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*With the respects of
The author*

AN

INAUGURAL DISSERTATION

ON

INFANTICIDE;

SUBMITTED TO

THE EXAMINATION OF

SAMUEL BARD, M.D. L.L.D. PRESIDENT,

AND THE TRUSTEES AND PROFESSORS OF THE COLLEGE OF
PHYSICIANS AND SURGEONS OF THE UNIVERSITY OF
THE STATE OF NEW-YORK;

AND

PUBLICLY DEFENDED,

FOR THE

DEGREE OF DOCTOR OF MEDICINE,

ON THE 6th DAY OF APRIL, 1817.

BY JOHN B. BECK, A. M.

SECOND VICE-PRESIDENT OF THE MEDICO-CHIRURGICAL SOCIETY, AND
MEMBER OF THE LYCEUM OF NATURAL HISTORY.

"Nec Medicus studium Jurisprudentiæ, nec Jurisconsultus studium Medicinæ plane negligat." — Alberti.

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THE UNIVERSITY OF CHICAGO

PH.D. DISSERTATION

REV. JOHN B. ROMEY, D.D.

THIS DISSERTATION

IS HEREBY DEDICATED

TO THE FACULTY OF THE DIVISION OF THE PHYSICAL SCIENCES

OF THE UNIVERSITY OF CHICAGO

JOHN B. ROMEY

TO THE
REV. JOHN B. ROMEYN, D.D.

THIS DISSERTATION

IS RESPECTFULLY DEDICATED,

WITH EVERY FEELING OF GRATITUDE AND AFFECTION,

BY HIS NEPHEW,

JOHN B. BECK.

TO

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AND OF MIDWIFERY,

**IN THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY
OF THE STATE OF NEW-YORK, &c. &c.**

THIS DISSERTATION IS DEDICATED,

NO LESS FOR HIS DISTINGUISHED EMINENCE AS A PHYSICIAN,

THAN FOR THE UNIFORM FRIENDSHIP WHICH

HE HAS MANIFESTED TOWARDS

HIS PUPIL,

THE AUTHOR.

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THEORY AND PRACTICE OF SURGERY

THE HISTORY OF SURGERY AND MEDICINE OF THE UNIVERSITY

OF THE STATE OF CALIFORNIA, VOL. I.

OF THE HISTORY OF SURGERY AND MEDICINE OF THE UNIVERSITY

THE HISTORY OF SURGERY

OF THE STATE OF CALIFORNIA, VOL. I.

OF THE HISTORY OF SURGERY AND MEDICINE OF THE UNIVERSITY

OF THE STATE OF CALIFORNIA, VOL. I.

ATLANTA

1858

TO

THEODERICK ROMEYN BECK, M.D.

PROFESSOR OF THE

THEORY AND PRACTICE OF PHYSIC,

IN THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY
OF THE STATE OF NEW-YORK, ESTABLISHED AT FAIRFIELD, &c. &c.

THE FOLLOWING PRODUCTION

IS PRESENTED AS AN OFFERING OF FRATERNAL RESPECT AND

AFFECTION, BY THE

AUTHOR.

TO

JOHN W. FRANCIS, M.D.

PROFESSOR OF THE

INSTITUTES OF MEDICINE,

IN THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE UNIVERSITY
OF THE STATE OF NEW-YORK, &c. &c.

THIS ESSAY IS INSCRIBED

IN TESTIMONY OF HIS PROFESSIONAL ATTAINMENTS

AND PRIVATE WORTH,

BY THE

AUTHOR.

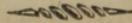
PREFACE.

THE science of MEDICAL JURISPRUDENCE, of which the subject of the following Dissertation forms an important branch, lays claim to the attention of every one who feels any concern in the pure administration of justice. To the Physician, it recommends itself by considerations even still more interesting. It is only by a knowledge of its principles that he can with honour release himself from the high personal responsibility, which he is frequently obliged to assume in cases involving the lives of his fellow-creatures. In most criminal trials for poisoning, drowning, infanticide, &c. the testimony of the Medical witness must necessarily in a great measure decide the fate of the accused. It cannot, therefore, but be obvious, how useful and even indispensably necessary it is for him to possess an intimate acquaintance with a branch of knowledge, whose object it is to supply him with the means of forming just inductions and correct decisions, whenever he may be called into a court of justice, or before a coroner's inquest.

It seems singular that a science of such importance should have been so much neglected, both in Great Britain and in America. In the former country, there is not a single writer of great value on the subject; and, with the exception of Dr. Duncan's Lectures on Legal Medicine, delivered in Edinburgh, it has been hitherto wholly excluded from their courses of Medical instruction. In this country, it has been rather more cultivated. In the College of Physicians and Surgeons of this city, it has for several years been the subject of Medical instruction by Dr. James S. Stringham. Lectures have also been delivered on it by Dr. T. R. Beck, in the College of Physicians and Surgeons at Fairfield, in this State. In addition to these, if the writer has been correctly informed, a private course has been given in Philadelphia, by Dr. Caldwell.

There are indications which prove that the science is not wholly disregarded here; and we cannot but cherish the hope, that it will soon attain to that elevation among us, to which it has long since arrived in France and Germany, where it has given birth to the most profound and extensive researches.

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AN
INAUGURAL DISSERTATION, &c.

CHAPTER I.

HISTORY.

IT is a fact no less melancholy than astonishing, that a practice so unnatural as that of Infanticide should ever have prevailed to any extent. Its existence might have been supposed possible in those unhappy regions of our earth, where untutored passion and brutal sense reign triumphant over reason and morality; but that the fairest portions of society, where genius, science, and refinement had taken up their abode, should have been disgraced by a crime so disgusting, is one of those anomalies in the history of human feeling and conduct, which irresistibly prove how perfectly arbitrary and undefined are the laws of justice and humanity, when unguided by the principles of true religion.

The fact, however, is not more astonishing than true. A slight review of its history, will show us that this practice prevailed in almost all the ancient nations, and that it is not even yet blotted from the list of human crimes.

The *laws of Moses** are silent on the subject of infanticide; and from this circumstance we should be led to conclude, that the crime was unknown among the Jews at that period of their history, and therefore, that any positive prohibition of it was considered unneces-

* Michaelis' Commentaries on the Laws of Moses, vol. iv.

sary. The penal code of the Jews is so very minute on the subject of murder in general—considers it so atrocious a crime, and denounces such terrible punishments against the perpetrators of it, that it is wholly incredible that the murder of infants would have been countenanced by their illustrious legislator. This conclusion appears to be further confirmed by the considerations, that barrenness was esteemed one of the greatest misfortunes which could befall a Jewish woman, and that the Jews were all desirous of a progeny, because each cherished the hope that the Messiah might be numbered among his descendants. These facts prove that every inducement was held out for the propagation of children, and none to countenance their destruction.

At a subsequent period, when they became contaminated by their intercourse with the Canaanites, we find the Jews imitating* the example of their king Manasseh, who sacrificed his son to the idol Molech†. These horrid sacrifices were suppressed by king Josiah, who commanded, “that no man might make his son or his daughter to pass through the fire to Molech‡.” And Tacitus, in describing the manners of the Jews of his day, says that they were not allowed to put their children to death§.

The nations surrounding the Jews, appear to have been addicted to the sacrifice of children. Of these, the *Canaanites* are described as “sacrificing their sons and their daughters unto devils, and shedding innocent blood, even the blood of their sons and

* Jer. vii. 31. & xix. 5.

† 2 Chron. xxxiii. 6. 2 Kings xxi. 6.

‡ 2 Kings xxiii. 0.

§ Tac. Hist. Lib. v. ch. 5.

“ their daughters, whom they sacrificed unto the idols
“ of Canaan.*”

Among the *Egyptians*, infants were treated with more humanity, yet instances are not wanting of the greatest cruelty towards them. A memorable one is found in the commission of Pharaoh to the midwives to murder all the male offspring of the Jews. Their own children, however, were treated with greater tenderness, and they are accordingly, on this account, mentioned with honour by some of the writers of other countries. Strabo, in particular, speaks of them as an honourable exception to those nations who exercised the right of life and death over their infants †.

Among the *ancient Persians*, it was a common custom to bury children alive. Herodotus tells us of Amestris, the wife of Xerxes, who, at an advanced age, ordered fourteen Persian infants, of illustrious birth, to be interred alive, in honour of one of the deities of the country ‡.

In most of the *Grecian States*, infanticide was not merely permitted, but actually enforced by law. The Spartan lawgiver expressly ordained, that every child that was born should be examined by the ancient men of the tribe, and that, if found weak or deformed, it should be thrown into a deep cavern at the foot of mount Taygetus, called *Apotheta*, “ concluding its life
“ could be of no advantage, either to itself or to the pub-
“ lic, since nature had not given it at first any strength
“ or goodness of constitution §.” This practice was not, however, upheld merely by the sanction of law; it was defended by the ablest men of Greece. Aristotle,

* Psalm cvi. 37, 38.

† Beckman on Invent. vol. 4. p. 435.

‡ Beloe's Herod. vol. 4. p. 37.

§ Plutarch Vit. Lycur. vol. 1. p. 142.

in his work on government, enjoins the exposure of children that are naturally feeble and deformed, in order to prevent an excess of population. He adds, "if this idea be repugnant to the character of the nation, fix at least the number of children in each family; and if the parents transgress the law, let it be ordained, that the mother shall destroy the fruit of her body before it shall have received the principles of life and sensation*." The mild Plato also justifies this practice. In his Republic, he directs that children born with any deformity, shall be removed and concealed in some obscure retreat†.

Of the existence of infanticide at *Athens*, we have the testimony of the comic poets, who, in describing the manners of that city, frequently allude to the exposure of children‡.

The following quotation from a Greek writer, shows the extent of this crime as it actually prevailed :

ΥΙΟΝ ΤΡΕΦΕΙ ΤΙΣ, ΚΑΝ ΠΕΥΣ ΤΙΣ ΑΝ ΤΥΧΗ
ΘΥΓΑΤΕΡΑ Δ' ΕΚΛΙΘΗΣΕΙ, ΚΑΝ Η ΠΛΟΥΣΙΟΣ.

"A man, though poor, will not expose a son; but if rich, he will scarcely preserve a daughter."

Thebes, however, exhibited a noble contrast to the rest of Greece. By one of her laws, it was expressly forbidden to imitate the other Grecian cities, who exposed their children at their birth§.

But of all the nations of antiquity, the *Romans* were the most unrelenting in their treatment of infants. The Roman father was invested with an absolute authority

* Travels of Anacharsis, vol. 5. p. 270.

† Ibid. vol. 4. p. 342.

‡ Vide Quarterly Rev. vol. 2. p. 389. for quotations from Terence and Plautus.

§ Travels of Anacharsis, vol. 3. p. 277.

over the lives and fortunes of his children*, and we have abundance of testimony to show that the right was commonly exercised. This barbarous prerogative was co-eval with the existence of Rome, and continued to triumph over justice and humanity during the lapse of many ages, until Christianity wrested it from her.

Romulus authorized the destruction of all children that were deformed. He, however, required the parents to exhibit them to their five nearest neighbours, and to obtain their consent to their death†. The law of the Twelve Tables, enacted in the 301st year of Rome, sanctioned the same barbarous practice‡. After this, even the slight restrictions which Romulus had imposed upon parents, appear to have been removed, and an unqualified jurisdiction surrendered to the father over the lives of his children, even after they had arrived to years of maturity. Sallust mentions an instance of the latter: *Fuere tamen extra conjurationem complures, qui ad Catalinam initio profecti sunt: in his A. Fulvius, senatoris filius; quem retractum ex itinere, parens jussit necari.* Sallust. Cat. xxxix.

The procuring of *abortion*, which can be considered no less than murder, was also notoriously prevalent among the Romans. Juvenal thus speaks of that nefarious practice:

Hæ tamen et partus subeunt discrimen et omnes
Nutricis tolerant, fortuna urgente, labores
Sed jacet aurato vix ulla puerpera lecto;

* The right of parents over their children is thus stated in the Justinian Institutes, Lib. 1. Tit. ix. p. 22. Cooper's edit. *Jus autem potestatis, quod in liberos habemus, proprium est civium Romanorum; nulli enim alii sunt homines, qui talem in liberos habeant potestatem, qualem nos habemus.*

† Montesquieu's Spirit of Laws, vol. 1. p. 104. Lond.

‡ Cooper's Justinian, p. 659.

Tantum artes hujus, tantum medicamina possunt,
 Quæ steriles facit, atque homines in ventre necandos
 Conducit*.——Juv. Sat. vi. v. 592.

Minucius Felix thus describes the barbarity of the Romans in this respect: “I see you exposing your infants to wild beasts and birds, or strangling them after the most miserable manner. Nay, some of you will not give them the liberty to be born, but by cruel potions procure abortion, and smother the hopeful beginning of what would come to be a man, in his mother’s womb†.”

Pliny the Elder himself defends the right of parents to destroy their children, upon the ground of its being necessary to preserve the increase of population within proper bounds.

Such was the practice of ancient Rome from her first origin down to the time of Constantine the Great. During the days of her greatest political grandeur it was carried to the highest excess; and whilst she was boasting of her refinement, and casting the opprobrious epithet of barbarian on all around her, she was guilty of the basest profligacy, and the most hardened cruelty. Christianity first opposed a barrier to the desolations of this crime: her mild and humane spirit could not but discountenance it; and accordingly it animated all who were arrayed under her peaceful banners, to exert their energies in

* “Yet these, though poor, the pain of childbed bear,
 And without nurses their own infants rear.
 You seldom hear of the rich mantle spread
 For the babe, born in the great lady’s bed.
 Such is the power of herbs; such arts they use
 To make them barren, or their fruit to lose.”

Dryden’s Juvenal.

† Octav. Minucii Felicis, ch. xxx.

arresting its progress. The Christian writers of that day are full on this point. Tertullian, in his Apology, expresses himself with heroic boldness on this subject; "How many of you," (addressing himself to the Roman people, and to the governors of cities and provinces,) "might I deservedly charge with infant murder; and not only so, but among the different kinds of death, for choosing some of the cruelest for their own children, such as drowning or starving with cold or hunger, or exposing to the mercy of dogs; dying by the sword being too sweet a death for children, and such as a man would choose to fall by sooner than any other ways of violence. But Christians now are so far from homicide, that with them it is utterly unlawful to make away a child in the womb, when nature is in deliberation about the man; for to kill a child before it is born, is to commit murder by way of advance; and there is no difference, whether you destroy a child in its formation, or after it is formed and delivered; for we Christians look upon him as a man who is one in embryo; for he is a being like the fruit in blossom, and in a little time would have been a perfect man, had nature met with no disturbances*."

In A. D. 315, Constantine the Great enacted a law providing for the maintainance and education of those children whose parents were too poor to do the same†. He also ordered a severe punishment to be inflicted on a cruel father. This was the first time that the authority of the government had interposed to arrest this crime; and it is not to be supposed, that a custom which had become so familiar to all the habits and feel-

* Tertull. Apol. ch. ix.

† Ant. Univ. Hist. vol. xv. p. 576.

ings of the Roman people would be immediately suppressed : and accordingly we find that it still continued to prevail, though in a less degree, until the end of the 4th century, when it was finally exterminated by the Emperors Valentinian, Valens, and Gratian.

The *Phenicians* and *Carthagenians* were in the habit of sacrificing infants to their gods. The latter had a law by which four children* of noble birth were regularly immolated upon the altars of Saturn. History records a melancholy instance of the superstition and cruelty of these deluded people. It is related, that they attributed their defeat by Agathocles, king of Sicily, to an omission of these sacrifices, and in order to atone for their past neglect, they offered up, at one time, two hundred of the sons of their nobility.

Silius Italicus notices this custom :

“ Mos fuit in populis, quos cecidit Advena Dido,
 Poscere cæde deos veniam, ac flagrantibus aris
 (Infandum dictu) parvos imponere natos.” Lib. 4.

