

# IVORY ANATOMICAL MANIKINS\*

by

K. F. RUSSELL

REPRESENTATIONS OF the human body have been sculptured since prehistoric times, for then our forebears fashioned small female figures with exaggerated breasts and hips. The sculptors of Greece and Rome made commonplace the form of gods, heroes and prominent citizens which were used to decorate public places and buildings. Wealthy patrons of the arts collected statues and statuettes of bronze or marble to enhance the beauty of their private homes. These practices have continued to the present day.

It is however the application of sculpture to medical purposes that particularly concerns us in the present context. For many centuries artists have prepared figures to assist in teaching or in diagnosis or have fashioned sculptures with an interest and an appeal to medical men merely for their aesthetic qualities. In China these consisted of acupuncture figures in bronze, ivory or other materials to train students and practitioners in the appropriate points and meridians of acupuncture; these were also in use in Japan. In China, too, originated the 'doctor's lady' a small ivory figure of a naked woman which was used by the doctor or the patient to indicate the site of pain or disease, for it was not seemly for the medical man to make a physical examination of a lady, the only exception being to take the pulse. These small figures were carried by the doctor or kept in the household of every wealthy family.

In Japan the toggle or button (*netsuke*) used to attach the cord of the tobacco pouch (*tabako-ire*), the medicine case (*inro*), the writing necessities (*yatate*) or the purse (*kinchaku*) to the belt became objects of great artistry and carvers vied with each other in producing these, many of which portray medical scenes of every variety. In Japan, too, small figures, usually of wood, showed a stylized representation of the thoracic and abdominal viscera.

With the renaissance of anatomy in Europe after the publication by Andreas Vesalius of his *De humani corporis fabrica* in 1543 came the need for some representation of the anatomy of the body, particularly with the scarcity of bodies for dissection and, perhaps even more important, the complete lack of means of preservation of bodies or dissected material. This need was partly met by anatomical prints but in general a single-dimension picture is unsatisfactory in giving the untrained person a true impression of the structure of the body. A three-dimensional figure has obvious advantages even although the detail shown may not be so complete as in the engraving. Both artists and anatomists wanted these, and many musclemen, or *écorché* figures were produced in the sixteenth and seventeenth centuries. Mainly of bronze, but also of wood or ivory, these *écorchés* were based on figures similar to that of *La bella anatomia* by Ludovico Cardi called Cigoli (1559–1613), the wax

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and bronze casting of which is still in the Museo Nazionale of Florence (Belloni, 1959). Many variations of this figure by different artists are extant in British, European and American collections and in private hands. Towards the end of the seventeenth century with the advances in anatomical techniques came the preservation of material by dehydration, alcohol and other substances and the newly-developed art of injection by coloured waxes. These techniques were especially perfected by Frederick Ruysch (1638–1731) in Amsterdam who built up a highly spectacular, if not bizarre, museum of anatomical specimens which was purchased by Peter the Great in 1717 and is still preserved in Leningrad.

Because these new techniques were time-consuming, required considerable skill and a ready supply of anatomical material, not all anatomical museums could build up their collections in this way. The natural specimens were therefore replaced by models made in wax. Wax modelling reached its highest peak with the work of Giulio Gaetano Zumbo (1656–1701) in Florence, and Ercole Lelli (1702–1766), Giovanni Manzolini (1700–1755) and his wife Anna Morandi (1716–1774) in Bologna, specimens of their work existing in both cities. The Zumbo tradition was continued in Florence by Guiseppe Galletti, Guiseppe Ferrini and Felice Fontana (1730–1805) with the completion of a magnificent series of models (Belloni, 1959–60). From the casts of this collection Emperor Joseph II commissioned a set of 1192 specimens for Vienna, now housed in the Josephinum in the Institute of the History of Medicine (Allmer and Jantsch, 1965).

While the models by Zumbo and Manzolini were the height of excellence other artists in many countries became skilled in this technique and anatomical museums throughout the world possess specimens of their work. The last great exponents of wax modelling were the families of Auzoux and Tramond of Paris in the nineteenth century.

Anatomical waxworks were very popular with the public in the eighteenth and nineteenth centuries and while the emphasis of many of these was on the sexual organs and pregnancy together with examples of the ravages of venereal disease, in some the structure of the body was more than adequately explained to the public. One such collection of waxworks was assembled by Guillaume Desnoues early in the eighteenth century in collaboration first with Giulio Zumbo and later with an ivory-carver named Lacroix. After being shown in Paris for many years it was transferred to London where a catalogue was issued in 1725. Here it was seen by Albrecht von Haller in 1727 (Belloni, 1960). After the death of Desnoues the models were described by George Thomson in 1739 and then purchased by B. Rackstrow who continued to show them from the early 1740s to near the end of the century (Russell, 1963). Because of their character and their content similar waxworks retained their popularity and indeed were introduced to the public in Melbourne, New York, and San Francisco in a most sensational collection by Drs. Jordan and Beck in the 1860s; this had the dubious distinction of being closed by the police in each city.

Quite apart from the obvious need for museum collections to supplement the knowledge gained by dissection it was necessary to have anatomical models of those parts of the body which proved difficult to display adequately. It was here that the ivory carvers and turners of the late seventeenth century, and particularly the

### *Ivory Anatomical Manikins*

eighteenth century, produced models of the ear and the eye which could be taken to pieces and thus show the deeper structures. These eyes and ears must have been made in considerable numbers. In 1674 Giovanni Baptista Verle, an Italian craftsman, made an artificial eye in ivory and ebony for the Duke of Tuscany and afterwards made them for general sale. He published a description of this in Italian in Florence in 1679, with a Latin version in Amsterdam in 1680; these descriptions accompanied his model.

Many of the models were made in Germany by several artists. Johann Martin Teuber of Regensburg and Johann Michael Hahn with his two sons Conrad and Adam are known to have produced eyes and ears; Stephan Zick of Nürnberg is also known to have produced them (Philippovich, 1960).

During the seventeenth and eighteenth centuries ivory models of the skull and of articulated skeletons were produced in small numbers both in Europe and in China; the skulls being in some popular demand as *memento mori*. One notable skeleton 73 cm. high was made by Niels Gyntelberg (1626–c.1661) for King Frederik III and is now in the National Museum, Copenhagen (Garboe, 1949). John Bannister (1533–1610) in 1591 presented a casket to the University of Cambridge which contained an *écorché* figure of a man and an ivory skeleton (D'Arcy Power, 1931). The Anatomical Institute of the University of Basle has a magnificently carved model of the skull obviously prepared for anatomical teaching (Philippovich, 1961).

So far as the teaching of anatomy was concerned the *écorché* figures and the ivory eyes and ears were replaced by wax models and, later in the eighteenth century, by actual specimens of dissected parts. It was much better to learn osteology on the natural skeleton. The *écorchés* and the ivory models were then relegated to the cabinets of the curious.

