction/Decomposition 169		 Postmortem Examination 253 	
 Decomposition of Submerged Body 173 		Preservation and Marking of Exhibits 254	
Floatation of a Dead Body on Water 174		 Medico-legal Questions 255 	
❖ Entomology 174		 Detection of Gunshot Residues 258 	
❖ Adipocere (Saponification) 175			
♦ Mummification 175		Chapter 13: Regional Injuries	262
Estimation of Time Since Death (TSD)/Postmortem Interval (PMI) 176		❖ Craniocerebral Injuries 262	
 Preservation of Dead Bodies 180 		 ❖ Cramocerebia injuries 202 ❖ Biomechanics of Head Injury 263 	
 Presumption of Survivorship 180 		Soft Tissue Injury 263	
Presumption of Death 181		V Soft fissue figury 203	

❖ Skull Fractures 264		Chapter 18: Neglect and Starvation Deaths	349
❖ Brain Injury 268		❖ Pathophysiology 350	
❖ Cerebral Concussion 268		Signs and Symptoms 350	
❖ Diffuse Axonal Injury 269		Postmortem Findings 351	
 Cerebral Contusion and Laceration 270 		 ★ Medico-legal Questions 351 	
❖ Coup and Contrecoup Injury 271		Wedico-legal Questions 331	
• Intracranial Hematoma 273		Chantor 10. Dadiation Cicknoss Anosthatic and	
❖ Epidural/Extradural Hematoma 273		Chapter 19: Radiation Sickness, Anesthetic and	
Subdural Hematoma 275		Operative Deaths	353
❖ Subarachnoid Hematoma 277		Louisium Dadiation Decetions 252	
❖ Intracerebral Hematoma 279		 Ionizing Radiation Reactions 353 Anathorizand Operative Parable 254 	
❖ Diffuse Injury to the Brain 282		 Anesthetic and Operative Deaths 354 	
❖ Facial Injuries 283		Postmortem Examination 355	
❖ Spinal Cord 284		CL 4 20 LC 41 LCHILAL	350
❖ Neck 285		Chapter 20: Infanticide and Child Abuse	358
❖ Vertebral Column 285		❖ Postmortem Examination of Infants 359	
❖ Chest 285		❖ Age of Fetus 361	
❖ Lungs 286		❖ Rule of Hasse 361	
❖ Heart 286		 Demonstration of Centers of Ossification 363 	
❖ Abdomen 287		❖ Viability of Fetus/Infant 364	
❖ Kidneys 288		★ Live-Born/Dead-Born/Stillborn 364	
❖ Bones and Joints 289		Postmortem Findings 365	
		❖ Signs of Dead-born Fetus 368	
Chapter 14: Thermal Injuries	293	 Signs of Stillborn Fetus 369 	
A C-141-1 202		❖ Infant Death 370	
❖ Cold Injury 293		◆ Battered Baby Syndrome 373	
+ Heat Injury 295		❖ Child Abuse 375	
• Heat Stroke/Heat Hyperpyrexia 296		❖ Sudden Infant Death Syndrome 376	
start Surns 298		 Munchausen Syndrome by Proxy 377 	
• Postmortem Examination 301		Widicilausen syndionie by Hoxy 377	
• Medico-legal Questions 305		Chantor 21. Criminal Abortion	200
Scalds 307		Chapter 21: Criminal Abortion	380
* Electrical Injuries (Electrocution) 308		 Classification of Abortion 380 	
❖ Judicial Electrocution 311		Criminal Abortion 381	
❖ Lightning Stroke 311		 Complications of Criminal Abortion 384 	
al		 Duties of a Doctor in Suspected Case of Criminal Abortion 385 	
Chapter 15: Transportation Injuries	314	 Examination of a Woman with Alleged History of Abortion 385 	
❖ Pedestrian Injuries 314		Trauma and Abortion 387	
❖ Injuries Sustained by Vehicle Occupants 318			
❖ Role of Seat Belts and Air Bags 320		Chapter 22: Erectile Dysfunction and Sterility	389
Motorcycle and Cycle Injuries 320		. ,	
❖ Postmortem Examination 321		 Causes of Erectile Dysfunction and Sterility in Males 389 	
❖ Alcohol, Drugs and Trauma 322		 Causes of Impotence and Sterility in Females 392 	
❖ Railway Injuries 322		 Examination of a Person in an Alleged Case of Erectile 	
, , , , , , , , , , , , , , , , , , ,		Dysfunction and Sterility 393	
Chapter 16: Explosion Injuries and Fall from Height	324	Nullity of Marriage and Divorce 394	