The *ancient Germans*, although in the habit of sacrificing prisoners taken in battle, do not appear to have been addicted to the crime of infanticide. Tacitus, in describing their manners, mentions a contrary practice as one of the peculiarities distinguishing their character : “ Numerum liberorum finire, aut quenquam ex “ agnatis necare, flagitium habetur.”

Among the *Visigoths*, the murder of infants was a common crime. Chindaswinthus, one of their kings, in his laws, describes the procuring of abortion, as well as the murder of children after they are born, as practices that were prevalent in the provinces, and denounced severe penalties on the perpetrators of those crimes.†

* An. Univ. Hist. vol. xvii. p. 257.

† De Morib. Germ. xix.

‡ Ryan on the Effects of Religion on Mankind, p. 110.

But *infanticide* was not confined to the ancients. It has descended to modern nations, and at the present day disgraces Eastern and Southern Asia by its enormities.

The *Chinese* are notorious for their cold indifference in the exposure and murder of their children. According to Mr. Barrow, the number of children exposed in Peking alone, amounts to 9000 annually. No law exists to prevent it. On the contrary, it appears rather to be encouraged, inasmuch as persons are employed by the police of the city to go through the different streets every morning in carts, to pick up all the children that may have been thrown out during the night. "No inquiries are made; but the bodies are carried to a common pit without the walls of the city, into which all, whether dead or living, are promiscuously thrown*." The practice is not confined to the Capital; it prevails also in other parts of the country. It is calculated that the number of infants destroyed in Peking, are about equal to that of all the rest of the empire†. Almost all those that are exposed are females. The causes assigned for its prevalence, are extreme poverty, arising from an overgrowth of population; frequent and dreadful famines springing from the same cause; the natural coldness of affection in the Chinese; together with the sanction of custom, and the want of any law forbidding it.

Among the *Hindoos*, infanticide presents itself in a form still more horrible. It is incorporated into their system of religion, and its atrocities are beyond description. The blood of their infants seems to have

* Barrow's Travels in China, p. 113. Am. Ed.

† Ibid. 114. Vide also De Pauw's Philosophical Dissert. on the Egyptians and Chinese

quenched completely the sacred flame of humanity; while the lights of reason and truth are extinguished by the absurdities of superstition. This crime has existed among them for at least 2000 years; for Greek and Roman Historians notice it, and refer to some of the very places where it is now known to exist*. The number of infantile murders in the provinces of Cutch and Guzerat alone, amounted, according to the lowest calculation in 1807, to 3000 annually†. According to another computation, 30,000. Females are almost the only victims. In defence of the practice, they urge the difficulty of rearing female children, the expense attending their education, and the small probability there is of their ever being married‡. Within a few years, through the benevolent exertions of some of the subjects of Great Britain, infanticide has been completely abolished in many of the provinces. Mr. Duncan, governor of Bombay, Marquis Wellesley, and Col. Walker, were the persons who took the lead in this affair, and by whose energy and perseverance, results, so honourable to themselves, and which may be expected to have a beneficent influence on the progress of civilization, were accomplished.

In *Otaheite*, infanticide is so common, that it threatens the complete depopulation of the Island. According to a late voyager§, at least two-thirds of the children born are destroyed. The effect which it has had in diminishing the number of inhabitants is astonishing; and affords a strong fact in refutation of the doctrines

* Buchanan's Researches in Asia, Eng. Ed. p. 49.

† Ibid. p. 49.

‡ Dr. Buchanan states, that two modes of putting the child to death are principally prevalent. As soon as it is known to be a female, a piece of opium is put into its mouth; or the umbilical cord is drawn over its face, which, by preventing respiration, destroys it. Researches in Asia, p. 47.

§ Turnbull's Voyage round the World in 1800, 2, 3, and 4.

of Malthus and Hume, who maintain, that the practice of destroying children has a direct tendency to augment population.

In 1774, when Captain Cook visited the Island, he found it to contain 204,000 souls*. In less than thirty years after, this terrestrial paradise, blessed with a genial climate and a luxuriant soil, was reduced to 5000 inhabitants†. Turnbull relates, that “the Missionaries made two tours whilst he was in the Island, and in each of which they numbered the people; according to the first calculation, they were 7000, but in the last they very little exceeded five‡.”

It is not to be supposed that this enormous diminution of population is to be attributed solely to this cause. Other causes have doubtless co-operated, particularly certain diseases, which prevail to a great extent, such as fevers, dysentery, phthisis pulmonalis, and scrofula§. All travellers, however, who have visited the Island, concur in the opinion, that the effects of infanticide are infinitely more injurious to the population than all the other causes combined.

The natives of *New South Wales* resort to violent and unnatural compression of the body of the mother, in order to procure abortion. This process is called by them Mee-bra. Another practice still more shocking prevails, of burying a child with its mother if she happens to die||.

Among the *Hottentots*, infanticide appears to be a common crime. Barrow describes a race of them called *Bojesmans*, who destroy their offspring on various occasions: as “when they are in want of food;

* Cook's 2d Voyage, vol. 1, p. 349.

† Turnbull, vol. 3, p. 77.

‡ Ibid. vol. 3, p. 778.

§ Edinb. Med. & Surg. Jour. vol. 2, p. 284—90.

|| Collins' Account of the Colony of New South Wales, p. 124, 5. Edin. Rev. vol. 2, p. 34.

“ when the father of a child has forsaken its mother ;
 “ or when obliged to fly from the boors and others ;
 “ in which case, they will strangle them, smother them,
 “ cast them away in the desert, or bury them alive*.”

The *Mahometans* do not appear to attach any criminality to child-murder. On the contrary, the very sources of honour and authority among them are polluted by it. Even the palace of the Sultan is constantly stained by the blood of infants. Thornton states, that the offspring of the younger princes of the royal family, who are kept in honourable confinement in the palace, are destroyed as soon as they are born†. And Blacquiere accounts for the smallness of the number of children belonging to the Bashaw of Tripoli, from the fact of his encouraging his wives to evade their accouchements‡.

Even in *Iceland* we find traces of this inhuman crime ; that island, which appeared in the distant horizon as the watch tower of genius and learning, at a time when ignorance and superstition waved their triumphant banners over the prostrate glories of Europe ; along whose majestic mountains, and in whose sacred retreats, poesy was still heard to sing, when her notes were lost at Athens and at Rome ; and from whose shores eloquence continued to roll her thunders over the billows of the ocean, when her tongue was palsied in the forum and the senate ; even in this island, so celebrated and so favoured, the detestable crime of exposing infants was at one time not prohibited. The custom appears to have been derived from their Norwegian ancestors, among whom it continued to prevail for nearly

* Barrow's account of a Journey in Africa in 1801 & 2, p. 378, 9.

† The present state of Turkey, &c. by Thomas Thornton, Esq. vol. 1, p. 120.

‡ Letters from the Mediterranean, by E. Blacquiere, Esq. vol. 1, p. 90.

one hundred years after it had been abolished in Iceland. It became extinct shortly after the introduction of Christianity into the island, which event took place at the end of the tenth century*.

If we turn our attention from the OLD WORLD, and direct it to the NEW, we shall find this crime presenting itself under forms no less horrible and disgusting.

Among the natives about *Hudson's Bay*, it is common for the women to procure abortion by the use of a certain herb which grows there†.

In *Labrador*, the Moravian Missionaries who first landed there, found it a prevailing custom to put to death their widows and orphans; not to gratify a natural ferocity of disposition, but merely on account of a supposed inability to provide the means of support for the helpless orphan or the desolate widow of another. By the exertions of the Missionaries, the practice was arrested‡.

Nor were the savages of these inclement regions the only people who were guilty of this horrid crime. The gloomy superstition of the *Mexicans* delighted in human sacrifices, and the altars of their Divinities were continually drenched with the blood of infants and of men§. The number of these sacrifices has doubtless been exaggerated; but the fact is unquestionable, that countless victims poured forth their lives to appease or conciliate their imaginary deities.

The mothers in *California* are described as voluntarily destroying their offspring. Venegas states, that

* Dr. Holland's Preliminary Dissertation on the Hist. and Lit. of Iceland, in Sir G. Mackenzie's Travels. Edin. 2d Ed. p. 39.

† Ellis's Voyage to Hudson's Bay, p. 193.

‡ Barrow's Account of a Journey in Africa in 1801 and 2. Edin. Rev. vol. 8, p. 438.

§ Robertsen's Hist. of Amer. vol. 3, p. 325.

the common cause of it was a scarcity of food, and that the practice was put a stop to by the father Salva-Tierra, who ordered a double allowance to be given to women newly delivered*.

Charlevoix describes a race of Savages in North America, who make a practice of destroying all infants who are so unfortunate as to lose their mothers before they are weaned; at the same time, they inter alive all the other children, upon the plea that no other female can nurse them properly†.

The *Peruvians*, whom Dr. Robertson eulogizes for the mildness of their manners, and the benevolent spirit of their religion‡, were nevertheless in the habit of sacrificing children. Acosta tells us, that in such cases as the sickness of the Inca, or doubtful success in war and other affairs, ten children were sacrificed; and upon the coronation of the Inca, 200 were offered up. When a Peruvian father was taken sick, he sacrificed his son to *Viriachocha*, (the sun,) beseeching him to accept of the life of his child and to save his own§. The same writer, when comparing the Peruvians and Mexicans, describes the former as exceeding the latter in the sacrificing of *children*, while the latter were chiefly addicted to the sacrifice of *men* taken in battle, of whom they murdered an immense number. Robertson endeavours to rescue them from this charge by invalidating the testimony of Acosta: he cannot, however, help confessing that the practice did prevail among “their uncivilized ancestors,” but he adds, “that it was to-

* Hist. of California, by Miguel Venegas, London, 1759, vol. 1, p. 82. In the Library of the New-York Historical Society.

† Journal d'un Voyage à L'Amérique Septentrionale; par le P. De Charlevoix, à Paris, 1744, tom. 3, p. 368. In the Library of the N. Y. Hist. Soc'y.

‡ Hist. of Amer. vol. 3, p. 335.

§ Hist. of the Indies, l. v. c. 19.

“ tally abolished by the Incas, and that no human victim was ever offered in any temple of the Sun.” He admits, moreover, that “ in one of their festivals, the Peruvians offered cakes of bread moistened with blood drawn from the arms, the eye brows, and noses of their children. This rite may have been derived,” he says, “ from the ancient practice in their uncivilized state, of sacrificing human victims*.”

Besides those that have been enumerated, travellers record the names of other tribes and nations inhabiting this vast continent, who murder their children with impunity and without remorse. They tell us of the *Abiponians*, a migratory race, inhabiting the province of Chaco in Paraguay, among whom, mothers have been known to destroy all their children as soon as they were born†. And of the *Araucanians*, a powerful nation of Chili, who permit fathers and husbands to kill their children and wives‡.

But it is unnecessary to extend this sketch any further. Enough has been recorded to give a view of the wide spread desolations of this unnatural crime, certainly too much for the honour of human nature.

* Hist. of America, vol. 3, p. 429.

† Edin. Encyclop. Art. Abiponians.

‡ Ibid. Art. America.

CHAPTER II.

MEDICO-LEGAL HISTORY.

BY INFANTICIDE, in its most extensive signification, is understood, *the destruction of the Fœtus in Utero, or of the child after it is born.* It therefore includes the consideration of the various means by which *abortion* may be procured, and the characteristics by which it may be known; as also the signs by which the murder of the child after birth may be detected.

OF ABORTION.

BEFORE proceeding to an enumeration of the signs of an abortion, it may be proper to make a few remarks on the period at which the fœtus is to be considered as alive. In reviewing the various opinions on this subject, we shall have abundant reason to confess, that fancy has too often usurped the prerogative of reason, and idle speculation has been substituted in the place of rational investigation. The consequence has been, that opinions have been promulgated, not only the most erroneous and absurd in their nature, but the most dangerous in their tendencies, to the happiness of individuals, and to the best interests of community.

The ancients were by far the most extravagant in their notions on this subject. The same fundamental

error, however, pervaded all their theories. They believed that the sentient and vital principle was not infused into the fœtus until some time after conception had taken place. It is not surprising that the exact time at which this union is effected, could never be satisfactorily settled by them. According to *Hippocrates*, the male fœtus became animated in thirty days after conception, while the female required forty-two*. In another part of his works he asserts, that this does not occur until the perfect organization of the fœtus.

The *Stoics* believed that the soul was not united to the body before the act of respiration, and consequently, that the fœtus was inanimate during the whole period of utero-gestation†. This doctrine prevailed until the reigns of Antoninus and Severus, when it gave way to the more popular sentiments of the sect of the *Academy* under Zeno, who maintained, that the fœtus became animated at a certain period of gestation. The *Canon Law* of the Church of Rome, also distinguished between the animate and inanimate fœtus, and punished the destruction of the former with the same severity as homicide‡.

Galen considers the animation of the fœtus to take place on the fortieth day after conception, at the same time that he supposed the fœtus to become organized§. Others believed shorter periods sufficient, and accordingly three days and seven have respectively had their advocates||. Another contends, that eighty days are requisite for the animation of the female, while only forty are necessary for the male¶. Some advocate

* Lib. de Nat. Puer. Num. 10. † Plutarch's *Morals*, vol. 3, p. 230. Lond.

‡ P. Zacchiæ *Quæst. Med.-Leg.* lib. ix. tit. 1, 2, 3, p. 744. Frankfort, 1688.

§ *Opera Galeni, de Usu Part.* lib. 15, cap. 5. Lugduni, 1643.

|| P. Zacchiæ *Quæst. Med.-Leg.* lib. i. tit. 2. Q. x. p. 82.

¶ *Ibid.*

forty days as sufficient for both*. Others again make a distinction between the imperfect embryo and the perfectly formed fœtus, and consider abortion of the latter as a crime deserving the same punishment as homicide; a distinction, of which, it is justly remarked by a celebrated writer† on medical jurisprudence, “ennemie de la morale et de l’humanité, digne de “ l’ignorance et des préjugés de ses auteurs.”

Amidst these discordant sentiments, Zacchias offers himself as a mediator, and proposes sixty days as the limit, and recommends that any one who should cause an abortion after that period, whether of male or female, should be punished for homicide‡.

All the foregoing opinions, wholly unsupported either by argument or experiment, might be dismissed without a comment, were it not to point out the evils to which they have given rise. It may be said of them with perfect truth, that their direct tendency has been to countenance, rather than to discourage abortion, at least in the earlier stages of pregnancy. On a subject of this nature, it was to be supposed that legal decisions would be influenced in a great measure by the opinions of Philosophers and Physiologists; and accordingly, while the delusion of the Stoics continued its sway, the law could view nothing very criminal in wilful abortion§, as the fœtus was considered merely portio viscerum matris||. And afterwards, when the Academicians flourished, punishments very different, in the degree of their severity, were inflicted, according as the abor-

* P. Zacchiæ Quæst. Med.-Leg. lib. i. tit. 2. Q. x. p. 32.

† Foderé, tom. iv. p. 384.

‡ Quæst. Medico-Legal, lib. i. tit. 2. Q. x. p. 83.

§ Traité de Médecine Légale et D’Hygiène Publique, &c. Par. F. E. Foderé, tom. iv. p. 382.

|| Plutarch’s Morals, vol. iii. p. 230.

tion was supposed to be that of an animate or inanimate foetus*.

In modern times, an error no less absurd, and attended with consequences equally injurious, has received the sanction, not merely of popular belief, but even of the laws of most civilized countries. The error consists in denying to the foetus any vitality until after the time of quickening. The codes of almost every civilized nation have this principle incorporated into them, and accordingly, the punishment which they denounce against abortion, procured after quickening, is much severer than before.

The *English Law*, “ considers life not to commence “ before the infant is able to stir in its mother’s womb†.” The *law of Scotland*, adopting the creed of the Stoics, believes the foetus in utero, previous to quickening, to be merely *pars viscerum matris*. In *Saxony*, in consequence of the disputes of medical men on this subject, it was formally decided, that the foetus might be esteemed alive after the half of pregnancy had gone by‡.