#### THE ANATOMICAL MANIKIN

Quite apart from the *écorché* figures, the ivory eyes, ears and skeletons, yet another product of the carver's skill was produced in considerable numbers during the seventeenth and eighteenth centuries. This was a small manikin of a man or a woman measuring from 12 to 24 cm. in length with the anterior thoracic and abdominal wall removable to reveal the viscera. By far the greater number of these lie supine on a stand or in a fitted case and are carved in ivory; some stand on a small pedestal. Although they do occur in pairs, male and female, it is more common for single female figures to be found and in almost every case the figure is represented in an advanced state of pregnancy; the foetus being attached to the uterus by a red cord or else loose within the cavity. Apart from the ivory ones, specimens exist carved in wood or marble and at least one is cast in bronze. Most of the figures have arms which are movable at the shoulder being held in place by ivory or wooden pegs. Because of their size and the material from which they are made the anatomical detail of their abdominal and thoracic contents leaves much to be desired and in many instances the viscera are stylized in form. If shown, the diaphragm is a straight shelf of ivory or wood, or occasionally a piece of vellum stretched across the body. Certainly they show the structure of the body in three dimensions, but the detail would have been inadequate for anatomical instruction of medical students, even in the eighteenth

century. They could have been, and were used, to give physiological instruction to lay people particularly that related to pregnancy. Crummer (1927) quotes a patient who told him that as a young bride in 1865 she was instructed in the physiology of pregnancy with demonstrations on ivory manikins. It has been stated that they were used to instruct midwives, but here again the detail seems insufficient and the midwives would have been better instructed on the obstetrical phantoms which enabled them to study the actual delivery of the baby.

Almost certainly their main purpose was to enlighten the curious on the basic anatomy of the body, pointing out the internal differences of the sexes and, as has been mentioned, the physiology of pregnancy. Probably they would have been found in the cabinets of the well-to-do in much the same way, but for a different reason, as the 'doctor's lady' of China. Judging by the number still extant they must have been reasonably commonplace in Europe.

None of the figures extant is signed or dated and it is therefore almost impossible to assign any figure to a particular artist or to a particular period. It is however possible on stylistic grounds to place many of the figures into groups with common characteristic features and it would be safe to assume that the same artist or workshop made the figures in this group. Before discussing the details of classification of these figures the facts about the artists known to have produced the figures should be set down. It appears certain that the figures were produced in Germany, Italy and France, none is known from Britain or from other countries in Europe. Most of the factual information at present available concerns the German workshops and here the artists known to have produced them are well documented, although again it must be emphasized that any attempt to assign any particular group of figures to a particular artist must, at this point of time, remain a conjecture.

The artists are virtually the same as those who produced the ivory ears and eyes. Johann Michael Hahn (b. 1714) of Schweinfurt, with his sons Adam and Conrad, were one family who carved these figures, which, like the eyes and ears, they sold in Frankfurt. Adam and Conrad Hahn worked for some time in Copenhagen in the workshop of Lorenz Spengler (1720–1807) the Court sculptor. Spengler and Hahn, the elder, had been students of Johann Martin Teuber of Regensburg. While all were skilled craftsmen in ivory, it was the Hahn family who were particularly known to have made the anatomical figures. The Teuber family comprised three generations of ivory carvers. Another family was that of Zick in Nürnberg. Stephan Zick (1639–1715) and his workshop produced a large number of figures, possibly more than any other workshop in Germany (Philippovich, 1960) and there is evidence that a particular style of figure may have been produced by Zick and his co-workers. It seems that other members of the Zick family, although highly skilled in the production of other forms of ivory carving, did not make the anatomical figures. A pair of figures was purchased in 1777 by the Hesse State Museum in Kassel which were made by Johann Wilhelm Kirchner (d.1793), but while these are described in catalogues they were lost in 1945 (Philippovich, 1960; Thieme and Becker, 1909–50).

Unfortunately it has not been possible to find evidence of the French or Italian artists.

So far as cost of these models is concerned, Philippovich mentions a catalogue of

## *Ivory Anatomical Manikins*

the firm of Bestelmeir, in 1803, which quotes the price of 'an anatomical pregnant woman in ivory, 8 inches long, the abdomen of which can be opened', at 13 florins.

### *Material*

This paper is based on the study of the external characteristics of 98 manikins carved in ivory from widely dispersed collections. Photographs showing the external form, and where possible the internal features, were obtained; in addition specimens themselves have been examined as the opportunity presented. By far the largest collection is housed in the Wellcome Institute of the History of Medicine in London and consists of fifty-two manikins in ivory, with in addition two in wood and one in marble. The Trent Collection at Duke University, Durham, North Carolina, has fifteen ivory manikins, with in addition two carved in the form of plaques with removable thorax and abdomen; some of this collection came from that of Dr. Le Roy Crummer. Dr. Arno B. Luckhardt, of Chicago, possessed nine specimens including a unique standing figure with the physiological functions of thorax and abdomen represented as various factories; this concept is later seen in the mid-nineteenth-century colour prints of Utagawa Kunisada (1786–1865).

Manikins are also present in the Howard Dittrick Museum, Cleveland; collection of Dr. Robert Moes, Los Angeles; Royal College of Surgeons of England; Putti Collection, Rizzoli Institute, Bologna; History of Medicine Museum, Copenhagen; private collection, Copenhagen; Germanisches Nationalmuseum, Nürnberg; Bayerisches Nationalmuseum, Munich; Roselius Collection, Bremen (specimen in bronze); Heimatmuseum, Waldenburg (in wood); Kestner Museum, Hannover; Hungarian National Museum, Budapest. In addition specimens have been noted in the catalogues of dealers in London and on the continent.

It is only when dealing with numbers such as this that comparison of style becomes possible and it soon becomes obvious that a number of the manikins fall into groups because of one or more characteristic feature common to that group and not to another. It would seem reasonable to suggest that those within a group were made by the same artist or in the same workshop.

### *Classification*

#### **GROUP I. Supine figures (Fig. 1)**

- Body:** Stocky and somewhat fat, but well-proportioned, female has wide hips. Viscera somewhat stylized.
- Head:** Female; hair up in a bun on top of head.  
Male; wears a full-bottomed wig except for one in Trent Collection which is without a wig. Eyes are closed.
- Arms:** Both are movable at shoulder. Right arm slightly flexed by side. Left arm flexed at elbow. The little finger is abducted from others, usually in right hand, but in Wellcome R2353 it is in left hand, but this manikin is unusual in that it is not pregnant. Dimples are present on dorsum of hand at base of fingers in some specimens.
- Legs:** All figures are shown with a groove across the front of knee producing the appearance of a 'double' patella; in most this feature is exaggerated.

The legs are usually joined together superiorly. Feet are plantar flexed, but well-proportioned.

*Size:* Varies between 10.5 to 15 cm.

*Pillow lace:* Varies in style.

*Examples:* Both male and female figures are represented in Wellcome Institute; Trent Collection; History of Medicine Museum, Copenhagen; female figures in Moes Collection and Kestner Museum (this figure has eyes open which is most unusual).

This group is probably German in origin and Philippovich (1960) suggests that these were carved by Stephan Zick or in his workshop and date from the latter part of the seventeenth century.

#### GROUP II. Supine figures (Figs. 2, 3)

*Body:* Stocky, the male has a broader trunk than the female. In the male the genitalia are exaggerated. Viscera stylized.

*Head:* Oval in shape transversely. Mouth shown with a somewhat silly smile, and in some the tongue protrudes. Male has a broad neck and in many cases a full, curled moustache. Eyes are closed.

