

“Nearly sixty years later, I still think that my two years of anatomy were among the most important of my life, and helped to frame a large part of my imagination.”

*Miracles of Life*

JG Ballard studied medicine at Cambridge from October 1949 to 1951, studying anatomy, physiology and biochemistry before he would be allowed to touch a living patient.

I had a similar experience of medical school—from October 1986 to 1988 I studied medicine at Charing Cross and Westminster medical school.

Several students in my group dropped out, unable to cope with the sight of their first dead bodies, but in many ways the experience of dissection was just as overwhelming for me.

*Miracles of Life*

My own first visit to the dissecting room felt unreal. The rows of corpses not just unmoving but somehow unhuman. Completely unnerved by this exhibition of death, I screamed soundlessly at my legs to walk to the exit, never to come back. But I was frozen by fear, knowing it wasn't possible to go back. Ballard's dissecting room seems to have been in some kind of cellar, while mine was the 'pent-house' of the *High-Rise* that is Charing Cross Hospital, with magnificent views over the Thames—but mostly we were turned inwards.

Like Ballard I had a female cadaver to dissect, tied into a muslin tube, a label attached to her big toe like in a cheap gangster film. The name on that label I can still remember thirty years later. We six students firstly had to extract her from this cloth pupa so we could start her lengthy journey to flayed butterfly. It was sobering to realise our dissection guides were practical documents rather than science fiction.

I used my clumsy scalpel to make that first cut into the hardened skin below her shrunk breasts and eventually removed them completely to allow access to her chest wall. Later—a dark dissecting room joke—I would say to my male colleagues; ‘Wouldn't it be horrible, if the first time we saw a naked woman, we had to cut her tits off?’ From their reactions I could tell this *had* to have been the first time they had seen a naked woman.

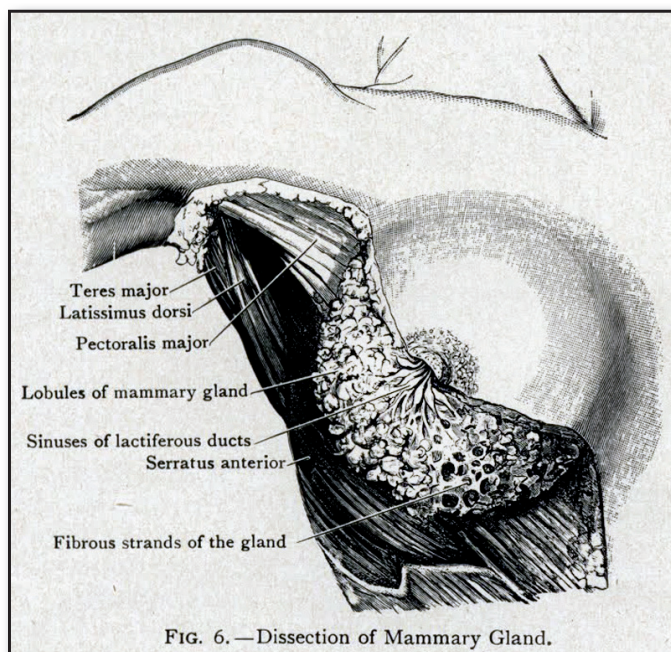


FIG. 6.—Dissection of Mammary Gland.

It is typical of Ballard's sublime imagination that he was able to transform the grisly process of dissection into an apotheosis. Beyond our student pranks and black humour of the dissection room, we also had a passionate care for our cadavers.

I clearly remember the tortuous process of opening our Mrs A's skull and the feeling of awe at

holding her brain in my hands. Perhaps the last time Mrs. A. was cared for as a human being, a plaster was placed in the crook of her left arm, possibly after a last blood sample was taken. Despite all our other decrements, we found ourselves unable to simply rip that plaster off, or even touch it. Eventually we defused this talisman of our own death by cutting the skin around it and removing the whole block of skin from under it. As we gradually examined and cut away each part of our body, the discarded parts were placed into a large steel bin, one bin per cadaver—it was a matter of honour always to put your body parts in the right bin.

If nothing else was going on we would go to the DR, put on our white coats, take our particular body part... and start work alongside our Cunningham dissection manuals (never Gray's), whose pages would soon be stained with human fat.