The absurdity of the principle upon which these distinctions are founded, is of easy demonstration. The foetus, previous to the time of quickening, must be either dead or alive. Now, that it is not the former, is most evident from neither putrefaction nor decomposition taking place, which would be the inevitable consequences of an extinction of the vital principle. To say that the connection with the mother prevents this, is wholly untenable. Facts are opposed to it. Foetuses do actually die in the uterus before quickening, and then all the signs of death are present. The em-

* *Traité de Méd. Lég.* par F. E. Foderé, tom. iv. p. 382.

† *Blackstone’s Commentaries on the Laws of England*, vol. i. p. 129.

‡ *Specimen Juridicum Inaugurale*, p. 46. *Lugduni Batavorum*, 1760

bryo, therefore, before that crisis, must be in a state different from that of death, and this can be no other than life.

But if the fœtus enjoys life at so early a period, it may be asked, why no indications of it are given before the time at which quickening generally takes place? To this it may be answered, that the absence of any consciousness on the part of the mother, relative to the motions of the child, is no proof whatever that such motions do not exist.

It is a well known fact, that in the earlier part of pregnancy, the quantity of the liquor amnii is much greater in proportion to the size of the fœtus, than at subsequent periods. Is it not, therefore, rational to suppose, that the embryo may, at first, float in the waters without the mother being conscious of its movements; but that afterwards, when it has increased in bulk, and the waters are diminished in proportion, it should make distinct and perceptible impressions upon the uterus?

Besides, it should not be forgotten, that foetal life at first must of necessity be extremely feeble, and therefore, it ought not to be considered strange, that muscular action should also be proportionably weak.

But granting, for the sake of argument, that the fœtus does not stir previously to quickening, what does the whole objection amount to? Why, only that one evidence of vitality, viz. motion, is wanting; and we need not be told, that this sign is not essential to the existence of life*.

The *incompleteness* of the embryo previous to quick-

* There is a difference of opinion as to the real nature of quickening. It has been lately suggested by a writer, that it is altogether independent of any motion of the child, and that it is to be attributed to the sudden rising of the Uterus out of the Pelvic Cavity into the abdomen*. If this opinion were true,

* Lond. Med. and Phys. Journal, vol. 27. p. 441.

ening, is no objection to its *vitality*. Life does not depend upon a complication of organs; on the contrary, it is found that some of the simplest animals, as the polypi, are the most tenacious of life. Besides, upon this principle, vitality must be denied to the child after birth, because many of its bones, as well as other parts of its body, are imperfect.

Nor is the *want of organic action* any argument against this doctrine. Life appears to depend essentially as little upon organic action, as it does upon a complication of organs. If it did, the *fœtus*, after quickening, would be just as destitute of life as it was before; for its brain, lungs, stomach, and intestinal canal, perform no more action at the eighth month than they do at the third. But if organic action be essential to life, how are we to account for those singular cases of *fœtuses* born alive, and yet destitute of some of the most important organs in the body, such as the head, brain, &c.*? and how are we to explain those temporary suspensions of organic action in the bodies of adults which sometimes happen, without the principle of life being extinguished?

The observations of Physiologists, tend also to prove the vitality of the *fœtus* previously to quickening. According to Blumenbach†, blood is perceived about the

it would afford another incontrovertible argument in favour of the position which I have advocated.

Almost all writers on obstetrics, however, unite in referring this peculiar sensation to the movements of the child; and Mr. Burns particularly cautions us not to confound this “*fœtal motion with the sensation felt by the mother from the uterus rising out of the pelvis, and which precedes the feeling of “fluttering*.”*” I cannot refrain from adding, that Dr. Hosack, who, in his extensive practice, has enjoyed the best opportunities for observation, concurs in the same sentiment.

* Saumarez’s *Physiology*, vol. ii. p. 21. Review of Sir E. Home’s Paper on the Functions of the Brain. Edin. Rev. vol. xxiv. p. 439.

† Blumenbach’s *Phys.* and Richerand’s *Phys.*

seventeenth day after conception, together with the pulsation of the heart, and not long after the different organs have commenced their developement. Mauriceau relates, that he saw a foetus of about ten weeks, that was alive, moved its arms and legs, and opened its mouth*. Haller, indeed, asserted, “that all the viscera “ and bones of the future foetus, nearly fluid, indeed, and “ therefore invisible, were pre-formed before concep- “ tion in the maternal germ.” However objectionable such an opinion may be, yet the fact is certain, that *the embryo enjoys life long before the sensation of quickening is felt by the mother.* Indeed, no other doctrine appears to be consonant with reason or physiology, but that which admits the foetus to possess vitality from the very moment of conception.

If physiology and reason justify the position just laid down, we must consider those laws which treat with less severity the crime of producing abortion at an early period of gestation, as immoral and unjust. They tempt to the perpetration of the same crime at one time, which, at another, they punish with death. In the language of the admirable PERCIVAL, “to extin- “ guish the first spark of life, is a crime of the same “ nature, both against our Maker and society, as to “ destroy an infant, a child, or a man; these regular “ and successive stages of existence being the ordi- “ nances of God, subject alone to his divine will, and “ appointed by sovereign wisdom and goodness as the “ exclusive means of preserving the race, and multiply- “ ing the enjoyments of mankind†.”

Hippocrates cherished similar sentiments, and he accordingly, in his work on the Oaths and Duties of

* Burton's Midwifery, p. 88.

† Percival's Works, vol. ii. p. 430, 1.

Physicians, expressly forbids the attempt at abortion*.

The practice of causing *abortion* is resorted to by unmarried females, who, through imprudence or misfortune, have become pregnant, to avoid the disgrace which would attach to them from having a living child; and sometimes, it is even employed by married women to obviate a repetition of peculiarly severe labour-pains, which they may have previously suffered. But abortion is not always associated with crime and disgrace; it may arise from causes perfectly natural and altogether beyond the control of the female. The Physician should, therefore, be extremely cautious in his proceedings, even in cases of illegitimate pregnancy, and where the voice of popular prejudice seems to call upon the medical witness merely to confirm its previous, and often false decisions.

Two questions demand the consideration of a physician called to a reputed case of abortion: *Has the woman had an abortion? By what means was it brought about?* ^{crimina} According to the answers given to these inquiries must his testimony be regulated.

Signs of abortion.—In the early months of pregnancy, it is extremely difficult to ascertain whether an abortion has taken place or not. The fœtus has scarcely had time to make those firm attachments which afterwards unite it to the womb; nor has it attained to a sufficient size to effect those general changes in the constitution of the mother; nor those local alterations from the distention of the uterus and abdomen, which are afterwards produced. Its separation is, therefore, unattended by violence, and leaves but faint, if any traces of its previous existence. The hæmorrhage attending it is

* Méd. Lég. par Foderé, tom. iv. p. 331.

also of small consequence, as the uterine vessels have not yet sustained any particular enlargement, and, therefore, speedily contract.

In abortions at the middle or end of pregnancy, this obscurity does not attend us. The characteristics are then sufficiently evident for our guidance. There is considerable hæmorrhage from the enlarged vessels of the uterus previously to the contraction of the womb;—there is an offensive discharge of blood and mucus from the vagina; distinguished from the menstrual flux by this circumstance, and by its longer continuance: the menses continuing, usually, only three or four days, while the lochia do not cease flowing under seven or eight;—the vagina is considerably dilated, and the os uteri open;—the labia are red, soft, and inflated;—the breasts are swollen, and milk flows from them;—the areolæ of the nipples are larger and darker coloured than usual;—and the abdomen is flaccid, rugous, and pendulous*.

If the abortion ends in the death of the mother, the following appearances will be recognized on dissection; for it may sometimes be necessary to settle the point after her death, as in cases where another person is accused of having procured it by the administration of medicines, which may have caused not only the death of the child, but also of the mother.

In the early months, no extraordinary appearances are to be detected; as the fœtus was expelled perhaps before the placenta was at all, or very slightly attached to the uterus, so that its separation would leave no visible mark; and from its smallness, it had caused

* Vide Zacchias' Quæst. Med. Leg. Foderé's Méd. Lég. Brendelius' Med. Leg. Burns' Midwifery. Males' Med. Jurisprudence, and Dr. Stringham's MS. Notes on Legal Medicine.

no distention nor thickening of the uterus. But at a later period, the uterus is found enlarged and thickened—its muscular fibres are more evident, and its blood vessels and lymphatics much augmented in size;—a rough surface is found where the placenta has been attached;—the cervix uteri is relaxed, and the vagina considerably dilated;—the ligamenta rotunda are relaxed, and the ligamenta lata nearly effaced, as they furnish the uterus with its external covering. Upon examining the ovaria, if it be done a short time after the ovum has escaped from them, a *corpus luteum* is found, which vanishes soon after, but leaves a scar for life.

Such are the evidences furnished by dissection; and where they are found, afford incontestable proof of the previous existence of a fœtus in the uterus. I know that objections have been urged against their validity. A late English writer on this subject, says, “that the distention of the uterus “might arise from hydatids, or moles, and the inequality of its internal surface, occasioned by their attachment*” And even with regard to the corpora lutea, he appears to be inclined to the belief that they may exist in virgins. Let us examine this objection for a moment.—That the enlargement of the uterus, the relaxation of the cervix uteri and ligamenta rotunda, as well as the obliteration of the ligamenta lata, may be occasioned by the causes here assigned, will not admit of any dispute; but the other phenomena cannot possibly be explained, unless by admitting pregnancy to be the cause. Hydatids, although not of frequent occurrence, are sometimes found in the uterus†; but they can never occasion

* Medical Jurisprudence, by Males, p. 120.

† A case is related in the Med. & Philos. Register, by Drs. Howack and Francis, vol. iv. p. 519.

the placental mark, the preternatural enlargement of the uterine vessels, nor the corpora lutea. This will appear obvious from the following facts. The placental surface is between four and five inches in diameter. Now if any degree of credit is to be attached to the descriptions given by distinguished Physicians of hydatids, they are never attached by so extensive a surface. Dr. Denman, in relating a case of this kind, says that the “hydatids, or small vesicles, hung together in clusters from *one* common stem, and containing a watery fluid*.” According to Dr. Baillie, the celebrated anatomist, “they consist of vesicles of a round or oval shape, with a *narrow stalk by which they adhere to the outside of one another*. Some of these hydatids are as large as a walnut, and others, as small as a pin’s head. A large hydatid has generally a number of small hydatids adhering to it by a *narrow process*†.” From these descriptions, it is obvious that the surface caused by the attachment of hydatids to the uterus, must be very different from that of the placenta. It would indeed be absurd to imagine that this *narrow stalk* could be of such magnitude as to have a diameter of four or five inches. No less absurd is it to suppose that hydatids can cause such an enlargement of the uterine vessels as takes place in cases of pregnancy; for, from their very constitution, they cannot require any thing like the quantity of blood which is necessary to support the growth of a foetus‡.

* Introduction to the Practice of Midwifery, vol. i. p. 117.

† Morbid Anatomy.

‡ These were substantially the grounds upon which the Medical witnesses, at the late celebrated Trial of Charles Angus, Esq. of Liverpool, for the murder of Miss Burns, in 1808, declared their belief of her having been pregnant. Dr. Carson alone objected, and stated, that he believed hydatids might have caused the appearances in the uterus. This, together with his testimony con-

With regard to the *corpora lutea*, the experiments of De Graaf upon rabbits, long since proved that their existence is a certain indication of previous impregnation; and the recent experiments of Dr. Haighton confirm the same doctrine*.

The preceding observations will apply also to moles, although not with equal force. But in all cases of this kind, where the symptoms of pregnancy are said to arise either from moles or hydatids, it is reasonably to be expected that they should be produced in evidence. If they are not, this very fact would justify more than a *suspicion* of guilt; for no other cause could be assigned for the concealment of a circumstance which would at once place the innocence of the accused upon an unshaken basis.

Such are the *signs* by which an abortion may be recognized. Nothing, however, can be learned from them as to the cause of it, for the symptoms of natural and unnatural abortion are precisely the same†.

A Physician, when called to a case of abortion, is usually directed by practical writers, to make his examinations as speedily as possible after the event is supposed to have taken place, as all the parts from which any inference can be drawn, soon return to their natural dimensions, and then all the signs become obscured. The time in which this takes place is variously stated. According to Zacchias, the signs are most conspicuous during the first *ten days*, and

cerning the perforation of her stomach, cleared the accused. Vide a most able and triumphant vindication of the other Medical witnesses, written by Dr. Bostock, Liverpool, 1808. Also, an article on this subject in the New England Journal, vol. vi. No. 2, by T. R. Beck, M. D. &c.

* Burns' Midwifery, Note by Dr. Chapman, p. 129.

† Males' Med. Jurisp. p. 119.

after that, they gradually diminish to the fortieth*. Burns says it is a month after delivery, at least, before the womb returns to its unimpregnated state†. Dr. Bostock states, that the complete contraction seldom takes place “in less than eighteen days, and it is often “more‡.”

The *causes of abortion* come next to be considered. These are various, and it requires the exercise of the Physician’s acutest sagacity, to enable him to discriminate in such a manner as to decide correctly. They all, however, appear to act upon the same principle, viz. *that of interrupting the process of gestation, and exciting the uterus to premature contraction upon its contents, so as to expel them.* The criminal means that have been resorted to for this purpose, are, repeated venesection; drastic purges; powerful emetics; mercurial salivation; diuretics; emmenagogues; violent exercise; and electricity§.

It may be remarked, that all these act primarily upon the general constitution, and produce their effects upon the uterus, only in consequence of the sympathy existing between it and the other organs in the body. Hence it has been noticed by practical observers, that all of them will fail in producing the intended effect, unless used to such an extent, as at the same time to endanger the life of the mother||, or unless she labours under a previous pre-disposition to abortion.

* Burns’ Midwifery, p. 315.

† Quæst. Med. Leg. lib. iii. tit. 2, Q. ix. p. 303.

‡ Vindication of the Medical witnesses on the Trial of C. Angus, Esq. for the murder of Miss Burns. Liverpool, 1808.

§ Méd. Lég. par Foderé, tom. iv. p. 423. Males’ Medical Jurisprudence, and Stringham’s MS. Notes on Leg. Medicine.

|| Méd. Lég. par Foderé, tom. iv. p. 434.

But there are other means, more local in their operation, and far more certain in their results; as blows on the abdomen and lumbar region; and the introduction of an instrument into the womb, which, by rupturing the membranes, destroys the child. In France and some other European countries, this latter method has been extensively adopted, and has been attended with the most fatal success. In this class of abortives, I am induced also to place *ergot* or spurred rye, an article which has lately been introduced into our *Materia Medica*, and which has a most wonderful power in exciting uterine actions*.

The *natural causes* of abortion should always be kept in view in medico-legal investigations on this subject, so that we may not attribute to criminal interference, what is owing to some morbid derangement. Diseases of various kinds, as rheumatism, pleurisy, small-pox, typhus and yellow fevers, scarlatina, syphilis, and measles, operating on a system pre-disposed by nervous irritability; a diseased state of the uterus; the intemperate use of spirituous liquors, or of certain medicines, particularly iron and mercury; irritation of the neighbouring organs, from costiveness, tenesmus of dysentery, hæmorrhoids, prolapsus ani, piles, diarrhœa, incontinence of urine, and the excessive use of aloetic medicines; errors in regimen and diet; violent exercise, as in walking, dancing, riding, running, &c.; accidental falls; a sudden contortion or shock† of the body; in-

* Dr. Hosack has just favoured me with the account of an abortion occasioned by the imprudent administration of this substance, to accelerate the delivery of a woman in this city. It is to be hoped, that an article of such prodigious power as this appears to be, might be used with more caution: at any rate, there should be some legal prohibition against its indiscriminate prescription by *Old Women* and *Quacks*.