*Arms:* The right forearm is abnormally bent inwards near the wrist so that hand is near pudenda. Both arms movable at shoulder. Left arm flexed at elbow and in some the bent elbow is very pointed.

*Legs:* Separated superiorly. The calves are broader than normal, particularly in the male. In almost all in this group the knee has a groove across the front showing a 'double' patella. The feet are plantar flexed, abnormally narrow and rather stylized.

*Size:* Varies between 16 and 19 cm.

*Pillow lace:* The lace on the pillows is the same throughout the group (see Figs.).

*Examples:* The Wellcome Institute has a number of examples of both male and female figures. A female is in a private collection in Copenhagen, but this is not completely characteristic of this group.

This group is probably of German origin.

#### GROUP III. Supine figures (Figs. 4, 5, 6)

*Body:* Stocky build, carving not so well done as in Group I, particularly noticeable in the viscera which are crudely done and stylized. The flap of abdominal and thoracic wall is held in place superiorly by an ivory peg with attached cord. The intestines shown in a stylized concertina-like form. Wellcome R2350 and R2369 (a pair) have a greater omentum represented by a flap of vellum.

*Head:* The hair is stylized either with a band across forehead or the hair line coming to central point on forehead or ending sharply at a line. Female figure shown with a slight smile, the male has flowing moustache. Eyes are closed.

*Arms:* The right arm is slightly flexed by side, the left is flexed to a right angle. Fingers are poorly carved.

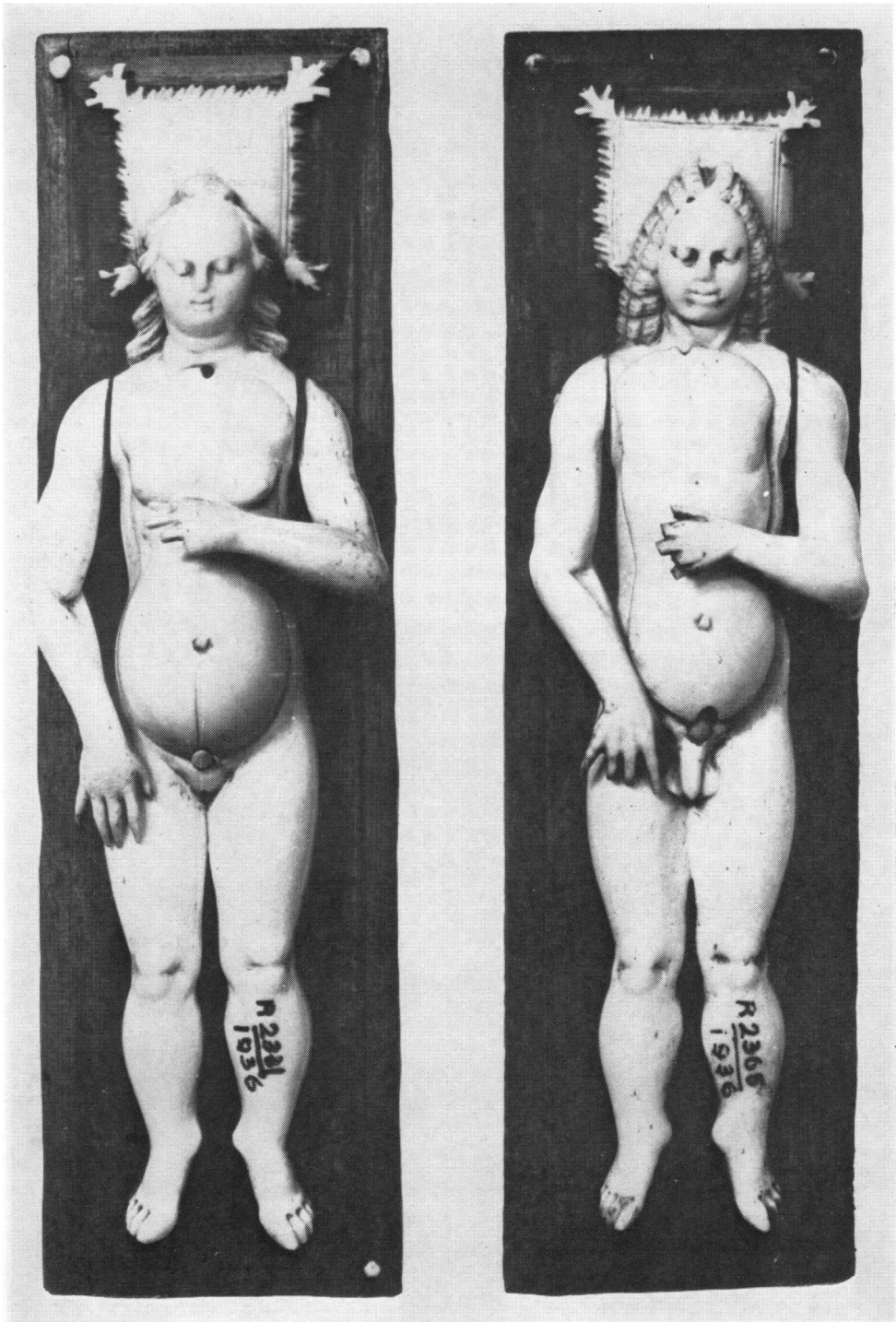


Figure 1.

Male and female manikins of Group I. Note the abducted little fingers, the 'double' patella, the full-bottomed wig on the male and the hair on the female done up in a bun.

(From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)