*Miracles of Life*

At the end of our ministrations, these scraps would be bundled together and buried. We students were encouraged to attend the end-of-year church service where our cadavers were finally laid to rest, though I managed to avoid that ritual.

Like Ballard I had a dissection manual, a minutely detailed guide to the two-year process of dismantling the human form. Like his, mine was soon stained with human fat and formalin preservative. The acrid smell of formaldehyde became a central part of my life, leaching deep into the skin of my hands. The wearing of gloves was frowned on; "You have to be able to feel your way about inside the body..."

The smell was with me as I ate a sandwich for lunch, and with me at night, stronger than the scent of my partner. After a while I no longer cared if there were parts of Mrs. A. under my fingernails.

Several times Ballard mentions that his dissection guide was *Cunningham's*. Ballard would have used the eleventh edition of *Cunningham's Manual of Practical Anatomy* which was published from 1948 to 1952. I obtained copies of all three volumes of this edition. With its precise, matter-of-fact technical language, partnered with the most extraor-

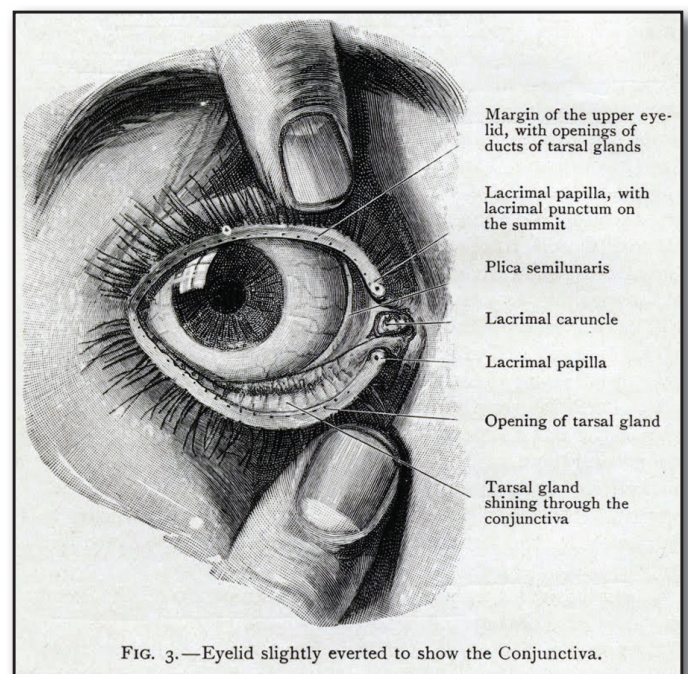
dinary images of human dismemberment—drawn with unflinching accuracy from cadavers in the dissecting room—it gives some insight into Ballard's experiences at the time.

My years in the dissection room were important because they taught me that though death was the end, the human imagination and the human spirit could triumph over our own dissolution. In many ways my entire fiction is the dissection of a deep pathology that I had witnessed in Shanghai and later in the post-war world... Or it may be that my two years in the dissecting room were an unconscious way of keeping Shanghai alive by other means.

*Miracles of Life*

Ballard's work is indeed suffused with the language and terminology of the dissecting room, sometimes obviously, as in *Crash*, but sometimes the very landscape is described in anatomical terms, external reality quantified in terms of internal spaces.

What follows are some examples of the way Ballard reworked his early anatomical experience into a new kind of fiction, together with some of the words and images from the *Cunningham's Manual* that might have settled into his uniquely fertile teenage mind.





## ABDOMEN

WHEN the body is brought into the dissecting-room, it may be placed first in the "lithotomy position" and retained in that position for three days, during which time the dissectors of the Abdomen dissect the *perineum*. The dissection of the