† The pulling of a tooth, for instance, has been known to produce abortion. Burns on Abortion, p. 64.

dulgence of any violent passion of the mind, whether joyful or sad; the relation of any unexpected intelligence; a great noise; the appearance of any extraordinary object; the refusal of any particular article of diet which she may desire; previous abortion; fluor albus; excessive venery; accidental blows on the abdomen; the death of the fœtus; the attachment of the placenta over the os uteri; retroversion of the womb; hæmorrhage, from whatever source or at any period*; all or any of these causes may give rise to abortion, without the imputation of the least criminality to the female.

The influence of the passions upon the uterine functions is peculiarly striking. Dr Hosack describes the contagious effects of *sympathy*, as he witnessed them on a large scale in the Infirmary of Edinburgh†. It is an extraordinary fact, that the melancholy and sadness caused by some great evil which is known and expected, are much less injurious to a pregnant woman, than the annunciation of some important good, or even a trifling misfortune which is unexpected. Foderé relates the case of some pregnant women, who, during the horrors of the French revolution, were confined in dungeons and condemned to death; their execution was, however, delayed in consequence of the peculiarity of their situation. Yet notwithstanding the actual wretchedness of their condition, and the more terrible anticipation of future suffering, they went on to the full time, during which period, a fortunate change in the state of parties rescued them from unmerited punishment‡.

* Méd. Lég. par Foderé, tom. iv. p. 422. Burton's Midwifery, p. 281. Burns' Midwifery, p. 161. Burns on Abortion. Hamilton's Midwifery. Hosack's MS. Notes on Midwifery.

† MS. Notes of Lectures on Midwifery.

‡ Méd. Lég. tom. iv. p. 422.

Having thus concisely noticed the *signs* and *causes* of abortion, I shall make a remark or two upon the *circumstantial evidence* which may be adduced to prove the guilt of the woman.

1. *She is accused of having concealed her pregnancy.*—That she should do so is natural enough. Indeed it is wonderful that a circumstance of this kind should ever have been considered the least proof of guilt. That must, indeed, be a female lost to all shame and sensibility, who would proclaim her condition before it was no longer in her power to conceal it. Even when she knows it must soon be developed, it is the dictate of human nature to protract the ill-fated moment to the last. It is in truth the remaining spark of virtuous feeling which prompts her actions.

2. *But she has made no preparation for confinement.*—This is generally esteemed a most essential point in determining the guilt or innocence of the female; but certainly without the least foundation in justice. Nothing is more inconclusive; a designing woman may procure an abortion, and yet have provided clothes, &c. for lying in, for the purpose of imposing upon the jury. While an unfortunate female, for the first time in this situation, might be unacquainted with the necessary preparation, or with the time when they might be wanted, while the timidity natural to the sex, and her wish to conceal her infamy, might deter her from asking counsel from others.

3. *She may have feigned a particular disease.*—This also is inconclusive; as it arises from her wish to conceal her situation.

The most important inquiries to be made, relate to the means she may have adopted to bring about an abortion. If she has applied frequently to the same or to different

Physicians to be bled, especially in the foot;—if she has endeavoured to procure any of the medicines usually given to produce this effect;—if any are found in her possession, or if she can be convicted of actually taking them without medical advice; we have then the strongest circumstantial evidence which the nature of the case admits of, to pronounce her intention to have been criminal. These are circumstances, however, which do not strictly come under the cognizance of the professional witness; they are matters of fact, which must be decided upon from the testimony which may be offered by the other witnesses cited to appear in the case.

Nothing, I believe, is to be learned as to the nature of the cause of an abortion, whether it is criminal or natural, from any examination of the fœtus, as its appearance will be very much the same, whatever may have been the cause of its expulsion from the womb.



OF THE MURDER OF THE CHILD AFTER IT IS BORN.

SEVERAL *questions* here demand consideration: *Was the woman really pregnant? Has she been delivered of a child? Was the child born alive? Was it capable of living after birth? What were the means used to terminate its existence?*

I. *Of the signs of pregnancy.*—It is a matter of considerable importance to be assured that the accused was really pregnant, as not unfrequently many of the symptoms of it are present without the reality. This is particularly important in those cases where the child

cannot be produced. It is not necessary, in this place, to recount the signs by which this may be known. It will not, however, be irrelevant to state, that it is impossible to fasten upon any individual symptom which shall universally characterize it. Even when a number of them have concurred to induce the belief of its existence, mistakes have occasionally been committed, and pregnant women have been tapped for dropsy, and diseased women imagined themselves with child*.

II. *Of the signs of delivery.*—These may be summed up under the following heads:

1. An extraordinary enlargement of the external organs of generation, occasioned by the irritation and distension during labour.

2. A preternatural distention of the vagina, from the same cause.

3. The os uteri, is dilated so as to admit two or more fingers, its shape is nearly circular, and it has a soft and tumid feeling.

4. The flowing of the *lochia*, which are distinguished from the menstrual discharge by their being of a paler colour; having a peculiarly disagreeable smell; and by their duration.

5. An enlargement and hardness of the breasts, accompanied with a secretion of milk.

6. Dark colour of the *areolæ*. Of this sign, Dr. Stringham remarks, "I do not know an instance to invalidate it. It does not take place when milk is secreted from any other cause†." And lastly,

* Zacchias treats at full length of the uncertainty of the signs of pregnancy. *Quæst. Med. Leg.* lib. i. tit. 8, Q. 1, 2, p. 36—97. Vide also, Burns' *Midwifery*; Hosack's *MS. Notes on Midwifery*; and Stringham's *MS. Notes on Legal Medicine*.

† Dr. Stringham's *MS. Notes on Legal Med.*

7. The abdomen is prominent, and the integuments flaccid and wrinkled, and marked by whitish lines, called the *lineæ albicantes*. These lines, however, are no evidence of delivery having taken place recently. They sometimes remain, after a first delivery, for life*.

Such is the evidence to be obtained from an examination of the mother. But in cases where the child is not to be found, it is hardly necessary to say how romantic and even criminal it would be in the Physician, to give an opinion upon it, which might hazard the life of a human being. Could he attain to certainty concerning her pregnancy and delivery, the very absence of the child might be considered one of the strongest proofs of guilt.—But in how many cases is this certainty never to be obtained! So many are the morbid conditions of the body with which ~~it~~^{they} may be confounded, and so indistinct are the signs themselves sometimes, that ingenuity and experience are often baffled, and forced to confess their ignorance.

III. *Of the child having been born alive.*—We know nothing of the *nature of life*: we judge of it only from its effects, and declare that being as enjoying it, who performs the functions considered essential to it.—These functions are called *vital*, and are usually enumerated as the three following, viz. the *cerebral and nervous*; the *sanguineous*; and the *respiratory*. This distribution can only apply, however, to the state after birth: in the foetal state, facts would seem to prove, that nothing besides the *circulation* of the blood is necessary to the maintenance of the vital principle. Even the energy of the brain, which is afterwards to determine the character, and in a great measure to fix the destiny of

* Farr's Med. Jurisprudence; Foderé's Méd. Lég.; Brendelius' Med. Leg.; and Burns' Mid.

the being it inhabits, is originally dormant, and the organ itself occasionally wanting. In cases of infanticide, it is only from the *circulation*, and *respiration*, that any thing is to be learned : the *brain* and *nerves* leave no trace of their influence behind them.

Of the blood having circulated after birth.—There are two circumstances from which a conclusion on this point may be drawn;—the appearance of the blood itself, and the ecchymoses on the body of the child.

1. The difference between the blood of the fœtus, and the child after birth, has been particularly noticed by Bichat. He made numerous dissections of young guinea pigs while yet in the womb of their mother, and he uniformly found the blood of the arteries and veins presenting the same appearance, resembling the venous blood of the adult. He made the same observations in three experiments of a similar nature which he made upon pups. He also frequently dissected human fœtuses who had died in the womb, and found the same uniformity in the arterial and venous blood. From these experiments, he concludes, that no difference exists between the arterial and venous blood of the fœtus, at least in external appearance*.

The chemical constitution of the blood of the fœtus appears also to differ from that of the child after birth, or the adult. Fourcroy, in analyzing it, found it destitute of fibrous matter, as well as of the phosphoric salts which are always detected in the blood of the adult. He also discovered, that it was incapable of becoming florid by exposure to the influence of atmospheric air.

These facts prove decidedly, that there is a differ-

* Anatomie Générale appliquée a la Physiologie et a la Médecine; par Xav. Bichat, tom. ii. p. 343, 4, 5, à Paris, 1801.

ence between the blood of a child that dies in the womb, and one which is born alive and has respired; and this circumstance may be used as a criterion, by which to determine whether it was possessed of life after birth. I know not that this test has ever been introduced into medico-legal investigations, in cases of infanticide. Perhaps it is one too delicate to be altogether trusted, especially, as we have others more plain and obvious, and which may be more easily employed.

2. *Ecchymoses* or *extravasations* of blood on the body of the child, produced by blows or other injuries, prove that it enjoyed vitality at the time they were inflicted; for in a dead child, as the blood has ceased to circulate, it could not flow to the injured part, and therefore there would be no appearance of extravasation. Professor Mahon mentions another possible cause of such extravasations, which should not be overlooked. He says it may result from putrefaction, which, by means of the air that is generated, bursts the veins, and then blood from very distant parts of the body is insensibly carried along to this outlet, so as to form a considerable extravasation*. It could not certainly be very difficult to discriminate in a case of this kind, yet it teaches us a practical caution of some consequence, which is, to pay particular attention to those circumstances which tend to favour the process of putrefaction, as the climate, season of the year, and place where the body is found.

Of the child having respired after birth.—The act of respiration constitutes the great distinguishing feature between adult and foetal life. Its commencement is

* Médecine Légale, et Police Médicale, de P. A. O. Mahon, tom. ii. p. 389.

succeeded by revolutions in the animal economy, the most wonderful and interesting. The pulmonary system is, however, principally affected by it, and it is there that the medico-legal inquirer must search for those changes, which are indicative of the exercise of that function.

In examining a child which has never breathed, its *thorax* is found flattened, or, as it were, compressed; the lungs are dense, of a reddish-brown colour, and in a collapsed state; they are comparatively small in size, occupying only the upper part of the chest, and hence they leave the heart and pericardium uncovered; on examining the pulmonary vessels, they are found to contain little or no blood. If the lungs be taken out of the *thorax* and put into water, they will sink to the bottom, and if their weight be compared with the weight of the whole body of the child, they will be found to be to each other as 1 is to 67 or 70.

The reverse of all this is met with in a child that has respired. The *thorax* is more arched, and its size augmented in every respect; the lungs are dilated; they fill up the cavity of the *thorax*, and cover the lateral parts of the pericardium; their colour is less deep, and the pulmonary vessels are moreover distended with blood. Their specific, as well as absolute weight, is also changed, and accordingly, when put into water, they will float upon its surface, and when compared with the whole weight of the body, they will be as 2 is to 67 or 70; or in other words, the *absolute* weight of the lungs in a child which has breathed, will double that of the *fœtus* previous to respiration. In addition to this, they have an elastic feeling, and on cutting into them, there is a crepitus caused by the extrication of the air from the pulmonary cells.

Besides the effects thus produced upon the *lungs* themselves by the admission of air into them, there are other changes effected in the neighbouring organs. The shape of the diaphragm is altered by the expansion of the lungs, pressing it down and diminishing its arch. And from the same cause, the situation of the liver and stomach will be lower.

Such, in general terms, are the changes in the pulmonary system caused by respiration, and where they exist, are sufficiently palpable to remove every doubt as to the child having enjoyed life. Some of them, however, require a more minute examination.

Of the floating of the lungs in water, as a test of previous vitality.—It is to Galen that we are indebted for the first notice of this test*. After his time, no writer appears even to have mentioned it, until about the period in which Morgagni flourished†. Even Zacchias, who may justly be styled the father of Forensic Medicine, passes it over in silence‡. Haller speaks of it particularly, and notices some of the difficulties attending its practical application: “Vixit certe puer, cujus pulmo
“ aq̄uis innatat, neque vitium subrepere potest, nisi vel
“ in os inflatus ær fuerit, quod verum respirationis
“ genus est, vel putredo, neque ea modica, tantum pro-
“ duxerit æris, ut pondus specificum pulmonis, aliunde
“ equidem ære exigua portione majus, aquæ pondere
“ minus factum sit. Id modica putredo non efficit,
“ major præstat. Neque tunc error in medici effato
“ locum habet, si levi opera voluerit explorare, num et

* Opera Galeni de usu Part. lib. xv. cap. 6. p. 145, 6. Lugduni, 1643.

† Morgagni's Works, vol. i. Lett. 19, p. 536.

‡ It cannot but appear singular, that Zacchias, who published three large folio volumes on legal medicine, has nothing professedly on the subject of infanticide.

“*reliqua viscera natent. Id si viderit, non os in pul-*
 “*monem per respirationem receptus causa erit natandi,*
 “*sed aer ex humoribus carnibusque per communem*
 “*legem putredinis expeditus.**”

In times still more modern, this subject has given rise to infinite discussion; and perhaps there is none in the whole range of medico-legal investigations, which has occasioned more litigation or contradiction. The consequence has been, that by many this test has been rejected as altogether inconclusive. Most of the English writers by whom it has been incidentally† touched upon, are opposed to it. The French and Germans have made it the subject of more profound inquiry, and their researches have obviated most of the objections that can be urged against it. The talents of Mahon, Foderé, and Marc, have in particular been displayed with singular ability and success in its defence.

I shall first state the test, and then consider the objections which may be brought against it.

It is observed, that upon putting into water the lungs of a child which has never breathed, they will sink to the bottom; but that if it has once respired, they will float. The reason of this is so obvious, that it needs no explanation. Now from these facts the general conclusion necessarily follows, that where the lungs of a child float in water, it must have respired,

* Haller's Elem. Physiol. tom. iii. p. 279, 80.

† I say incidentally, because I know of no English writer who has treated of it at any length. This will not appear very surprising to those who are acquainted with the fact, that the English cannot boast of more than three or four professed authors on the subject of legal medicine, and these are nothing more than translators or compilers from the Continental writers. Dr. Farr's small work, which is by far the most celebrated English production, is confessedly only a compilation from the *Elementa Medicinæ Forensis* of J. F. Faselius, published at Geneva in 1767; and the late *Epitome of Medical Jurisprudence*, by Dr. Males, is chiefly taken from Mahon and Foderé.

and therefore must have been born alive. And on the other hand, when they are found to sink, it is an evidence that the child has not breathed, and therefore was not born alive.

Such are the *general propositions*. Let us now see if it is safe to trust to them in all cases, by considering the different objections which have been urged against them.

OBJECTION I. Dr. W. Hunter says, that “ a child
“ will very commonly breathe as soon as its mouth is
“ born, or protruded from its mother; and in that case,
“ may lose its life before its body be born, especially
“ when there happens to be a considerable interval of
“ time between what we may call the birth of the
“ child’s head, and the protrusion of its body*.”

Morgagni and Haller appear to be of a similar opinion, and Mahon does not deny its possibility, although he considers its occurrence as not very probable†. Hebenstreit, on the contrary, according to Mahon, boldly denies that it ever can take place‡. Notwithstanding this diversity of sentiment, the objection has obtained currency, and therefore, deserves to be examined. It involves two cases: 1st, The mouth may be applied to the os externum, and respiration be effected without the delivery of any part of the body. 2d, The head may protrude while the rest of the body is detained, and in this position air may be inspired. In both these cases, the objection supposes that the child may die before it is delivered; and therefore, the evidence afforded by the floating of the lungs would be fallacious.

* Medical Observations and Inquiries, vol. vi. p. 237.

† Méd. Lég. tom. ii. p. 398.

‡ Ibid.

With regard to the *first* of these, it may be remarked, that it is a case extremely improbable. The mouth may present in the manner just stated, but any efforts at breathing, so prematurely and unnaturally, must necessarily be very imperfect, and quite insufficient to dilate the lungs. Besides, if the child dies between the time of the presentation of the mouth, and the expulsion of the whole body, it must be caused by *natural debility*, or some accident during delivery, the most common of which is *pressure on the cord*, so as to interrupt the circulation. That the former cannot occasion it, is proved by the very fact of respiration having taken place; for the exercise of that function so prematurely, necessarily implies a degree of vitality and vigour inconsistent with the supposition of such original feebleness. Nor can *pressure on the cord* be the cause, for it is wholly immaterial whether the circulation in it be stopped or not after respiration has commenced, as the foetal circulation has then become unnecessary.