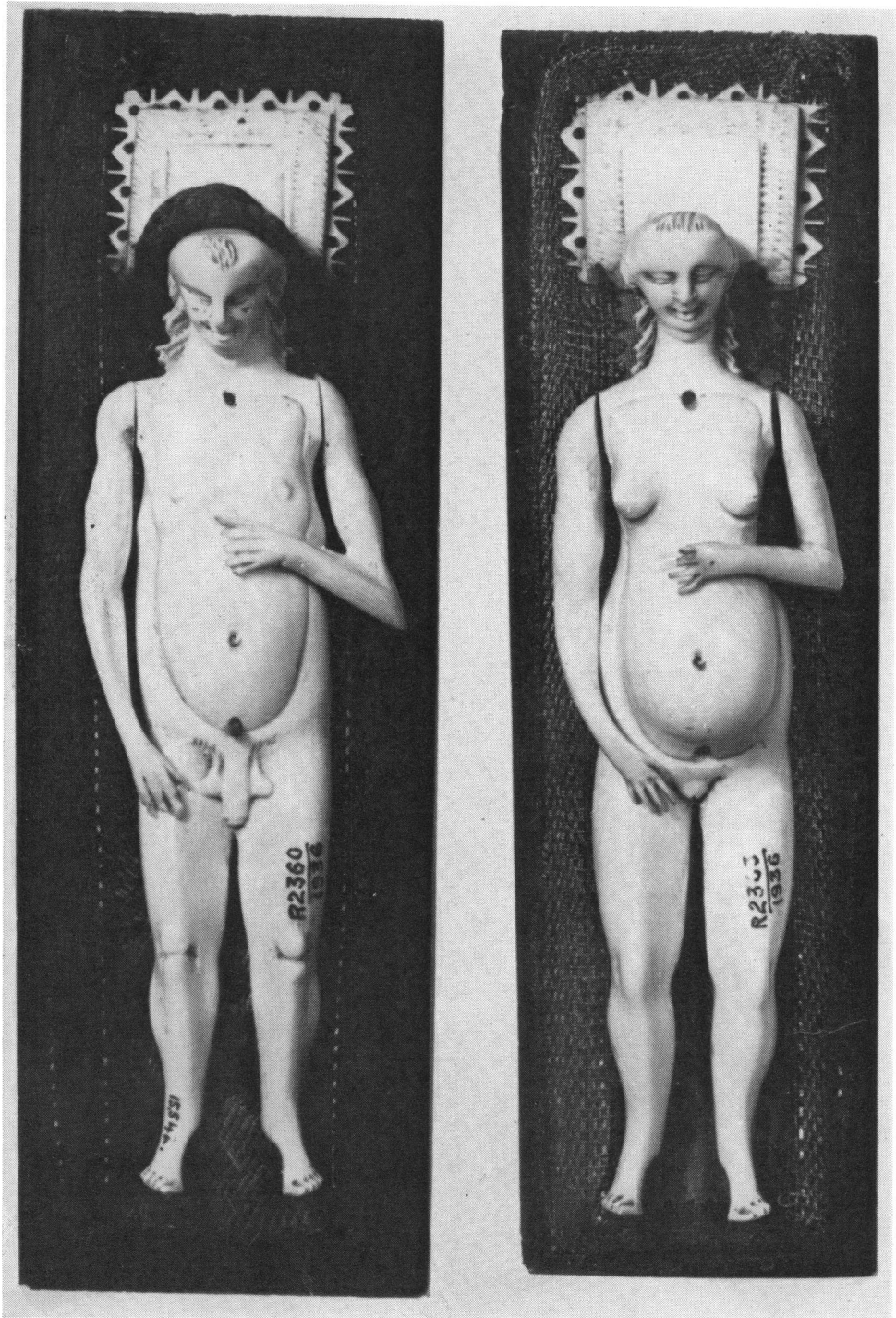


Figure 2.

Male and female manikins of Group II. Note the transversely oval head, the protruding tongue, the bent forearm near the wrist and the narrow stylized feet. The male genitalia are exaggerated. (From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)



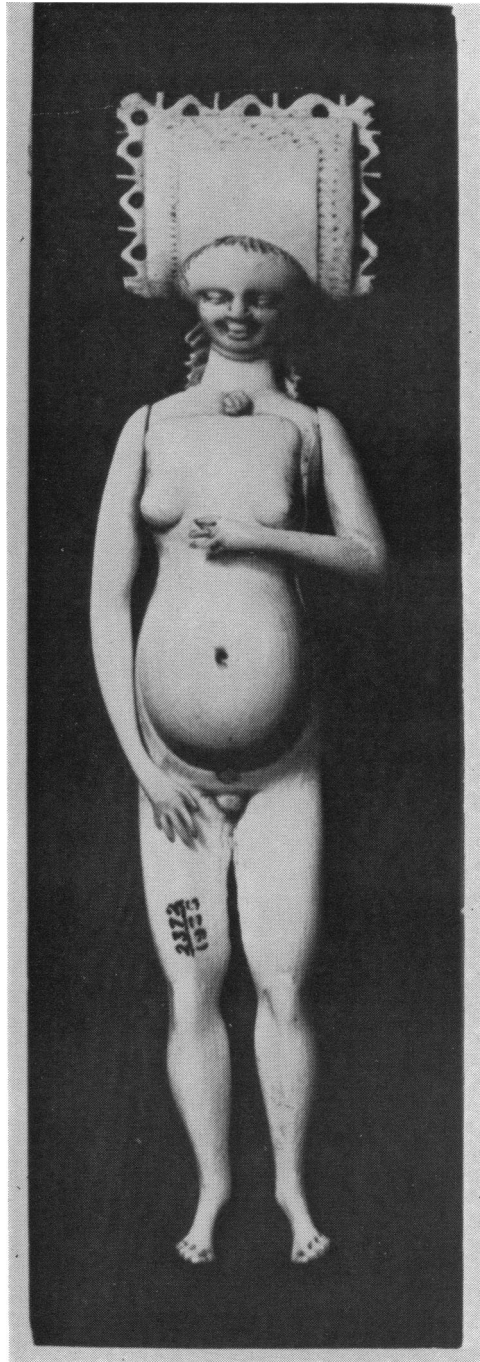


Figure 3.

Female manikin of Group II. Here the tongue does not protrude but there is a somewhat silly smile.

Note that the pillow lace is the same type as in Fig. 2.

(From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)