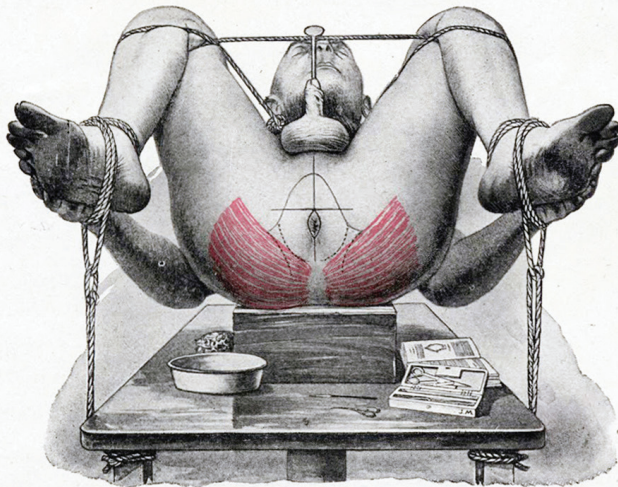


FIG. 76.—Body in "lithotomy position", showing the boundaries of the Perineum and the skin incisions. The position of the Gluteus Maximus is indicated in red.

perineum may be deferred to some later stage of the general dissection, e.g., after the Anterior Abdominal Wall has been dissected or the Lower Limbs have been removed; but it is convenient to begin with the description of the perineum and the instructions for its dissection.

I felt the warm vinyl of the seat beside me, and then stroked the damp aisle of Helen's perineum. Her hand pressed against my right testicle. The plastic laminates around me, the colour of washed anthracite, were the same tones as her pubic hairs parted at the vestibule of her vulva. (*Crash*, 1973)

were removed, pass a bristle through a lacrimal punctum into the canaliculus, and along it to the lacrimal sac.

Clean the medial palpebral ligament, and identify the *lacrimal sac*, which lies behind it. Note the lacrimal part of the orbicularis oculi as it curves forwards round the lateral side of the sac.

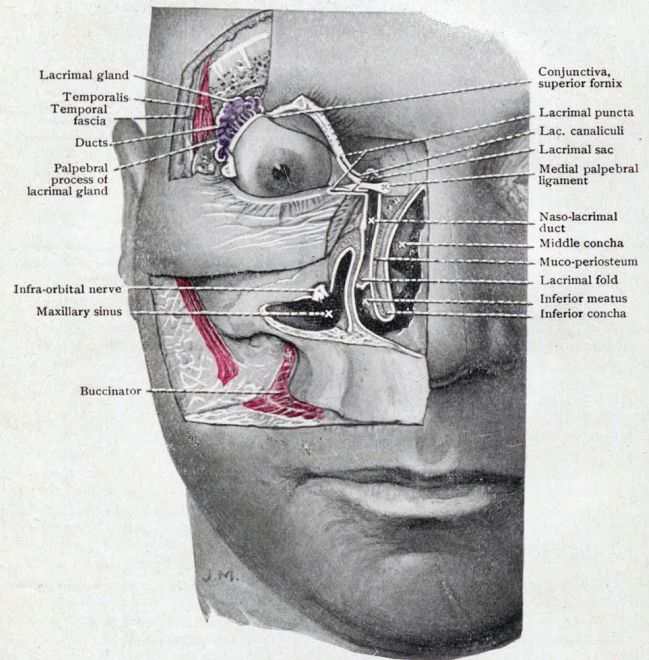
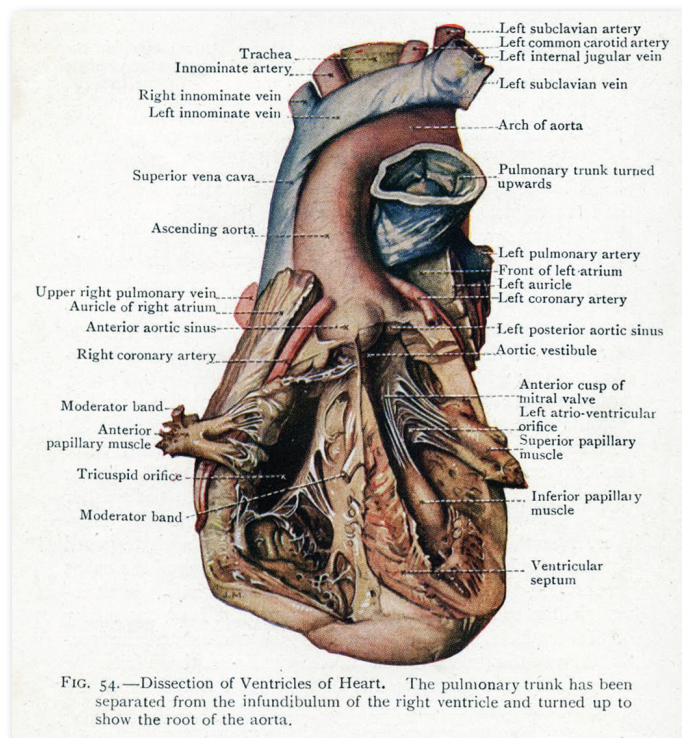


FIG. 12.—Dissection of Lacrimal Apparatus.