The second case supposes the head of the child to be protruded while the body is detained, and in this situation, death to ensue after respiration has been effected. That a child may breathe in this position is granted; but is it likely that it will die under these circumstances? The remarks made before on the child dying from debility, or from interrupted circulation in the cord, apply with equal, if not greater force in the present instance, and they prove that the child cannot suffer from either of those causes. Besides, it is wholly incredible that the body should not shortly follow the protrusion of the head; because if that, being the largest part of the child, had once passed, the rest would present no obstacle to speedy delivery. But granting for a moment, that after the protrusion of the

head, the body is retained by the firm contraction of the female organs around it, then it is wholly inconceivable how respiration should ever have taken place, for this very contraction would prevent that dilatation of the thorax which is necessary for the performance of that function*.

Practical writers remark, that there is no danger attending a child in this situation. In a case of this kind, Burns directs, that we should “attend to the head, examining that the membranes do not cover the mouth, but that the child be enabled to breathe, should the circulation in the cord be obstructed. *There is no danger in delay*, and rashly pulling away the child is apt to produce flooding and other dangerous accidents†. In another place, he says, “Some children die, owing to the head being born covered with the membranes, some time before the body. This is the consequence of inattention, for if the membranes be removed from the face there is no *risk of the child*‡.” Denman also remarks, that “it was formerly supposed necessary for the practitioner to extract the body of the child immediately after the expulsion of the head, lest it should be destroyed by confinement in this untoward position. But experience has not only proved that the child is not on that account in *any particular danger*, but that it is *really safer and better*, both for the mother and child, to wait for the return of the pains, by which it will soon be expelled§.”

OBJECTION II. *The child may have been born dead, and yet the lungs will float when put into water, either from artificial inflation or putrefaction.*

* Manuel D'Autopsie Cadavérique Méd. Lég. par C.C.H.Marc. Paris, 1808.

† The Principles of Mid. by J. Burns, Ed. by Dr. Chapman, 1810, p. 246.

‡ Ibid. p. 376.

§ Introduction to the Practice of Mid. p. 177. Am. Ed.

The facts here stated are true ; but unless it can be proved, that there are no means of discriminating between the floating of the lungs as occasioned by these causes, and natural respiration, the objection cannot be admitted as of any weight.

Let us examine each in order :

Artificial inflation of the lungs.—It has been doubted by some, whether this could ever be effected. Heister states, that he proved, by actual experiments, that air blown into the lungs cannot dilate them*. Hebenstreit and Roederer maintain the same doctrine†. The majority of writers, however, assent to its possibility, and admit that the lungs will float in consequence of it ; at any rate, there can be no question, but that a part of the lungs, at least, may be inflated artificially. And there are not wanting occasions when this might be attempted. It is not incredible that it might be the result of malice designed to injure the innocent mother, or of maternal tenderness endeavouring to resuscitate a lifeless child. It becomes, then, a question of great interest, to determine whether the existence of air in the lungs be the product of nature or of art. And it is fortunate for the cause of justice, as well as humanity, that this can be done. Buttner appears to have been the first‡ who proposed a test for this purpose, both certain and obvious, founded upon the difference between the foetal and adult circulation. In the former, it is well known, the blood does not pass through the lungs, whereas, as soon as respiration commences, the old passages are closed, and the whole mass is forced through those organs. If, therefore, a child

* Morgagni's Works, vol. i. p. 536.

† Méd. Lég. De P. A. O. Mahon, tom. ii. p. 439.

‡ Manuel D'Autopsie Cadavérique Méd. Lég. par C. C. H. Marc.

has been born dead; the arteries and veins of the lungs are found destitute of blood, and in a collapsed state, notwithstanding any artificial inflation that may have been practised upon them. On the contrary, the vascular distention of the pulmonary organs, proves that the child has breathed, for nothing but natural respiration can produce this effect.

Another method of determining this question, is by taking the absolute weight of the lungs, according to the test of M. Ploucquet, which shall be noticed more particularly hereafter.

A third test for this purpose has been suggested by M. Marc. He considers that art can never completely inflate the lungs; and from the greater difficulty which attends the admission of air into the *left* lung, he is induced to believe, that the inferior extremity of that lung will remain in a collapsed state, and float but imperfectly, or not at all. The truth of this position, though extremely probable, does not appear to be supported by a sufficient number of experiments to allow its adoption as a general and infallible rule. With regard to the two first, they are founded on principles so just and immutable, and their practical application is so certain, that they appear to have removed all the doubt which previously existed*.

The putrefaction of the lungs—It has been a question of much dispute, what the effects of putrefaction are upon lungs that have never respired: some asserting that it renders them specifically heavier than water†,

* Manuel D'Antopsie Cadavérique, &c. p. 138.

† Teichmeyer asserts, that it never causes the lungs to float. "Putrefacti aqua, ære, defossi terra *semper* subsiderunt. Unde putrefactio et omnis hic objecta rarefactio non sufficit; subsidunt paulo tardius, sed *semper* tandem, quod nunquam sit cum pulmone, qui respiraverat." Prælectiones Academicæ J. G. Brendelii in H. F. Teichmeyeri Instit. Med. Legal. vel Foren. p. 184.

and consequently that they will sink when thrown into that fluid, while others, of equal respectability, maintain a contrary opinion. Both parties adduce experiments in proof of their particular doctrines. The only solution that can be given to these contradictory results, is by admitting that all the experiments have not been performed with sufficient care, so as to lead to conclusions uniformly just. Every thing depends upon the *manner* in which they are conducted. The most accurate experiments, I believe, were those performed by Mayer, as related by Mahon*. From his observations it appears, that in the incipient stage of putrefaction, lungs that have never respired will float in water, whereas they will sink, if it has continued long enough to completely destroy their organization, and thus extricate all the air. These results have been corroborated by the observations and experiments of others, and their truth cannot be doubted. It seems singular indeed, that they should ever have been questioned, when a case perfectly analogous is witnessed in every person that is drowned. The body at first sinks, afterwards rises to the surface, when putrefaction has generated air sufficient to render it specifically lighter than water, and finally descends again upon the extrication of that air.

Such being the effect of putrefaction, it becomes a question of consequence, to determine in what way we can distinguish between the floating of the lungs as caused by natural respiration, and that which is the consequence of decomposition. Haller directs, that in a doubtful case of this kind, the other viscera of the body should be put into water as well as the lungs,

* Méd. Lég. tom. ii. p. 443, 4.

and if they also float, it is a proof of putrefaction. “*Id si viderit, non aer in pulmonem per respirationem receptus causa erit natandi, sed aer ex humoribus carnibusque per communem legem putredinis exeditus*.*”

This rule is not strictly correct, for it is found that the lungs, from the peculiarity of their constitution, resist putrefaction much longer than other parts of the body. Faissole and Champeau, in experiments which they made on drowned persons, observed that the lungs remained sound after the whole body had become putrified. And Mahon noticed the same fact in his dissections of dead bodies †.

Dr. William Hunter lays down the following rule, which appears to be founded in truth, and accordingly it has been adopted by Foderé, Marcè, and other writers. “*If the air which is in the lungs be that of respiration, the air bubbles will hardly be visible to the naked eye; but if the air bubbles be large, or if they run in lines along the fissures, between the component lobuli of the lungs, the air is certainly emphysematous, and not air which had been taken in by breathing ‡.*”

Two facts, then, appear to be evident, viz. that the lungs are less in danger of putrefaction than any other organ in the human system, except the bones, and therefore, that it is perfectly safe to make experiments upon them, even after decomposition has commenced in other parts of the body; and that when putrefaction has attacked them, it is possible to distinguish its effects from those of respiration.

* Haller's Elem. Phys. tom. p. iii. 280.

† Méd. Lég. &c. de P. A. O. Mahon, tom. ii. p. 400.

‡ Observations on the Uncertainty of the signs of Murder in the case of bastard children. See also Parr's London Med. Dict. vol. ii.

But suppose the lungs are found to be actually in a state of putrefaction, is the Physician then justified in drawing any conclusions, or in giving any opinion? Mahon directs in such a case, that it is better for the Medical witness to be silent, and to leave to the magistrates the task of finding out other grounds of accusation*. Marc, however, a writer who throws light upon every subject that he touches, answers this question in the affirmative, and proposes two characteristics to enable him to make a positive decision. The *first* is, that lungs which have respired, notwithstanding they have been attacked by putrefaction, always have a crepitus when cut into; whereas those which have never respired, although they float in water, are destitute of this peculiarity. The *second*, and which he considers the most decisive and certain, is this; that upon squeezing out from a section of the lungs the matter developed by putrefaction, they will sink if they are from a child born dead; but on the contrary, if they are the lungs of a child born alive, they will, notwithstanding, continue to float†.

OBJECTION III. *The child may have breathed, and yet the lungs in some cases sink, as when affected by certain diseases which shall increase their specific gravity, or when the respiration has been so imperfect, as not to dilate them sufficiently to cause them to float in water.*

The first part of this objection has been deduced principally from analogy. It has been observed, that various morbid affections of the pulmonary organs of adults, as calculi, schirri, peripneumony, hydrothorax, ulcers, &c. will cause their subsidence in water; and

* Méd. Lég. tom. ii. p. 400.

† Manuel D'Autopsie Cadavérique Médico-Légale, par C. C. H. Marc.

hence it has been inferred, that the same might take place in the fœtus. It cannot be admitted, however, that these morbid conditions will frequently occur in the fœtus, for it is not exposed to the influence of the causes which usually produce them. Haller, notwithstanding his great experience and extensive learning, relates no instance of it, and expressly asserts, that they are very rarely found in the fœtal state. “In adulto homine aliquando, *in fœtu rarissime*, ut pulmo calculis, schirris, aliave materie morbose gravis in aqua subsideat, etsi quam respiraverit*.” Brendelius, in speaking on this subject, relates only a single case of an abortive fœtus which had schirrous lungs, and considers it a singular occurrence†. It appears then, as well from reason as from facts, that the objection is founded upon the existence of circumstances barely *possible*, and by no means probable. As such, however, it demands consideration; and it is necessary to suggest the means by which a false judgment may be prevented.

To any one who has been accustomed to the examination of the human body in its different states of health and disease, it cannot be very difficult to decide whether the lungs are in a sound or morbid condition. It would appear, therefore, at first view, that in such cases no difficulties could occur, which a sound judgment, aided by anatomical knowledge, could not remove. But admitting that these are not always sufficient, there is still a resort left in the very test against which this objection is adduced. The objection takes it for granted that the child has breathed; whether feebly or vigorously is a matter of no consequence. Some

* Elem. Phys. tom. iii. p. 281.

† J. G. Brendelii, &c. *Medicina Legalis sive Forensis*, p. 10.

part, therefore, of the lungs *must* contain air, and although the quantity of it may be too small to cause the whole organ to float, yet if it be divided into a number of pieces, and any one of them remain on the surface, there cannot be a moment's hesitation about the conclusion to be drawn. Foderé states, that he frequently made experiments upon lungs that were schirrous, or had congestions of blood, and he uniformly found, that although they sunk when put into water entire, yet when cut into pieces, some of them always floated*.

With regard to the second part of the objection, it is admitted, that the child when born may be so feeble, as only to be able to inhale a small quantity of air, and therefore that the whole lung will not float in water. Heister, indeed, relates the case of a very feeble infant whose lungs sunk in water, though it lived nine hours after birth†.

The same method must here be adopted, as in cases where the lungs are diseased; they must be cut into several parts, and experiments must be instituted upon each. However imperfect the inspiration has been, some portion must be inflated, and therefore will float.

OBJECTION IV. *Granting that the floating of the lungs is an evidence that the child has respired, their sinking by no means proves that it was born dead.*

This proposition is undoubtedly true. But does it constitute a solid objection? It is well known that children may be born alive without breathing. The causes which occasion this may be divided into three classes: 1st, Those which depend upon some malformation of the thorax or abdomen, which prevents respiration. 2d, Mechanical obstructions, as mucus in the trachea,

* Méd. Lég. tom. iv. p. 487.

† Morgagni's Works, vol. i. Lett. xix. p. 536.

doubling back of the tongue, &c. 3d, Causes connected with delivery, as long detention in the pelvis, compression of the cord, or the head of the child being covered with the membranes. Now, in most of these cases it is obvious, that the cause of death may be detected by a careful examination of the body. But even where this cannot be done, are we not justifiable in considering as dead, every child that has not breathed? Governed by such a rule, any error that might be committed would always be on the side of mercy. It is true, that certainty is as desirable here, as in any other case; for the destruction of a feeble child is a crime as enormous as that of a vigorous and healthy one, and the punishment of the murderer of the one, is equally an object of public concern, with that of the other. But in the language of a distinguished writer on this subject, “pour le punir, il faut le constater; et lorsque les limites de l’art nous refusent le degré de certitude que nous ambitionnons, la clémence, que dis-je, la crainte d’immoler l’innocence devra l’emporter sur toute autre consideration*.”

This objection, so far from showing the inconclusiveness of this test, serves only to establish more clearly its absolute necessity. It is by resorting to it alone, that the sacrifice of innocence can be prevented; for who would assume the responsibility of deciding that a child had been born alive, when this evidence of vitality was absent?

If the writer has been fortunate enough to obviate the difficulties which have been raised against the test, which has just been considered, then it may be esteemed as settled, that this method of judg-

* Manuel D’Autopsie Cadavérique Méd. Lég. &c. par C. C. H. Marc.

ing whether a child has been born alive or not, is not merely unattended with danger, but is founded on principles as favourable to humanity, as they are to rigid justice. It cannot, however, be otherwise than plain, that a conclusion ought never to be drawn from a *superficial inspection* of the lungs. The reputation of the professional witness, as well as the fate of the accused, are too deeply interested to admit of this. It may, therefore, be proper to present a summary of *practical rules*, for the guidance of the Physician when called to the examination of a case, which, of all others, demands a combination of the exercise of the soundest judgment, and the most profound knowledge.

1. After having examined the *general shape* of the thorax, and noticed the *position* and *colour* of the lungs in its cavity, they should be taken out, together with the heart. They should then be subjected to a careful inspection, to determine if they are *sound* or *diseased*, and if they are at all affected by *putrefaction*.

2. Particular attention should be paid to the *temperature* of the water, in which the lungs are to be immersed. The reason of this is obvious, when it is recollected, that the specific gravity of water varies with its temperature; thus, for instance, water at 100°, is lighter than water at 60°, and still lighter than at 40°*. Besides, if the water be too hot, it will have the effect of expanding the lungs, and thus favour their floating, especially when there already exists a slight tendency to putrefaction. If, on the contrary, its temperature be too low, the air cells will be contracted, and much of the air will thus be expelled. The temperature of the

* Elements of Natural and Experimental Philosophy, by Tiberius Cavallo, F. R. S. vol. ii. p. 470.

water should, therefore, be regulated by that of the surrounding air. Another precaution relative to the water is, that it should not be impregnated with *salt**; for in consequence of the greater specific gravity of saline water, a body might float in it which would sink in fresh water.

3. The lungs, together with the heart, should then be placed in the water, and if they both float, it is a proof of complete and effectual respiration.

4. If the lungs sink with the heart, or if the floating is only partial, it is then proper to separate them, and repeat the experiment upon the lungs alone; observing whether the whole float, or if they sink, whether any part shows a tendency to float; if so,

5. The two lobes should then be separated, and the experiment repeated upon each, noticing the difference, if any, between them. If only one floats, see if it is the *right* one†.

6. If both lobes sink, or float but imperfectly, they should be cut into a number of pieces, taking care not to confound the fragments of one lobe with those of the other; and upon each of these the same experiment should be instituted.