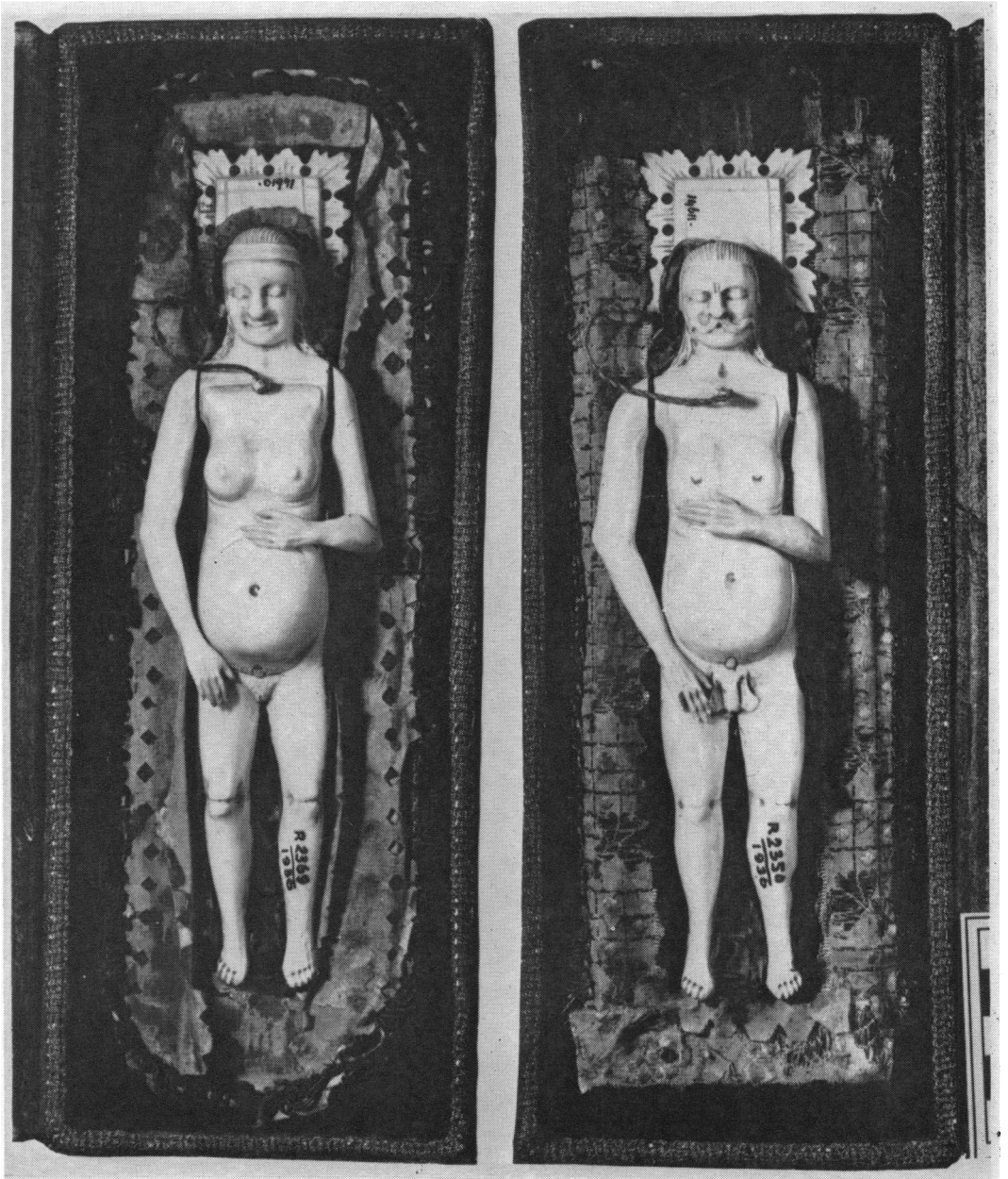


Figure 4.

Male and female manikins of Group III. Note the stylized hair treatment, the male moustaches and the peg on a cord to hold the thoracic and abdominal wall in place.

(From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)

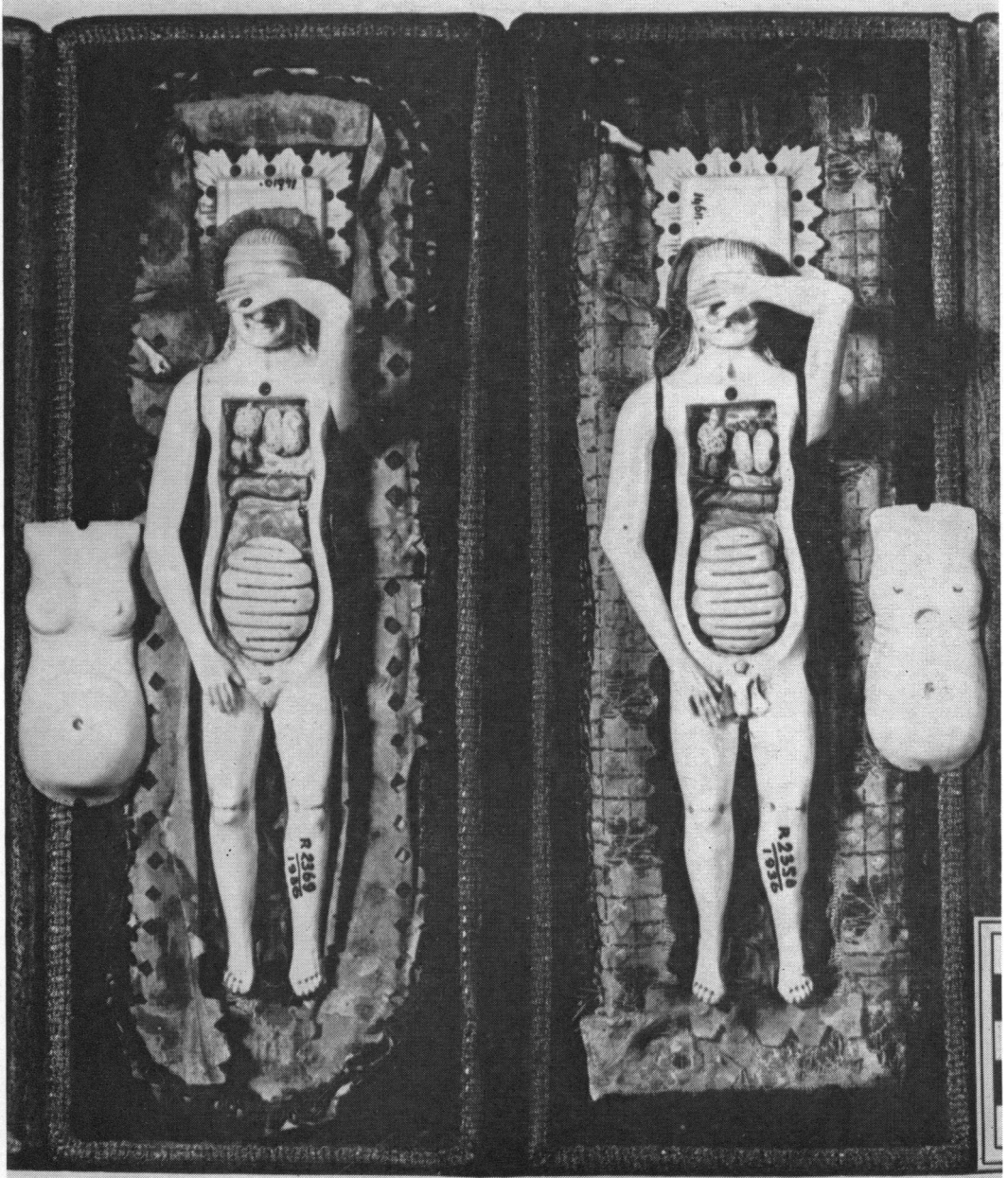


Figure 5.

The same pair as in Fig. 4 showing the crudely carved viscera, in particular the concertina-like folds of intestine.

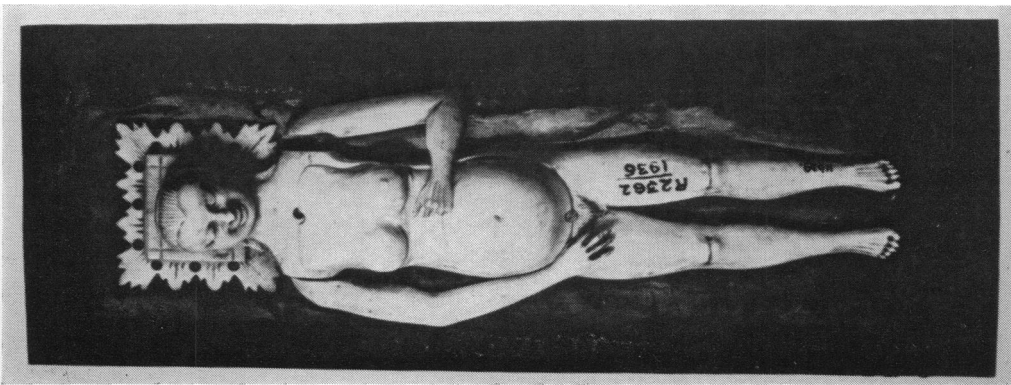


Figure 6.  
Female manikin of Group III showing the hair coming to a point on the forehead. The pillow lace is the same pattern as in Figs. 4 and 5.