	321	❖ Sterilization 395	
❖ Explosion Injuries 324		❖ Artificial Insemination (AI) 397	
 Classification of Injuries 325 		Surrogate Mother 399	
❖ Fall from Height 327		Normal Female genitalia 401	
❖ Injury Patterns 328			
		Chapter 23: Virginity, Pregnancy and Delivery	401
Chapter 17: Medico-legal Aspects of Injuries	332	❖ Medico-Legal Aspects 403	
❖ Grievous Hurt 333		❖ Pregnancy 404	
• Punishments 337		 Presumptive Signs/Symptoms 404 	
❖ Causes of Death from Wounds 338		❖ Probable Signs of Pregnancy 405	
Medico-legal Questions 342		 Positive/Conclusive Signs of Pregnancy 407 	
 ❖ Injury Report 345 		 Pseudocyesis (Spurious/False/Phantom Pregnancy) 409 	
• Mode of Starvation 349		❖ Superfecundation 409	
		•	

Contents

 Superfetation 409 Legitimacy and Paternity 410 Signs and Symptoms of Recent Delivery in Living 411 Signs of Remote Delivery in Living 412 Medico-legal Aspects of Pregnancy and Delivery 412 Chapter 24: Sexual Offenses Rape 417 Duties of a Doctor in Case of a Survivor of Sexual Assault (Rape) 420 Examination of Sexual Assault Survivor 421 Examination 425 Specimens for Laboratory Examination 429 Opinion 430 Corroborative Signs of Sexual assault 431 Rape on Deflorate/Sexually Active Woman 432 Rape on Children 433 Medico-legal Questions 433 	416	 Role of Forensic Psychiatrist 467 Psychiatric Assessment 468 Classification of Mental, Behavioral or Neurodevelopmental Disorders (ICD-11) 469 Neurodevelopmental Disorders 469 Schizophrenia 470 Catatonia 472 Mood Disorders 473 Anxiety or Fear-related Disorders 474 Obsessive-Compulsive or Related Disorders 475 Stress Disorders 476 Dissociative Disorders 477 Feeding or Eating Disorders 477 Bodily Distress or Bodily Experience Disorders 478 Substance use or Addictive Behaviors Disorders 478 Impulse Control Disorders 478 Disruptive Behavior or Dissocial Disorders 479 Personality Disorders and Related Traits 479 	
 ❖ Indicators of Sexual Abuse 434 ❖ Examination of Rape Accused 435 		❖ Factitious Disorders 479	
❖ Incest 436		 Neurocognitive Disorders 479 Sleep-Wake Disorders 480 	
❖ Adultery 437		❖ Mental Disorder and Responsibility 481	
Chapter 25: Homosexuality	439	Chapter 29: Bloodstain Analysis	486
 Sodomy 439 Examination of Passive Partner of Sodomy 440 Opinion 441 Examination of Active Partner of Sodomy 442 Legal Aspects 442 Lesbianism/Tribadism 443 Bestiality/Zoophilia 444 Buccal Coitus 444 		 Bloodstain Pattern Analysis 486 Presumptive Tests for Blood 487 Confirmatory Tests for Blood 488 Species Identification 488 Genetic Markers in Blood 490 Medico-legal Application of Blood (Groups) 491 Medico-legal Questions 493 	
Chapter 26: Paraphilia	446	Chapter 30: Seminal Stains and Other Biological Samples	496
 Sadism (Algolagnia) 446 Masochism (Passive Algolagnia) 447 Transvestic Fetishism (Eonism) 448 Voyeurism (Scoptophilia) 449 Exhibitionism 449 Fetishism 449 		 Purpose of Seminal Identification 497 Examination of Seminal Stains 497 Confirmatory Tests 498 Individualization of Seminal Stains 500 Medico-legal Questions 501 Identification of Biological Samples and Body Fluids 501 	
❖ Frotteurism (Toucherism) 450		Chapter 31: DNA Fingerprinting	504
 Pedophilia 450 Masturbation (Onanism) 450 Insertion of Foreign Objects/Fingers 451 Indecent Assault 452 	455	 Restriction Fragment Length Polymorphism 504 Polymerase Chain Reaction 506 Specimen Selection and Preservation 508 Uses of DNA Fingerprinting 509 Limitations of DNA Testing 510 	