* Foderé's Méd. Lég. tom. iv. p. 470.

† It is a curious fact connected with the history of incipient respiration, that the *right* lung receives air much sooner than the left. M. Portal made several experiments to prove this. In a kitten, which he killed a few minutes after it was born, the right lung was of a whitish colour, filled the whole cavity of the chest, and swam in water. The left was of a dark-red colour, in a collapsed state, and sunk in water. He accounts for this interesting phenomenon, by showing that there is a difference in the size and direction of the bronchi leading to the two lobes. Upon examination, he found the right one about one-fourth part thicker, and one-fifth shorter than the left; besides, he found the passage to the right to be more direct, than that to the left*. Whatever may be the method of explaining this peculiarity, it teaches us a practical lesson of the greatest value, which is, not to remain satisfied with an experiment upon one lung only; both should be examined with equal care.

* Medical Commentaries, vol. i. p. 409.

7. While cutting the lungs, it should be marked if there be any crepitation; if the vessels are charged with blood; and if there be any traces of disease.

After having performed these different processes, the conclusions to be drawn from them are evident. If the entire lungs, as well as all the divisions, remain on the surface of the fluid, it is a proof that the infant enjoyed perfect respiration; if only the right lung or its pieces float, the respiration must have been less perfect; if some pieces only float, whilst the greater number sink, it proves that the child lived with pain, or that its lungs were diseased, or that the partial floating was owing to artificial inflation; if all the pieces sink, the inference is decisive, that the child never respired*.

Having thus noticed, at sufficient length, the various circumstances relating to the floating of the lungs, I shall next consider,

The test of M. Ploucquet, founded on the absolute weight of the lungs.—From the peculiarity of the vascular system in the foetus, only a very small portion of the blood goes the round of the pulmonary circulation. As soon as respiration commences, a change is effected, and the whole mass of the blood passes through the lungs, in order to undergo the necessary process of oxygenation. From this, it appears that the foetal lungs must be considerably inferior in weight, to the same organs after respiration has been established. It is upon this fact that M. Ploucquet founded his celebrated test for determining whether a child had been born *dead* or *alive*, by comparing the weight of the lungs with the weight of the whole body. From the experiments which he made to ascertain their propor-

* Foderé's Méd. Lég. tom. iv. p. 472.

tional gravity, he drew the general conclusion, that the weight of the lungs previously to respiration, is one seventieth of the weight of the whole body, whilst after that process, it amounts to one thirty-fifth; or in other words, that the blood introduced into the lungs in consequence of respiration, *doubles* their absolute weight.

Beautiful and decisive as this test appears to be, it has met with objections. Dr. Males asserts, "that it " must be very fallacious, as the capacity of the tho-
" rax, and its proportion to other parts of the body,
" vary greatly*."

The premises here, as well as the conclusion, are incorrect. It can never be admitted, as a *general fact*, that there is no fixed proportion between the lungs and other parts of the body. It is true, indeed, that nature is not *always uniform* in her operations, for we know that some organs in the body are occasionally preternaturally enlarged or diminished, while others are sometimes wanting altogether; but to deny that she is so *generally*, is to refuse our assent to the existence of all *general laws* whatever. The growth of the human body is as much subject to general laws, as any other part of the created universe. Philosophy will never justify the subversion of any general principle, because exceptions may be urged against it. Besides, any exceptions to the above test, drawn from this source, cannot be considered of much force, for no deviations from the usual structure or size of any part of the body, will double its weight, which it must do to render the objection valid. In cases of real monsters, this may take place, but then the cause will be so palpable, that no mistake can possibly arise.

* Medical Jurisprudence, p. 107.

A second objection to this test is, that an excessive congestion of blood might occur in the lungs of a foetus that had never respired, which should render them equal in weight to the lungs of a foetus which had respired*.

To this, M. Ploucquet himself replies, that it is not possible for such a congestion to take place in lungs that have never respired, as shall render their weight equal to that consequent upon respiration; because the foramen ovale, and the canalis arteriosus, offer so easy a passage to the current of blood, even when flowing with the greatest rapidity, that no determination of consequence can exist towards the pulmonary vessels†.

A third objection has been drawn from the alteration produced by putrefaction, in the relative weight of the lungs and body. On this, Mahon remarks, “ that
 “ this may be the case if the putrefaction be very great,
 “ but then the foetus cannot be subjected to any exami-
 “ nation, upon which a medico-legal decision can be
 “ founded. But, if the putrefaction has not advanced
 “ far, as the lungs resist its effects longer than any
 “ other part, we may try the application of the pro-
 “ posed test, to corroborate the results afforded by the
 “ hydrostatic trials‡.”

Upon the whole, Ploucquet's test appears to be one of more general and easy application, than any other which has yet been discovered. It is not at all embarrassed by those circumstances, which frequently throw an appearance of uncertainty over the test of the floating of the lungs. In one case particularly, it may be used

* Mahon's Méd. Lég. tom. ii. p. 454.

† Ibid.

‡ Médecine Légale, &c. tom. iv. p. 460.

with signal advantage, viz. where air is found in the lungs, but a doubt exists whether it is the consequence of natural respiration or of artificial inflation.

I shall notice a *third* test, drawn from the lungs by M. Daniel, the principle of which is very similar to that of Ploucquet. He judges of the reality of respiration having taken place from the increase of weight which a given quantity of water gains upon squeezing out the lungs into it. He thinks it may be known also from measuring the periphery of the thorax and lungs, and comparing their dimensions with those of an infant which has not respired*. With regard to these, it must be granted, that the first is inferior in precision and facility to that of Ploucquet; whilst in the second, it is necessary that the observations and measurements should be so exact, that many errors might and would undoubtedly occur.

IV. *Was the child capable of living after birth?*—Much need not be said on this point. Every child that is born alive, ought to be considered capable of supporting life afterwards, unless the existence of some cause to the contrary can be proved, such as its being born previous to the expiration of the full time†; some

* Manuel D'Autopsie Cadav. &c. par M. Marc, p. 147.

† The following remarks on the size of the child at the full time, are made by Mr. Burns*: “ In the eighth month, it measures about 15 inches, and weighs 4, or sometimes 5 pounds, whilst the involucra weigh scarcely one. These calculations vary according to the sex of the child, and also the conformation of the parents. Male children generally weigh more than females. Dr. Roederer concludes, from his examinations, that the average length of a male, at the full time, is $20\frac{1}{2}$ inches, whilst that of a female is $19\frac{1}{8}$ inches. Dr. Joseph Clarke has given a

accident during labour, by which it was materially injured; incomplete developement of the different parts of the body; malformation of some of its organs, by which the exercise of important functions were suspended. Under the influence of any of these causes, the comparatively feeble powers of the new-born infant may be prostrated, and the vital principle extinguished. They may all, however, be easily detected upon examination, and therefore no difficulty can arise.

V. *The various means by which a child's death may be caused*, come lastly to be considered. These are classified by systematic writers, as those of *Omission*, and those of *Commission*. The former includes all those which prove fatal by the neglect of those precautions, which are necessary to be attended to immediately after the birth of a child; the latter embraces all direct acts of violence, designed to take away life. The division is certainly a happy one, as it leads to a distinction of some consequence in practice. It keeps con-

“ table of the comparative weight of male and female children at
 “ the full time, from which it appears, that although the greatest
 “ proportion of both sexes weigh seven pounds, yet there are more
 “ females than males found below, and more males than females
 “ above that standard. Thus, whilst out of sixty males, and sixty
 “ females, thirty-two of the former, and twenty-five of the latter,
 “ weighed seven pounds, there were fourteen females, but only six
 “ males, who weighed six pounds; on the other hand, there were
 “ sixteen males, but only eight females, who weighed eight pounds.
 “ Taking the average weight of both sexes, it will be found that
 “ twelve males are as heavy as thirteen females. The placenta of
 “ a male weighs, at an average, one pound two ounces and a half,
 “ whilst that of a female weighs half an ounce less. Female chil-
 “ dren who, at the full time, weigh under five pounds, rarely live;
 “ and few males, who even weigh five pounds thrive. They are
 “ generally feeble in their actions, and die in a short time.”

stantly in the view of the physician and the jury, the important truth, that most of those belonging to the one, *may* be palliated or explained on the grounds of ignorance, or want of presence of mind; whilst the other are more generally the products of premeditated malice, and therefore cannot lay claim to the same sources of justification.

INFANTICIDE BY OMISSION.

1. The death of a child newly born, may be caused by *omitting* to remove it from that state of supination*, in which it sometimes comes into the world. In this way, respiration may be effectually prevented, by the mouth of the child being closely applied to the bed clothes, or other substances in its way. Dr. W. Hunter relates an instance of a child† dying, from its face lying in a pool made by the uterine discharges, where not the least suspicion of any evil design appears to have been attached to the mother. In all cases, therefore, in which death arises from this source, the circumstantial evidence must decide their criminality.

2. *Omitting* to preserve the necessary warmth of the child‡. It is needless to dwell upon the necessity of those precautions which are generally resorted to, after the birth of a child, in order to preserve a proper degree of temperature. They are founded equally upon experience and good sense. If, therefore, they have been neglected in any case, it is just to attribute

* Foderé's Méd. Lég. tom. iv. p. 504.

† Observations on the Uncertainty of the Signs of Murder in the case of Bastard Children.

‡ Foderé's Méd. Lég. tom. iv. p. 504.

it to *design*, unless the circumstances of the delivery render it probable, that it proceeded from ignorance, or want of the proper means. In either case, however, the physician may be called upon to decide, whether the death is to be attributed to the action of the cold, or to some other cause. The remarks of Foderé on this point are so very just, that I cannot do better than quote him: “ If the body of an infant is found stiff, dis-
 “ coloured, shrivelled, and naked, or with only a slight
 “ covering on it in a cold place, buried under stones,
 “ or under the earth, and from trials upon the lungs, it
 “ is evident that it has respired; and if the great in-
 “ ternal vessels are found gorged with blood, accom-
 “ panied with an effusion of blood into the cavities,
 “ whilst the cutaneous vessels are contracted and al-
 “ most empty, and when no other cause of death can
 “ be detected, one cannot do less than attribute it to
 “ the cold, and consider this abandonment and neg-
 “ lect of care, the necessity of which are obvious to
 “ the dullest comprehension, as a manifest intention to
 “ make away with the child*”

3. *Omitting* to administer proper nourishment, may occasion death†. It is not easy to say how long a new-born child may sustain life without food. It is evident, however, that it ought not to be delayed for any length of time. Foderé says the neglect of it for twenty-four hours, is not unattended with danger. When death is occasioned by this circumstance, it may be known by the general emaciation of the body;—by the fetid and pungent odour which exhales from it, although the death be very recent;—by the eyes being open, and of a red colour.—On dissection, the intestines are found

* Foderé's Méd. Lég. tom. iv. p. 505.

† Ibid. tom. iv. p. 506.

completely empty;—the gall bladder enlarged;—bile is effused into the stomach and intestines; the lungs appear withered, although without any lesion; and otherwise, all the viscera are in a sound condition*.

4. *Omitting* to tie the umbilical cord. The majority of medical practitioners, from the time of Hippocrates down to the present day, concur in the necessity of tying the cord, to obviate fatal hemorrhage which might ensue from the omission of it. Such was the unanimity of opinion on this subject, that previous to the 17th century, a doubt was not entertained with regard to it. According to Foderé, *J. Fantoni*, Professor of Anatomy at Turin, was the first who suggested that this precaution was useless, and that the neglect of it was unattended with any danger to the life of the child. After his time, the same opinion was adopted and defended by *Michael Alberti*, in 1731, and *J. H. Schultzius*†, in 1733, both Professors in the University of Halle. In 1751, *Kaltsmidt* maintained the same doctrine at Jena§. The arguments offered by them in defence of their opinion are the following: 1st, They maintain that the umbilical vessels, whether cut or torn, have a sufficient contractile power to prevent any great loss of blood. 2d, That, because in other animals it is not necessary to tie the cord, therefore it is equally useless in the human species. 3d, *Kaltsmidt* adduces an argument from the analogy of arteries contracting spontaneously in some surgical operations, and he thence infers, that a similar contraction would take place in the vessels of the cord||.

* Foderé's Méd. Lég. tom. iii p. 233.

† Traité de Médecine Legale, &c. par F. E. Foderé, tom. iv. p. 509.

‡ In a Dissertation entitled, An Umbilici deligatio in nuper natis absolute necessaria sit, Halæ, 1733.

§ Foderé's Méd. Lég. tom. iv. p. 509.

|| Mahon's Méd. Lég. tom. ii. p. 422, &c.

All these arguments are, however, inconclusive, when subjected to the test of fair inquiry. They consist either of bold assertions, or false inductions. With regard to the *first*, it is by no means true, as a general rule, that the umbilical vessels do contract sufficiently to prevent fatal hemorrhage. A few cases are, indeed, related, to the truth of which it would be difficult not to give our assent, but they may be considered as solitary exceptions, when it is known that almost every practitioner in midwifery can testify to the fatal effects resulting from a wilful or accidental neglect of tying the cord*.

The *second* argument is no less unfounded than the first. That there is some difference in the structure of the human cord and that of other animals, is not merely a rational conjecture, but proved by actual observation. Professor Brendelius, in examining pups and heifers, found their umbilical vessels full of rugæ or folds throughout the whole of their course, and their size much less, also, in proportion†. In another place, the same writer says, that in brutes the vessels of the cord are much smaller than in man, and that when the animal is born, they are, in a measure, closed by a kind of cellular structure‡.

From this it appears, that in brutes there is a peculiar construction of the vessels of the cord, tending to interrupt the flow of blood through them, and favouring their speedy contraction after they have been cut. Besides, the manner in which the cord is separated in brutes facilitates contraction. It is never cut in

* Burns' Midwifery, p. 447, 3d Ed. Hosack's MS. Notes on Mid. &c. &c.

† Johannis G. Brendelii, Medicina Legalis sive Forensis, Hannoveriæ, 1789, p. 19.

‡ Praellectiones Academicæ J. G. Brendelii in H. F. Teichmeyer's Instit. Med. Leg. &c. Hanoveræ, 1789, p. 129.

them; it is *torn asunder*, and the disposition of a vessel to contract under such circumstances is much greater.

The *third* has still less force than either of the foregoing arguments. That arteries of inconsiderable magnitude sometimes contract spontaneously, is granted. But that vessels of a size equal to that of the umbilical ones, do contract of themselves, cannot be admitted, when we know that very dangerous hemorrhages sometimes occur from vessels even much smaller than those of the cord.

If, therefore, it can be proved that this precaution has been wilfully neglected, it is perfectly fair to impute it to an intention to destroy the child. It should not be forgotten, that in many instances it may result from ignorance, as in a first case of pregnancy, where the mother may be wholly unacquainted with the danger arising from the neglect of this circumstance.

As death arises here solely from the loss of blood, it may be detected by an examination of the heart and arteries. It is well known, that in the bodies of those who have not died of hemorrhage, the arteries are found empty, whilst the heart and the veins are distended; hence, if not merely the arteries but also the heart and veins of a child are found destitute of blood, it is a certain proof of its having died of hemorrhage.

INFANTICIDE BY COMMISSION.

1. *Premature tying of the umbilical cord**.—We know that the circulation by the cord, and respiration, are vicarious functions, and if one be interrupted or de-

* Hosack's MS. Notes on Midwifery, &c.

stroyed before the other is in operation, life must cease. It is accordingly laid down as an invariable rule by practical writers, that the cord should never be tied or divided, until respiration has been perfectly established*. It would be difficult, however, when death arises from this source, to impute it to a malicious design, as the presumption would generally be, that it arose from ignorance, except where a professed accoucheur was implicated.

2. *Wounds, and bruises.*—These resemble so much similar injuries in the adult, that it is useless to dwell at any length upon them. It should be recollected, that the heads of children are sometimes very much swollen, from compression during a difficult and tedious labour. This, therefore, should not be confounded with those swellings and bruises which are consequent upon blows voluntarily inflicted after birth.