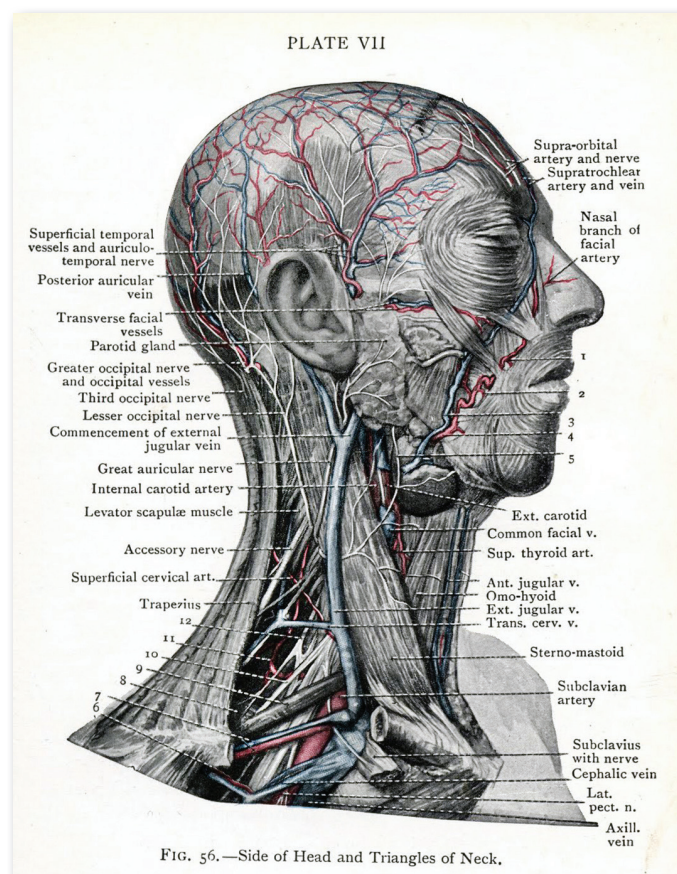
Remove the muscle-fibres and the fascia that covers the sac. Make an opening into the sac, and pass a probe into it, and down through the *naso-lacrimal duct* into the cavity of the nose.

Tasting blood in his mouth, he stopped and sat down. Squatting on the powdery slope, he took the handkerchief from his pocket and touched his tongue and lips. The red stain formed the imprint of his shaky mouth, like an illicit kiss. Maitland felt the tender skin of his right temple and cheekbone. The bruise ran from the ear as far as his right nostril. Pressing a finger into the nasal cleft, he could feel the injured sinus and gums, a loosened eye-tooth. (*Concrete Island*, 1974)





‘Of course.’ Jim reflected on all this as he walked to the hospital. He often watched the eyes of the patients as they died, trying to detect a flash of light when the soul left. Once he had helped Dr Ransome as he massaged the naked chest of a young Belgian woman wasted by dysentery. Dr Bowen had said that she was dead, but Dr Ransome squeezed her heart under her ribs and suddenly her eyes swivelled and looked at Jim. At first Jim thought that her soul had returned to her, but she was still dead. Mrs Philips and Mrs Gilmour took her away and buried her an hour later. Dr Ransome explained that for a few seconds he had pumped the blood back into her brain. (*Empire of the Sun*, 1984)



He looked down at the translucent skin over the anterior triangle of her neck, barely hiding its scenarios of nerve and blood-vessel. Marker lines sped past them, dividing and turning. (“The Great American Nude”, 1967)