Chapter 27: Postmortem Artifacts	433	* Limitations of DNA Icsuing 570	
 Artifacts due to Postmortem changes 455 Third Party Artifacts 457 Environmental Artifacts 459 Miscellaneous Artifacts 459 		 Chapter 32: Torture and Custodial Deaths ❖ Types of Torture 512 ❖ Medical Practitioner and Torture 514 ❖ Custodial Deaths 515 	512
Chapter 28: Forensic Psychiatry	461		
 Delusion 461 Hallucination 462 Illusion 464 Impulse 465 Obsession—Compulsion 465 Lucid Interval 466 		 Chapter 33: Medico-legal Aspects of HIV ★ HIV Testing Policy 518 ★ Healthcare Workers and HIV Infection 519 ★ Partner Notification (Contact Tracing/Partner Counseling) 519 ★ Clinical Trials and HIV 520 ★ Blood Donation and HIV 520 	518

Chapter 34: Newer Techniques and Recent Advances	522	❖ Postmortem Findings 577	
* Polygraph 522		❖ Chronic Copper Poisoning 577	
 Brain Fingerprinting (Brain Mapping) 523 Narco-analysis 523 		Chapter 41: Inorganic Metallic Irritants—Thallium	579
❖ Facial Reconstruction 524		❖ Signs and Symptoms 579	
 Crime Scene Investigation 525 		 ❖ Treatment 580 ❖ Postmortem Findings 580 	
Section 2: Toxicology		Chapter 42: Other Inorganic Metallic Irritants	582
Chapter 35: General Toxicology	531	❖ Cadmium 582	
Medico-legal Aspects of Poisons 532		◆ Barium 583	
 Classification of Poisons 533 Tourisding and Tourisd Appropries of Poisons 534 		❖ Zinc 584❖ Metal Fume Fever 585	
 Toxicokinetics and Toxicodynamics of Poisons 534 Poisoning in the Living 534 			
 Duties of a Doctor in a Case of Suspected Poisoning 535 		Chapter 43: Non-metallic Irritants	587
• Medical Records 536		❖ Phosphorus 587	
 Suicide/Homicide/Accident 536 Management of Poisoning Cases 537 		Signs and Symptoms 587	
Removal of Unabsorbed Poison 538		 Postmortem Findings 589 Chronic Phosphorus Poisoning 590 	
❖ Administration of Antidotes 540		❖ lodine Poisoning 590	
 Elimination of Poison by Excretion 542 Diagnosis of Poisoning in Dead 543 		Chapter 44: Organic Irritants—Plant	592
 Samples Preserved for Toxicological Analysis 545 			
* Failure to Detect Poison 545		 ❖ Ricinus Communis (Castor) 592 ❖ Croton Tiglium (Jamalgota) 593 	
Chromatography 546		 Abrus Precatorius (Rati/Rosary Pea/Gunchi/Jequirity) 594 	
Chapter 36: Corrosive Poisons	549	❖ Suis <i>595</i>	
❖ Mineral/Inorganic Acids 549		 ❖ Semecarpus Anacardium 595 ❖ Capsicum Annuum 596 	
❖ Vitriolage (Vitriol Throwing) 551		 ★ Calotropis (Rubber Bush) 597 	
• Chemical Colitis 552		·	
 Oxalic Acid (Acid of Sugar) 552 Carbolic Acid (Phenol) 553 		Chapter 45: Organic Irritants—Animal	599
Strong Alkalis (Caustic Alkalis) 554		❖ Snakes 599	
Chanton 27. Imagenia Matallia Imitanta Arcania	CC7	Signs and Symptoms of Ophitoxemia 602	
Chapter 37: Inorganic Metallic Irritants—Arsenic	557	 ❖ Management 605 ❖ Postmortem Findings 608 	
Signs and Symptoms (Acute Poisoning) 558		❖ Scorpions 609	
❖ Treatment 559❖ Postmortem Findings 559		❖ Bees and Wasps 610	
 Chronic Arsenic Poisoning 560 		Spiders 610	
❖ Postmortem Findings 561❖ Postmortem Imbibition of Arsenic 561		Chapter 46: Somniferous Poisons (Narcotic Poisons)	613
Fostillor telli lilibibitioni di Alsenic 301		❖ Opium 613	
Chapter 38: Inorganic Metallic Irritants—Mercury	563	❖ Signs and Symptoms 614	
❖ Signs and Symptoms (Acute Poisoning) 564		❖ Treatment 615❖ Postmortem Findings 616	
❖ Treatment 565		 Chronic Morphine Poisoning (Morphinism) 618 	
• Postmortem Findings 565			