One of the most common methods of destroying a child, appears to have been that of thrusting a sharp instrument into its head through the fontanelles. Gui-Patin relates of a midwife who was executed at Paris, for having murdered several children by plunging a needle into the head while presenting at the os externum†. Brendelius also speaks of the same horrible practice‡. An instance of this kind is related by Belloc, where, upon examination, he found the instrument had penetrated to the depth of two inches into the substance of the brain§. In such cases it is necessary to shave the head, when a slight ecchymosis will be found

* Burns' Midwifery, p. 447, 3d Ed.

† Méd. Lég. &c. par Mahon, tom. ii. p. 409.

‡ *Aciculis bregmati intrusis, aut oculorum canthis internis, quorum prius comes quidam orlamindensis, seculo decimo tertio fecisse legitur.*—Prælect. Academ. J. G. Brendelii, &c. p. 128.

§ Cours de Méd. Lég. p. 93.

around the puncture, and it is then proper to pursue the examination into the substance of the brain to discover the extent of the wound; indeed, this minute anatomical investigation is absolutely requisite to detect the nature of the injury; for tumors and extravasations on the scalp and other parts of the body may occur during delivery, and wholly unconnected with any malicious intent. Needles, or other sharp instruments, are sometimes thrust into other parts of the child; such as the temples, the internal canthus of the eyes*, the neck, the thorax about the region of the heart†, and the abdomen. Similar investigations with those above mentioned must be resorted to in all these cases; and where, from the situation of the wound, it is evident that it must have been inflicted after delivery, particular attention must be paid to the state of the lungs to discover if the child had respired.

In all examinations of contusions, two cautions ought to be observed; viz. to distinguish them from the discoloured spots which appear on the surface of the body, at the commencement of putrefaction; and, not to confound accidents which may occur during dissection, with those resulting from blows and other acts of violence.

3. The death of a new-born infant may be caused *by preventing its respiration*. This may be accomplished in various ways; viz. by drowning, hanging, or strangulation; smothering under bed-clothes, &c.; suffocating, by thrusting various articles into the mouth and nostrils.

Drowning.—If a child is found immersed in water,

* Prælect. Academ. J. G. Brendelii, p. 133.

† Foderé's Méd. Lég. tom. iv. p. 492.

the questions to be determined are, Was it born alive? —and is drowning the cause of its death?

According to De Haen, the proximate cause of drowning was a repletion of the lungs with water, by which the arteries were compressed, and the circulation interrupted. If this theory were founded in truth, we should always be provided with an infallible sign of drowning. The experiments of Dr. Goodwyn have, however, proved the fallacy of this opinion, for he found, on opening animals that had been drowned, that only a small quantity of water had entered their lungs. It is unnecessary, however, in this place, to enter into any consideration of the theory of drowning. It is only requisite to state the signs by which it is characterized and may be known. Dissection can alone develope these, and to it recourse must be had in every case of this kind. Dr. Goodwyn, in his examinations of drowned animals immediately after death, found that the lungs contained a considerable quantity of a frothy fluid, occasioned probably by the water which enters the lungs, mixing with the pulmonary mucus;—and that the pulmonary arteries and veins were completely filled with black blood. On examining the heart, the right auricle and ventricle were perceived still contracting and dilating; but the left ventricle was motionless, though its auricle still moved feebly; on opening the heart, the right auricle and ventricle, together with the left auricle and sinus, were filled with black blood; the left ventricle was only about half full of this blood, and the trunks and smaller branches of the arteries proceeding from it, contained some of this black blood also. In the brain, no extra-

vasations were found, and no other appearance than its surface being of a darker colour than natural*.

Hanging or Strangulation.—Where a cord has been used, a circular mark will be perceived around the neck; in other instances, ecchymoses will be found on the neck; the face livid; tongue swollen and projecting, and mouth frothy. On dissection, the vessels of the pia mater and the jugular veins are gorged with blood, and the lungs are livid and covered with spots†. It is objected to the correctness of any decision unfavourable to the accused, that all these signs may have been the result of accidental strangulation, from the umbilical cord encircling the neck of the child while yet in the uterus. Instances of this kind have doubtless occurred‡, but they are rare, and can only happen when the cord is of an extraordinary length§. They can also be very easily distinguished from wilful strangulation after birth, by experiments upon the lungs. In the former, the child cannot have respired; and this will be indicated by the application of the various tests which have been pointed out. Besides this, there are other marks of discrimination. In the latter, there are perhaps the traces of fingers left on the neck in the form of ecchymoses; or an excoriation of the epidermis; while in the former, from the lubricity of the umbilical cord, this will not be found.

There is another accident sometimes occurring to the cord, which it is of consequence to recollect:—it is

* Goodwyn on the Connection of Life and Respiration; and Edinburgh Encyc. Art. Drowning.

† Méd. Lég. &c. par Mahon, tom. ii. p. 410.

‡ Burns' Midwifery, p. 142, 3d Ed.

§ Burns says the usual length of the cord is two feet. p. 142.

the formation of *knots* in it, occasioned probably by the child passing through a coil of it during labour. Smellie relates an extraordinary instance of this kind*. A similar one fell under the notice of Dr. Hosack. Now in cases of this kind, where the child was born dead, or died a short time after, ignorance might impute the existence of these knots to a criminal intention on the part of the mother. The method of detecting this, is similar to that in the former case. The length of the cord must be noticed, as they can only take place where it is very long; and experiments must be made upon the lungs to determine if the child was born alive.

When the child has been *smothered* under bed-clothes, &c. the circumstances upon which to form a decision, that wilful murder has been committed, besides those which characterize strangulation generally, are, the place where the body is found; the floating of the lungs; and the absence of any other probable cause to which its death can be attributed.

When respiration has been interrupted by *articles put into the mouth, nostrils, or throat*, dissection can alone detect the cause.

The child may also have been suffocated by the turning back of the tongue upon the epiglottis. This can only be caused when there is some natural deficiency in the *frænum* of the tongue, or when it has been lacerated, either by the child itself in the act of sucking, or by the application of violence. If, therefore, a child has not sucked, and the *frænum* is found torn, it is just to conclude, that it must have been the effect of criminal interference†.

* Smellie's Midwifery, vol. ii. p. 142.. Burns' Midwifery, p. 142.

† Foderé's Méd. Lég. tom. iv. p. 495.

4. *Luxation and fracture of the neck* has been caused by forcibly twisting the head of the child, or pulling it backwards*. In such cases, the vertibræ are fractured, the ligaments ruptured, and death is caused by the injury inflicted upon the spinal marrow. This will be known from the local derangements, and from the position of the head; and on dissection, from the blood found effused amongst the cervical muscles, or in the vertebral canal, and from the fracture of the first or second vertebra, or both.

5. *Exposure to noxious airs.*—This is a mode of destroying life which cannot be frequently resorted to. Women have been known, however, to destroy their offspring by exposing them to the fumes of sulphur. According to Alberti, this may be known, on dissection, from the livid appearance of the lungs†.

6. *Poisons.*—These may be introduced into the system in various ways. They may be inhaled into the lungs, in the form of odours; or they may be taken into the stomach, mixed with food; or they may be received in the form of injections; or be absorbed through the skin.

When the poisonous substance has been taken into the stomach and intestines, it should be carefully examined, and subjected to the various tests, which chemistry supplies for detecting its presence. In cases where the cutaneous absorbents have been the medium of conveying it into the system, it may be very difficult, generally, to discover the cause of death. In some in-

* Mahon's Méd. Lég. tom. ii. p. 409.

† Méd. Lég. &c. de Mahon, tom. ii. p. 412.

stances, an eruption on the skin, and the peculiar odour of the substance which has been employed, aided by the circumstantial evidence, may lead to a discovery.

Such are the various means resorted to, for the purpose of causing the death of a new-born child. It may be almost superfluous to suggest, that extreme caution is always necessary in making up a decision in a case of infanticide; for the flame of life, at that period of our existence, burns so feebly, that the slightest breath may extinguish it for ever. A child sometimes expires in convulsions, a short time after birth, without any evident cause. At other times, its death may be occasioned by causes perfectly natural, and yet so far concealed from observation, as to create suspicions of violence having been inflicted. Introsusception is said to be common to children*, and of course can only be detected on dissection; the premature obliteration of the foramen ovale†, as well as its imperfect closure‡, are also, without doubt, frequent sources of death.

Circumstantial evidence.—Although this does not strictly appertain to a medical discussion of this subject, yet there are some points embraced under it, concerning which the testimony of the Physician may be required.

1. It may be urged in excuse for a woman on a trial for child murder, that from the uncertainty of the signs of pregnancy, she might have been ignorant of her actual condition, and therefore might have been sudden-

* Males' Medical Jurisprudence, p. 101.

† Mahon's Méd. Lég. tom. ii. p. 406.

‡ An interesting account of two cases of this kind, which were successfully treated by Dr. Hosack, is contained in his Appendix to the Fourth American Edition of Dr. Thomas' Practice of Physic.

ly overtaken with the pains of labour, when it was out of her power to command assistance, and thus the child have lost its life. To all this, a very plain and concise reply may be made. However difficult it may be for a Physician to say positively in all cases whether a woman is pregnant or not, yet we can scarcely suppose the woman herself to entertain any doubt on the subject. If she has yielded to the solicitations of a seducer, and if she afterwards experiences those changes and developments in her system, which accompany a state of impregnation, she cannot but be conscious of her true situation, and therefore any arguments drawn from this source ought to have no weight.

2. It may be suggested, in vindication of the woman, that the delivery was so rapid that it was out of her power to procure assistance, or make the necessary preparations for preserving the child's life. In cases of first pregnancy, it is not very probable that the labour would be so speedily accomplished. The necessary dilatation of the parts would require a length of time sufficient to give her proper warning of the impending event. In succeeding labours this might occur.

Dr. W. Hunter relates a case of this kind which happened in his own practice*. The Physician should, therefore, always inquire if this be a first child, or if she has had others previously. Other circumstances relating to the delivery should also be investigated. It is not impossible that a woman may be delivered while standing, and the child have fallen upon the floor, and thus its death have been occasioned.

* Observations on the Uncertainty of the Signs of Murder, in the case of Bastard Children.

3. The size of the child should always be noticed, and compared with the time the woman has been pregnant, if that can be discovered. If it is a premature delivery, and yet the child be full grown, it is evidently not hers.

CHAPTER III.

PREVENTION OF INFANTICIDE.

INFANTICIDE, which at one period prevailed so universally, and without restraint, among the most polished nations of the world, is now considered, in all enlightened countries, as a crime of the deepest dye. Mankind, on this subject, have vibrated from one extreme to the other; and it is not to be questioned, but that in the present day, many an innocent female is wantonly sacrificed to suspicion and prejudice. The *principle*, however, which now guides the moral judgment of society on this subject, is undoubtedly just; for it is a crime which pre-supposes the obliteration of those feelings which human nature ought to be most proud of, and which, if countenanced, or but slightly punished, would lead to the most dreadful consequences.

That a young female of character and reputable connexions, and possessed of tender sensibility, may have been betrayed by the arts of a base seducer, and when reduced to a state of pregnancy, to avoid the disgrace which must otherwise be her lot, may stifle the birth in the womb, or after it is born, in a state of phrenzy, imbrue her hands in her infant's blood, in the expectation of throwing the mantle of oblivion over her crime, is a case which too frequently occurs. But even such a case, with all its palliations, cannot be considered as

less than wilful murder, and as such demands exemplary punishment.

It is not, however, enough for a wise legislation merely to punish crimes after they are perpetrated; it should also adopt the most effectual means of preventing their commission altogether. In the language of a Philosopher, it may be said, that “the punishment of a crime cannot be just, if the laws have not endeavored to prevent that crime by the best means which times and circumstances would allow*.”

With regard to infanticide, it is impossible to suggest any method of arresting it completely, unless there be a total reformation of that corruption of manners which lies at the root of the evil. Next to this, the dread of severe punishment is the most effectual preventive. Foundling Hospitals were also founded with this intent; whether they have this tendency I shall consider presently, after having enumerated the laws enacted by different nations, for the purpose of preventing and punishing this crime.

THE HISTORY OF LEGISLATION ON THE SUBJECT OF
INFANTICIDE.

Laws against abortion.—Although the Jewish code specifies nothing relative to criminal abortion, or to the murder of the new-born infant, yet it decreed, that if a pregnant woman should be *accidentally* injured in a fray between two men, so that she proved abortive, without any injury to her own person, the punishment was a fine, such “as the judges might determine.” If the woman received any personal damage, the law of re-

* Beccaria's Essay on Crimes and Punishments, p. 104, New-York Ed.

taliation was then to operate, an eye for an eye, and a tooth for a tooth, &c*.

After the Romans began to consider the procuring of abortion as a crime, they denounced punishments against the authors of it. These, as has been already noticed, when considering the animation of the fœtus, varied with the changes that took place in the philosophical sentiments of the nation. In the year 692, a council convened in the palace of the emperor, at Constantinople, ordained that it should be punished with the same severity as homicide†.

In *France* the Roman law was adopted, and practised upon until the revolution. Foderé says, that the parliaments condemned midwives to be hanged, for procuring the abortion of girls; and Physicians, Surgeons, and others guilty of this crime, were subjected to the same punishment‡. The French code of 1791, commuted the punishment to twenty years imprisonment in chains. The penal code of the empire, adopted by Napoleon in 1810, contains the following provisions against this crime: “Every person who, by means of aliments, beverages, medicines, acts of violence, or by any other means, shall procure the untimely delivery of a pregnant woman, although with her consent, shall be sentenced to *confinement*, (reclusion.”)

“The same punishment shall be inflicted upon the mother who shall make use of such means, if they are followed by abortion.”

“Physicians, Surgeons, Apothecaries, and other officers of health, who shall prescribe or administer such means of abortion, shall, if a miscarriage ensue, be sentenced to hard labour for a limited time§.”

* Exodus, chap. xxi. v. 22, 23.

† Foderé's Méd. Lég. tom. iv. p. 383.

‡ Ibid. p. 384.

§ Article 317. For a translation of the whole code, see Walsh's American Review, vol. ii.

The criminal code of *Austria*, established in 1787, by Joseph II. in which the punishment of death is totally abolished, decrees, that “ a woman with child, using means to procure abortion, shall be punished with imprisonment for not less than 15, nor more than 30 years, and condemnation to the public works; augmented, when married.”—

“ Accomplices advising and recommending abortion; —imprisonment not less than one month, nor more than five years, and condemnation to the public works. The punishment to be increased, when the accomplice is the father of the infant*.”

The *English Law* is thus stated by BLACKSTONE. “ If a woman is quick with child, and, by a potion, or otherwise, killeth it in her womb, or, if any one beat her, whereby the child dieth in her body, and she is delivered of a dead child, this, though not murder, was by the ancient law *homicide*, or manslaughter. But the modern law doth not look upon this offence in quite so atrocious a light, but merely as a heinous misdemeanour†.” “ But if the child be born alive, and afterwards die in consequence of the potion or beating, it will be *murder*‡.” By a subsequent law, enacted in 1803, called the Ellenborough act, it was ordained, that “ if any person shall wilfully and maliciously administer to, or cause to be administered to, or take any medicine, drug, or other substance or thing what soever, or use, or cause to be used or employed, any instrument, &c. with intent to procure the miscarriage of any woman, *not being*, or *not being proved* to be *quick* with child at the time of committing such thing,

* Treatise on the Police of London, by P. Colquhoun, L. L. D. 7th Ed. p. 656.

† Blackstone's Commentaries, vol. i. p. 129.

‡ Ibid. Note by Christian.

“ or using such means, then, and in every such case, the
 “ persons so offending, their counsellors, aiders, and
 “ abettors, shall be, and are declared guilty of felony,
 “ and shall be liable to be fined, imprisoned, set in and
 “ upon the pillory, publicly or privately whipped, or
 “ transported beyond the sea for any term not exceed-
 “ ing 14 years*.”