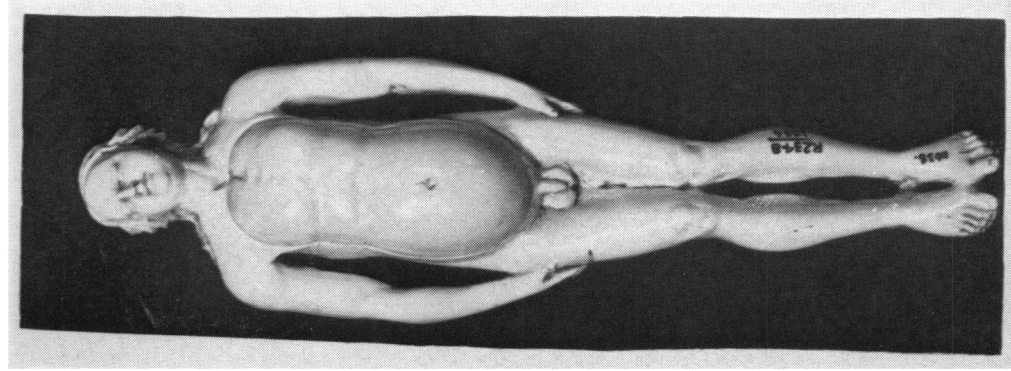


Figure 7.  
Male manikin of Group IV. Note the head tilted to one side, the fixed arms carved in the piece and the legs joined at the thigh and the base of the big toe.

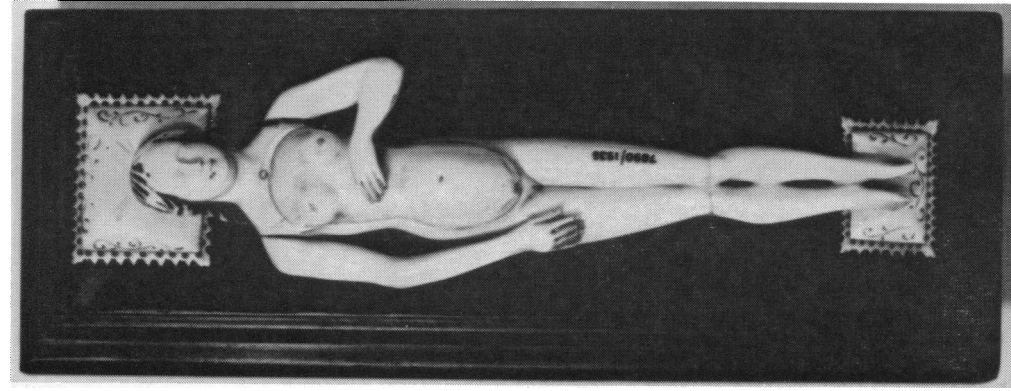


Figure 8.  
Female manikin of Group V. Note the slender, elongated body and legs accentuated by the gross plantar flexion of the feet and the pointed big toe, the legs joined together, and the pillows at both head and foot.

(From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)

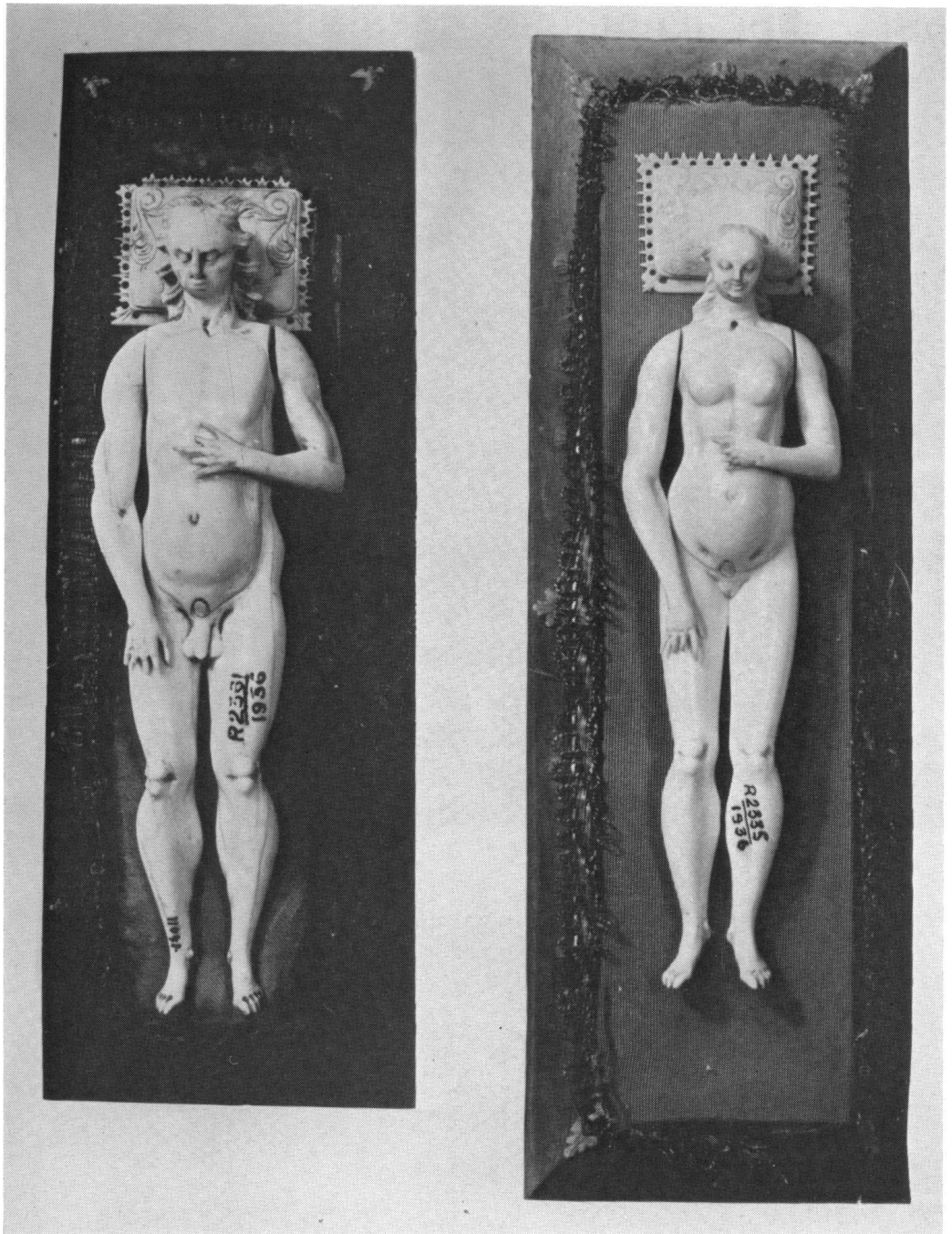


Figure 9.

Male and female manikins of Group VI. Note the elongated body with a relatively small head, more obvious in the female. Note also the abducted little fingers and the broad calves.

(From the collection in the Wellcome Institute of the History of Medicine, by courtesy of the Wellcome Trustees.)