 Chronic Mercury Poisoning (Hydrargyrism) 565 Specific Features/Diseases 566 		Chapter 47: Inebriants—Alcohol	620
·	5 40	Signs and Symptoms (Acute Poisoning) 622	
Chapter 39: Inorganic Metallic Irritants—Lead	568	❖ Treatment 623❖ Drunkenness 625	
 Chronic Lead Poisoning (Plumbism/Saturnism) 		❖ Laboratory Diagnosis 628	
❖ Signs and Symptoms 570❖ Treatment 572		 Collection of Samples in the Living 629 	
❖ Ireatment 5/2❖ Postmortem Findings 5/3		❖ Alcoholism 629❖ Delirium Tremens 630	
-		 Delirium Tremens 630 Wernicke's Encephalopathy 631 	
Chapter 40: Inorganic Metallic Irritants—Copper	575	❖ Korsakoff's Psychosis 631	
❖ Signs and Symptoms 576❖ Treatment 576		Methyl Alcohol (Methanol) 632Ethylene Glycol 634	

❖ Endrin *683*

Chapter 48: Sedative-hypnotic—Barbiturates	637	❖ Paraquat 684	
❖ Signs and Symptoms 637		Pyrethrins and Pyrethroids 685	
❖ Treatment 638❖ Postmortem Findings 639		Chapter 57: Alphos (Aluminum Phosphide)	687
❖ Barbiturate Automatism (Self-poisoning) 639		❖ Signs and Symptoms 688	
❖ Dhatura/Datura 641		❖ Treatment 688	
	444	❖ Postmortem Findings 690	
Chapter 49: Deliriants—Dhatura/Datura	641	Paracetamol (Acetaminophen) 692	
Signs and Symptoms 642		Chapter 58: Medicinal Poisons	692
Treatment 643Postmortem Findings 644		• Iron 693	
V Toolinotem Findings 077		❖ Phenytoin 694	
Chapter 50: Deliriants—Cannabis	646	❖ Lithium 694	
❖ Signs and Symptoms 647		Antipsychotic Drugs (Tranquilizers) 695	
❖ Treatment 648		 Tricyclic Antidepressants 696 Benzodiazepines 696 	
❖ Run-amok 648		 ❖ Acetylsalicylic Acid (Aspirin) 697 	
		❖ Antibiotics 699	
Chapter 51: Deliriants—Cocaine	650	❖ Muscle Relaxants 699	
❖ Signs and Symptoms 651		❖ Local Anesthetics 699	
❖ Treatment 651		 ❖ Propofol 700 ❖ Insulin 700 	
Chantay F2: Chinal Deisons	651	Tisum 700	
Chapter 52: Spinal Poisons	654	Chapter 59: Drug Dependence and Date Rape Drugs	703
Strychnos Nux-vomica 654		❖ Patterns of Drug use Disorders 703	
 ❖ Signs and Symptoms 655 ❖ Treatment 656 		 Psychoactive Substances 704 	
Aconite 658		❖ Hallucinogens 707	
V Nestine 333		❖ Date Rape Drugs 709	
Chapter 53: Cardiac Poisons	658	 Complications of Drug Abuse 710 Postmortem Findings 710 	
Nicotiana Tabacum (Tobacco) 660		 Medical Jurisprudence 712 	
Digitalis Purpurea (Foxglove) 660		•	
❖ Oleander (Kaner) 661		Chapter 60: Supplement	712
❖ Nerium Odorum 662		❖ Medical Acts 713	
❖ Cascabela Thevetia 662		 Decompression Sickness 717 	
❖ Cerbera Odollam 663		❖ Altitude Illness 717	
Chapter 54: Hydrocyanic Acid	666	❖ Toxicology 718	
		❖ Boric Acid (Hydrogen Borate/Orthoboric Acid) 718	
Signs and Symptoms 667		 Hydrofluoric Acid 719 Methemoglobinemia Inducing Agents 720 	
Treatment 667Postmortem Findings 668		 Methemoglobinemia Inducing Agents 720 Ergot 720 	
Postmortem Findings 668Judicial Execution 669		Cantharides (Spanish Fly) 721	
yadical Execution 505		❖ Isopropyl Alcohol 722	
Chapter 55: Asphyxiants	671	❖ Peripheral Nerve Poisons 722	
❖ Carbon Monoxide (CO) 671		Cardiac Poisons 724Carbon Dioxide 725	
❖ Treatment 672		★ Carbon Dioxide 725★ Hydrogen Sulfide 726	
❖ Postmortem Findings 673		 → Hydrogen Sunde 720 → Biological Weapons 728 	
❖ Tear Gases 674		Naphthalene 729	
 Methyl Isocyanate (MIC) 675 		❖ Kerosene Oil Poisoning 730	
Chanton CC. Anniquitarial Dallaria	<i>(</i> 77	❖ Food Poisoning 732	
Chapter 56: Agricultural Poisons	677	❖ Poisonous Foods 734	
• Organophosphorus Compounds (OPCs) 677		Answer Key	737
Signs and Symptoms 678Treatment 680		THISWEL IVER	/3/
❖ Postmortem Findings 682		Index	<i>739</i>