The *Law of Scotland*, on this subject, appears to differ. Mr. Hume, in his Commentaries on the Criminal Law of Scotland, says, that all procuring of abortion, or destruction of future birth, whether quick or not, is excluded from the idea of murder, because, though it be quick, still it is only *pars viscerum matris*, and not a separate being of which it can with certainty be said, whether it would have become a quick birth or not. Since Mr. Hume wrote, a case occurred in the High Court of Justiciary, where the subject was discussed. A Surgeon and Midwife were indicted for the violent procuring of abortion, were convicted and sent to Botany Bay for 14 years†.

“ In the State of *New-York*, there is no statute law,
 “ by which the procuring of abortion is declared a
 “ crime; and it is, therefore, only punishable according
 “ to the common law of England, which has been
 “ adopted in this country. Lord Ellenborough’s act
 “ has, however, no force here, and we of course return
 “ to the law, by which it is declared a misdemeanour.
 “ As such, it can only be considered in our courts, and
 “ the only punishments which our judges are enabled
 “ to inflict, are fine and imprisonment‡.”

* Statutes at Large, 43, Geo. III. cap. 28, Males’ Med. Juris. p. 114.

† Edinb. Med. and Surg. Journal, vol. vi. p. 249.

‡ MS. Lectures on Legal Medicine, by T. R. Beck, M.D. &c.

Laws against the murder of the new-born infant.—These, in almost all civilized countries, are capital. Previously to the fourth century, the edicts of the Roman emperors against this crime were partial and ineffectual; towards the latter part of that century, however, it was completely prohibited. The following is the article relating to it in Cod. Justin. lib. iv. tit. 52. de infant. expositis, 1, 2. “Unus quisque sobolem suam nuntiat; quod si exponendam putaverit, animadversioni, quæ constituta est, subjacebit*.”

The emperor Charles V. condemned the mother to death only in cases, where it could be proved that the child had been born alive†.

In 1556, Henry II. of France, made a law condemning to death every woman convicted of having concealed her pregnancy, and put to death a bastard child. This law prevailed until the year 1791‡, when every thing relating to the concealment of pregnancy was repealed, and death declared to be the punishment of the murder of the child.

The penal code of the French empire, enacted, that “every person guilty of assassination, parricide, *infanticide*, or poisoning, shall suffer death.”—Art. 302.

Other articles provide against the exposure and abandonment of infants: “Those who shall expose and abandon in a solitary place, a child under seven years of age, and those who may order it to be exposed, shall, on that account alone, if such order be executed, be imprisoned for a term not less than six

* Beckman's Hist. of Inventions, vol. iv. p. 437.

† Foderé's Méd. Lég. tom. iv. p. 396.

‡ Ibid. p. 395.

“ months, and not more than two years, and fined from
 “ 16 to 200 francs.”—Art. 349.

And, “ if in consequence of such exposition or aban-
 “ donment, the child shall be mutilated or crippled, the
 “ act shall be considered and punished as in the case
 “ of wounds voluntarily inflicted, and if the conse-
 “ quence be death, it shall be considered and punished
 “ as *murder*.”—Art. 351*.

The *Austrian Law* provides, that “ exposing a living
 “ infant, in order to abandon it to danger and death;
 “ or to leave its deliverance to chance; whether the
 “ infant so exposed suffers death or not, shall be punish-
 “ ed by imprisonment for not less than eight nor more
 “ than twelve years; to be increased under circum-
 “ stances of aggravation†.”

In *Saxony*, infanticide is punished with the same se-
 verity as parricide; the culprit is put into a bag, with a
 dog, a cat, a cock, and a serpent, and then thrown into
 the water‡.

Although the *Chinese* have no law prohibiting the
 exposure of children, yet they inflict a slight punish-
 ment for the wanton murder of them. The following
 is the law on that subject: “ If a father, mother, pater-
 “ nal grandfather or grandmother, chastises a disobe-
 “ dient child in a severe and uncustomary manner, so
 “ that he or she dies, the party so offending shall be
 “ punished with 100 blows§.”

* American Review, vol. ii. p. 396.

† Colquhoun on the Police of London, p. 66.

‡ Specimen Juridicum, &c. Lugduni Bat. p. 44.

§ La Tsing Leu Lee; being the fundamental laws, and a selection from the
 supplementary statutes of the Penal Code of China, by Sir George Staunton,
 F. R. S. p. 347. Quart. Rev. vol. iii. p. 312, 13.

The *English Law* on this subject, has, within a few years, been materially changed.

By the Stat. 21, Jac. 1, c. 27, it is enacted, “ that if
 “ any woman be delivered of any issue of her body,
 “ which, being born alive, should by the laws of this
 “ realm be a bastard; and that she endeavour private-
 “ ly, either by drowning, or secret burying thereof, or
 “ any other way, either by herself or the procuring of
 “ others, so to conceal the death thereof, as that it may
 “ not come to light whether it were born alive or not,
 “ but be concealed: in every such case, the said mo-
 “ ther so offending, shall suffer death as in the case of
 “ murder, except she can prove, by one witness at the
 “ least, that the child whose death was by her so in-
 “ tended to be concealed, was born dead*.”

Upon this statute, Blackstone remarks, “ This law,
 “ which savours pretty strongly of severity, in making
 “ the concealment of the death almost exclusive evi-
 “ dence of the child being murdered by the mother, is
 “ nevertheless to be also met with in the criminal codes
 “ of many other nations of Europe; as the *Danes*, the
 “ *Swedes*, and the *French*†.

This cruel law has since been mitigated. In 1803, an act was passed, in that country, which decrees, that “ women tried for the murder of bastard
 “ children, are to be tried by the same rules of evi-
 “ dence and presumption, as by law are allowed to
 “ take place in other trials of murder: if *acquitted*, and
 “ it shall appear, on evidence, that the prisoner was
 “ delivered of a child, which by law would, if born
 “ alive, be *bastard*, and that she did, by secret bury-
 “ ing, or otherwise, endeavour to conceal the birth

* East's Crown Law, vol. i. p. 223.

† Blackstone's Commentaries, vol. iv. p. 193.

“ thereof, thereupon it shall be lawful for such court,
 “ before which such prisoner shall have been tried, to
 “ adjudge, that such person shall be committed to the
 “ common goal, or house of correction, for any time
 “ not exceeding two years.”

“ In the State of *New-York*, we have no particular
 “ law concerning this crime, and as the English sta-
 “ tutes are not in force, all trials for infanticide must
 “ of course be conducted according to the common
 “ law, and accessory circumstances can only be consi-
 “ dered as proving the intent*.”

FOUNDLING HOSPITALS.

Foundling Hospitals, by providing for the support of illegitimate children, are generally considered as a great means of preventing child murder. The object of these institutions is no doubt commendable; but it is certain that they are not productive of that decided utility, which is usually attributed to them. It is not to be denied that some good results from them, but it is by no means commensurate with the abuses to which they give rise. That they encourage illicit commerce between the sexes; discountenance marriage; increase the number of illegitimate children, and consequently the number of exposures;—are facts confirmed by the history of almost every Foundling Hospital that has been established. Mr. Malthus states facts of this kind with regard to the Foundling Hospital in Petersburg, (Russia.) “ To have a child,” says he, “ was

* T. R. Beck's MS. Lectures on Legal Medicine.

“ considered as one of the most trifling faults a girl
 “ could commit. An English merchant at Petersburg
 “ told me, that a Russian girl living in his family, under
 “ a mistress who was considered as very strict, had
 “ sent six children to the Foundling Hospital without
 “ the loss of her place*.” It is not necessary to enter
 into a laboured course of reasoning, to prove that
 the effects of these establishments are decidedly
 injurious to the moral character of a people.—It is a
 position sufficiently self-evident, and as Malthus just-
 ly remarks, “ an occasional child murder, from false
 “ shame, is saved at a very high price, if it can only be
 “ done by the sacrifice of some of the best and most
 “ useful feelings of the human heart in a great part of
 “ the nation†.”

There is, however, another objection to Foundling
 Hospitals. The history of such establishments, proves
 that they utterly fail of accomplishing their object,
 which is the preservation of the lives of children. The
 records of those which have been kept with the great-
 est care, exhibit the most astonishing mortality of the
 children.

In Paris, in the year 1790, more than 23,000, and
 in 1800, about 62,000 children were brought in; and
 it is estimated, that $\frac{1}{3}$ of all the foundlings perish an-
 nually through hunger and neglect‡. It is stated also,
 that vast numbers of the children die from a disease
 called l'endurcissement du tissu cellulaire§, which
 is only to be met with in the Foundling Hospital.
 Of 100 foundlings in the Foundling Hospital at Vien-

* Malthus on Population, vol. i. p. 368, 9.

† Ibid. p. 370.

‡ Beckman's History of Inventions, vol. iv. p. 456, 7.

§ Cross' Medical Sketches of Paris, p. 197, 1815.

na, 54 died in ~~the~~ 1789. In the Hospital at Metz, calculation showed that seven eighths of the whole number of children perished. In an Institution of this kind in one of the German principalities, only one of the foundlings, in 20 years, attained to manhood*.

The Foundling Hospital of London, exhibits a more favourable picture. The average of those who died there under 12 months, in 10 years, was only 1 in 6, and for the last four or five years, even less in proportion†.

The general fact is, however, sufficiently evident, that the lives of multitudes of children are sacrificed in these Hospitals. The causes too are evident.—In some instances, it arises from the want of nurses, or the mismanagement and cruelty of those that are employed; in others, from the delicacy of the infant, and the want of its mother's nourishment.

But do Foundling Hospitals diminish the number of infanticides? We have no evidence of such a result flowing from them. From the deleterious influence which they have upon the moral feelings of the female sex, we cannot believe that it is the case. And it is accordingly stated, that after the Foundling Institution of Cassel was established, not a year elapsed without some children being found murdered in that place or its vicinity‡.

* Beckman on Inventions, vol. iv p. 456, 7.

† Highmore's History of the public charities in and near London, p. 727.
Rees' Cyclopaedia, Art. Hospital.

‡ Beckman's Hist. of Inventions, vol. iv. p. 456.

NOTE.—The following account of the deaths in the different Foundling Hospitals of Europe, will afford ample testimony in support of the opinion already advanced. It is taken from the Edinburgh Med. and Surg. Journal, vol. i. p. 321, 2,

“ In 1751, Sir John Blaquiere stated to the House of Commons of Ireland, that of 19,420 infants admitted into the *Foundling Hospital of Dublin*, during the last ten years, 17,440 were dead or unaccounted for; and that of 2180 admitted during 1790, only 187 were then alive. In 1797, he got a committee of the same House appointed, to inquire into the state and management of that Institution. They gave in their Report on the 8th of May, 1797; by which it appeared, that within the quarter, ending the 24th March last, 540 children were received into the Hospital, of whom, in the same space of time, 450 died; that, in the last quarter, the official report of the Hospital stated the deaths at three, while the actual number was found to be 203; that from the 25th March to 13th April, nineteen days, 116 infants were admitted; of which number, there died 112. Within the last six years, there were admitted 12,786; died in that time 12,651; so that in six years, only 135 children were saved to the public and to the world.

“ In the *Charité of Berlin*, where some enjoyed the advantage of being born in the House, and of being suckled by their mothers six weeks' scarcely a fourth part survived one month.

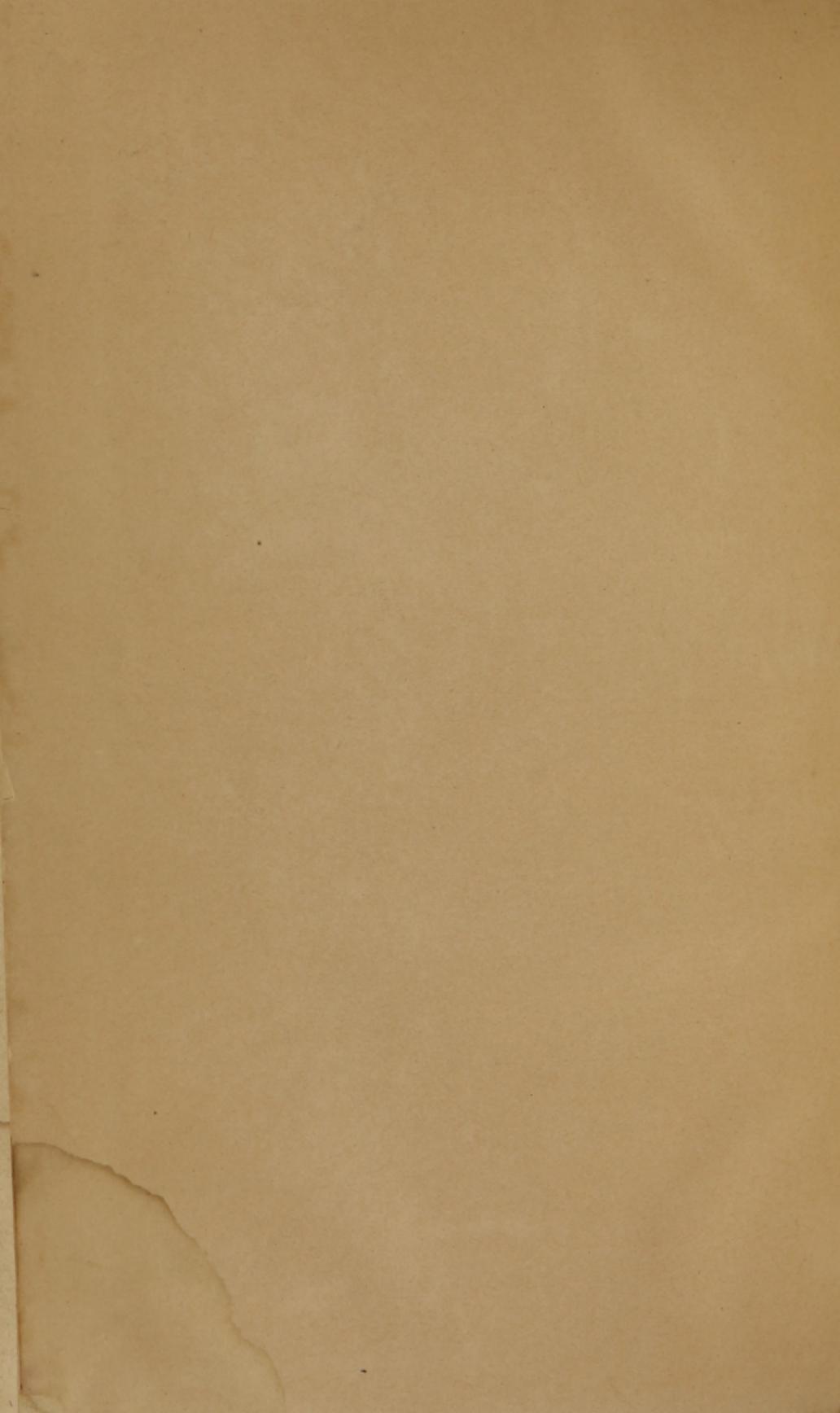
“ Every child born in the *Hotel Dieu of Paris*, was seized with a kind of malignant apthæ, called *le muguet*, and not one survived who remained in the house.

“ At *Grenoble*, of every 100 received, 25 died the first year; at *Lyons*, 36; at *Rochelle*, 50; at *Munich*, 57; and at *Montpellier*, even 60. At *Cassel*, only 10 out of 741 lived 14 years. In *Rouen*, one in 27 reached manhood, but half of these in so miserable a state, that of 108, only 2 could to be added to the useful population. In *Vienna*, notwithstanding the princely income of the Hospital, scarcely one in 19 is preserved. In *Petersburgh*, under the most admirable management and vigilant inspection of the Empress Dowager, 1200 die annually out of 3650 received. In *Moscow*, with every possible advantage, out of 37,607 admitted in the course of 20 years, only 1020 were sent out.

ERRATA.

Page 56 line 6 from bottom, for Teichmeyer—read *Brendelius*.

Page 67 for tom. iv. p. 460—read *tom. ii. p. 456*.



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