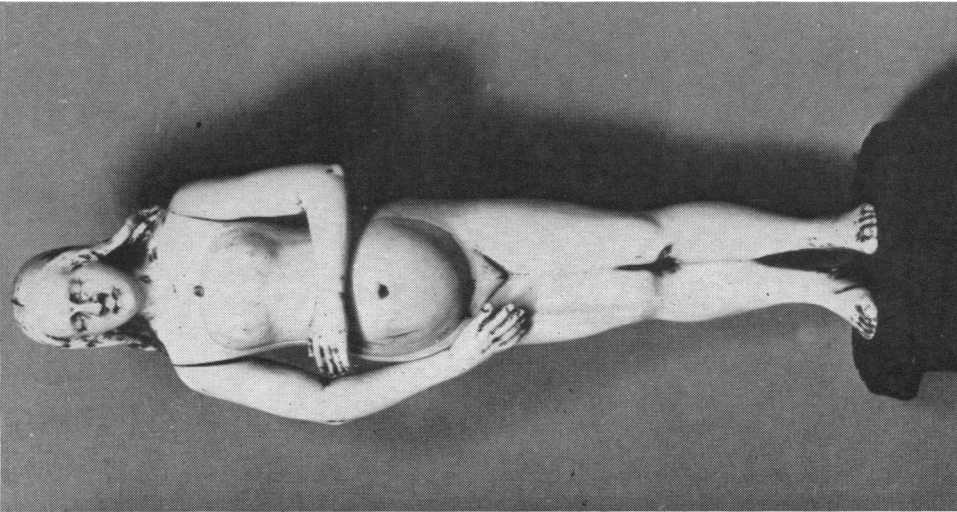


Figure 10(a)  
Female standing manikin of Group VIII (i).  
(From the collection in the Wellcome Institute  
of the History of Medicine, by courtesy of the  
Wellcome Trustees.)

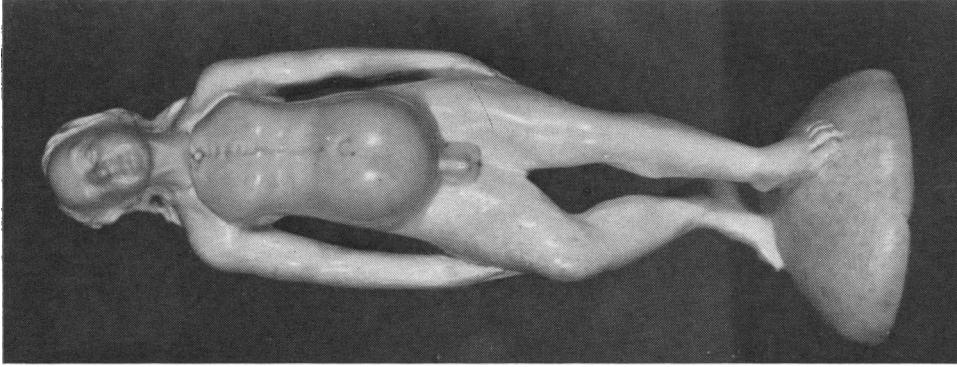


Figure 10(b).  
Male standing manikin of Group VIII (iii)  
which has marked similarities with those in  
Group IV.  
(From the Trent Collection, Duke University  
Medical Center Library, North Carolina.)

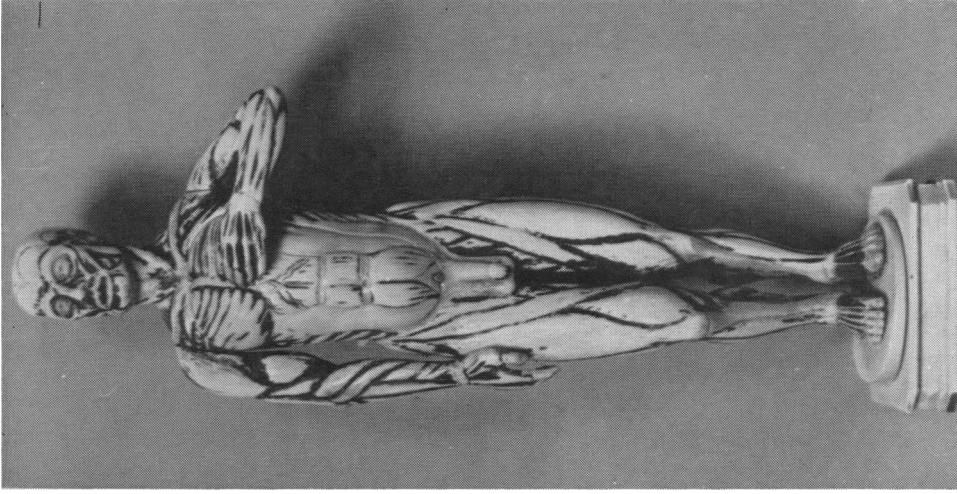


Figure 10(c).  
A male standing *écorché* manikin of Group VIII  
(vi).  
(From the collection in the Wellcome Institute  
of the History of Medicine, by courtesy of the  
Wellcome Trustees.)

### *Ivory Anatomical Manikins*

**Legs:** Are separated. Front of knee is grooved transversely. Feet are short and plantar flexed.

**Size:** 17 to 18 cm.

**Pillow lace:** Varies in design, some shown as in Group II, but in others is more leaf-like.

**Examples:** The Wellcome Institute has both male and female examples. Female specimens are in Rizzoli Institute, the Hungarian National Museum and the Howard Dittrick Museum.

Thompson (1925) and others suggest that these are of Italian origin, and this seems probable.

#### GROUP IV. Supine figures (Fig. 7)

**Body:** Well proportioned and carving of very high quality. Viscera well carved but stylized. Diaphragm shown by ivory shelf. Wellcome R2344 have genitalia covered with carved cloth.

**Head:** Is tilted to one or other side. The hair is well shown and falls naturally on the shoulders. Eyes are closed.

**Arms:** Both arms are by side and are fixed with hands attached to side of thigh. Wellcome R2344, male and female have one arm fixed by side and one movable but straight (male, right fixed, left movable; female, left fixed, right movable).

**Legs:** Are joined together either at thigh or at thigh and base of first toe. Knees are well represented, without grooving. In Wellcome R2344 legs are separated except at upper thigh.

**Size:** 16 to 20.8 cm.

**Pillow lace:** Figures examined do not have pillows.

**Examples:** Royal College of Surgeons of England has a male and a female. Wellcome Institute has a separate male with both arms fixed (R2348) and a pair (R2344).

The figures may be of French origin. It is felt that the pair in the Wellcome collection (R2344) were carved at a later date than others and may have been done in late eighteenth or early nineteenth century.

#### GROUP V. Supine figures (Fig. 8)

**Body:** Very slender and elongated. The length is accentuated by the gross plantar flexion of the feet and the fact that they come to a point at the big toe. Viscera well carved, intestines represented by double vertical coils; this is also seen in some figures of Group I and in Group VI.

**Head:** Well-proportioned with well-carved flowing hair. No smile, eyes closed.

**Arms:** Movable at shoulder with right slightly flexed at side, left flexed at elbow, fingers not particularly well done. Wellcome R15220 has both arms fixed at the side.

**Legs:** Joined together at thigh and in some at calf and heel. Feet grossly plantar flexed and pointed at big toe. Some grooving across front of knee, but this is not a feature.

- Size:* Wellcome R15220 is 15.9 cm., but others vary between 18 and 20 cm.  
*Pillow lace:* Many have pillow at head and at feet. Lace varies.  
*Examples:* All those noted are female. Examples in Wellcome Institute, Trent Collection and Luckhardt Collection.

These are thought to be of French origin.

**GROUP VI. Supine figures (Fig. 9)**

- Body:* Somewhat elongated, stocky figure. Carving well done. Abdominal wall shows depression above each inguinal region. Females have broad hips. Viscera reasonably well done. Intestines shown as double vertical coils.
- Head:* Small in proportion to rest of body, a feature which is most obvious is the female figures. Male is clean shaven. Eyes are closed.
- Arms:* Both movable at shoulder. Right is slightly flexed at side, left flexed at elbow with hand over lower chest. Little finger abducted in some figures, and dimples are shown on dorsum of hand at base of fingers.
- Legs:* Legs are separated. Calves are broad in both males and females, but feet are disproportionately small. Grooving across knee is marked in some.
- Size:* 14 to 16 cm.
- Pillow lace:* Mostly of same pattern.
- Examples:* Both male and female figures are in Wellcome Institute, female figures in Trent Collection and in Bayerisches Nationalmuseum.

These figures would seem to be of German origin and although they have some features in common with Group I (e.g. abducted little finger, grooved knee) their bodily configuration is different.

**GROUP VII. Supine figures.**

Wellcome R2356 is a large male figure measuring 39 cm. The figure has a slight lateral curvature due to the tusk from which it was carved. The body and legs are long and slender but well proportioned and well carved. Both arms are movable at the shoulder, the right one is slightly flexed at elbow with hand over genital region, the left one is straight by the side. The feet are markedly plantar flexed. The head is well carved with natural looking long hair. There is a double linear groove over each knee. Most of the viscera are missing.

**GROUP VIII. Standing figures.**

This group comprises a series of figures which, instead of lying supine on a bed or bier, are standing upright on a pedestal of wood or ivory. With one exception all have removable abdominal and thoracic wall as in supine figures.

- (i) *Body:* Stocky and well-proportioned female, but carving not of a high standard. Pedestal of wood. Pregnant, viscera crudely carved.



### *Ivory Anatomical Manikins*

**Head:** Hair rather stylized, falling on to shoulders, eyes closed as in almost all figures.  
**Arms:** Both movable at shoulders. Right arm by side slightly flexed at elbow, left flexed at elbow with hand across upper abdomen.  
**Legs:** Joined at thigh and calf, feet together.  
**Size:** 18.5 cm.  
**Example:** Wellcome R2330 (Fig. 10a).

(ii) **Body:** Slender, well-proportioned female with carving of high quality. Body and head turned slightly to right. Figure stands on round ivory pedestal which in turn rests on marble plinth. Figure and ivory pedestal in one piece.

**Head:** Hair well carved, gathered in bun on top of head. Eyes shown open.  
**Arms:** Both movable at shoulder. Right arm flexed at elbow with hand across lower chest, hand radially abducted. Left arm by side, slightly bent at elbow with hand over pudendal region. Fingers very well carved.  
**Legs:** Right leg bent at knee, feet slightly apart.  
**Size:** 17 cm.  
**Example:** Trent Collection.

The whole pose of this figure is most natural and expertly presented.

(iii) Pair of figures on curved ivory pedestals. Figure and pedestal in one piece.

**Body:** Stocky, well proportioned and well carved. Viscera carved with care.  
**Head:** Tilted to one side, male to right, female to left. Hair well carved falling to neck and shoulders. Eyes are closed.  
**Arms:** Both fixed by side.  
**Legs:** Stands on curved surface with one leg flexed at knee with foot behind the other; male right leg flexed, female left leg. Legs joined superiorly.  
**Size:** 16 cm.  
**Example:** Trent Collection (Fig. 10b).

The carving and style of these figures are, except for the pose and the fact the figures are standing, almost identical with the figures in Group IV (Royal College of Surgeons and Wellcome R2348).

(iv) **Body:** Well-proportioned male. All viscera represented stylistically with the organs shown as factories; heart a furnace, lungs as bellows worked by little men, stomach a vat with men stirring etc.

**Head:** Hair falls realistically to shoulders. Face with very serious expression. Eyes are open.  
**Arms:** Fixed by the side.  
**Legs:** Together, standing on narrow rectangular ivory pedestal.  
**Size:** Not known.  
**Example:** Dr. Arno B. Luckhardt Collection.  
So far as is known this figure is unique.

- (v) **Body:** A well-proportioned female figure in a neo-classical pose standing on a circular ivory pedestal. She is shown pregnant. Only the abdominal wall is hinged and when opened shows a foetus in utero; no other viscera are seen.
- Head:** Turned slightly to right, hair well carved and held in place by a ribbon and falls over right shoulder. Eyes open.
- Arms:** Both fixed at shoulder. Right arm flexed at elbow with hand pointing forward above breast height. Left arm by side with hand grasping draperies.
- Legs:** Hips wide, legs joined at thigh and calf. Right knee flexed and in front of left knee, right foot placed behind left.
- Size:** 16 cm.
- Example:** Wellcome R2346.
- This figure was almost certainly carved in the nineteenth century.

- (vi) This group comprises standing *écorché* figures of a male with removable abdominal and thoracic wall. The superficial muscles of the body are indicated with varying degrees of skill, the outlines of the muscles being tinted in red. Each figure stands on an ivory pedestal.
- Body:** In general well proportioned. The viscera reasonably well carved.
- Head:** Well carved with indication of cranial sutures. Eyes shown open.
- Arms:** Movable at shoulder, one straight by side (right in some, left in others).
- Legs:** Joined at thigh, one knee slightly flexed (usually the right, but less often the left).
- Size:** About 18 cm.
- Examples:** Wellcome 2035 (Fig. 10c), Luckhardt Collection, Rizzoli Institute.

The example in the Putti Collection, Rizzoli Institute shows greater detail of the muscles than others. Although these figures are probably based on the earlier bronze *écorchés* they differ from these in pose and in muscular detail.

It is not claimed that every type of ivory anatomical manikin is included in this survey and it is possible, indeed probable, that figures exist in collections not known to the author which will not easily fit in to the groups mentioned above. However, so far as is known, no survey has previously been carried out on such a large number of these figures; it is therefore in the nature of a preliminary exercise which the author hopes will be of some use to workers in this fascinating field. In particular it is hoped that information may be obtained on the artists responsible for the production of these figures in France and Italy.

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### Ivory Anatomical Manikins

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## News, Notes and Queries

### VETERINARY HISTORY SOCIETY

#### DE GENERATIONE ANIMALIUM: A SYMPOSIUM ON THE HISTORY OF MAN'S IDEAS ON THE PROCESSES OF REPRODUCTION

This symposium will be held on Saturday, 20 May 1972 in the Meeting Room of the Zoological Society of London, Regent's Park, London, N.W.1. The programme is as follows:

- 10.30 a.m. Coffee.
- 11.00 a.m. Dr. B. P. Setchell (A.R.C. Institute of Animal Physiology, Babraham) on 'The Functions of the Testis'
- 12.00 noon Dr. R. V. Short (A.R.C. Unit of Reproductive Physiology and Biochemistry, Cambridge University Department of Veterinary Clinical Studies) on 'The Discovery of the Ovary'
- 2.30 p.m. Dr. Clive Wood (University of Oxford) on 'Seasons and Cycles'
- 3.45 p.m. Prof. E. C. Amoroso (A.R.C. Institute of Animal Physiology, Babraham) on 'Cultural Aspects of the Uterus and Placenta'

Luncheon will be available in the Restaurant of the Zoological Society. Admission by ticket only (price £1), obtainable from: The Secretary, Veterinary History Society, Wellcome Institute of the History of Medicine, 183 Euston Road, London NW1 2BP.