Even that morning’s swim in the lagoon had failed to clear his head. Neil gripped his thighs, trying to steady the sweating muscles that still jumped in a fever of their own. The effort of spear-fishing in the lagoon each day had leached all the fat from his skin, and the strings of his muscles reminded him of the anatomical plates in his father’s textbooks, the skin flayed back to expose the knotted cords and straps. (*Rushing to Paradise*, 1994)



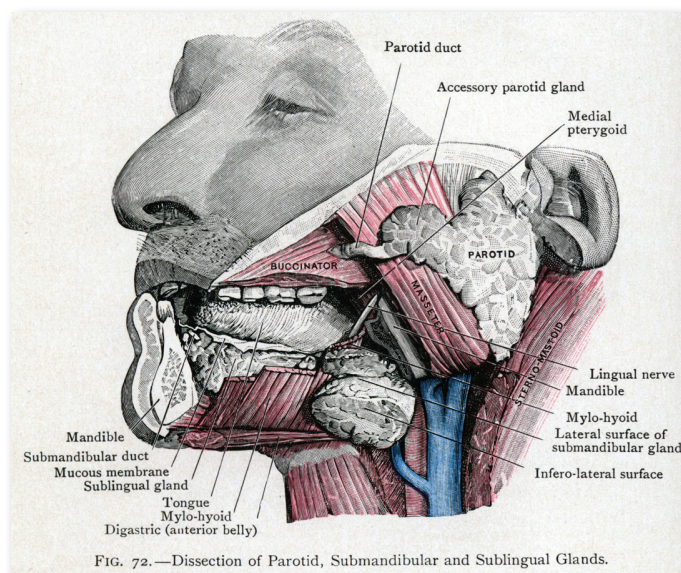


FIG. 72.—Dissection of Parotid, Submandibular and Sublingual Glands.

Looking at the contents of the cabin as he sipped his drink, Ransom debated which of his possessions to take with him. The cabin had become, unintentionally, a repository of all the talismans of his life. On the bookshelf were the anatomy texts he had used in the dissecting room as a student, the pages stained with the formalin that leaked from the corpses on the tables, somewhere among them the unknown face of his surgeon father. (*The Drought*, 1965)

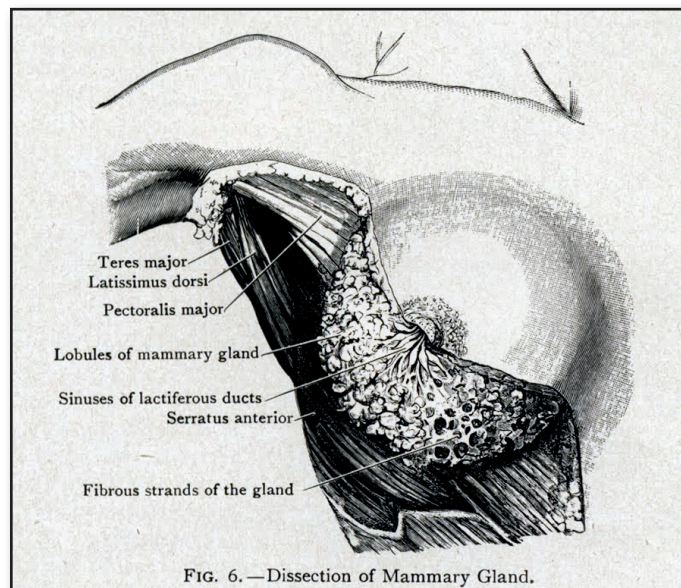


FIG. 6.—Dissection of Mammary Gland.

These deaths preoccupied Travers... Jayne Mansfield: the death of the erotic junction, the polite section of the lower mammary curvature by the glass guillotine of the windshield assembly. ("Tolerances of the Human Face" 1969)

posteriorly or dorsally are very numerous. The branches of the superior rectal artery form the most intimate relation and come away with the rectum when it is removed. The sacrum, coccyx, and ano-coccygeal body in the middle and the piriformis, coccygeus and levator ani on each side form a smooth, curved bed in which the rectum lies. But between it and this bed there are smaller structures:—the median sacral vessels; the sympathetic trunk more laterally; and, still more laterally, the lower lateral sacral vessels, the lower sacral nerves and the coccygeal nerve.

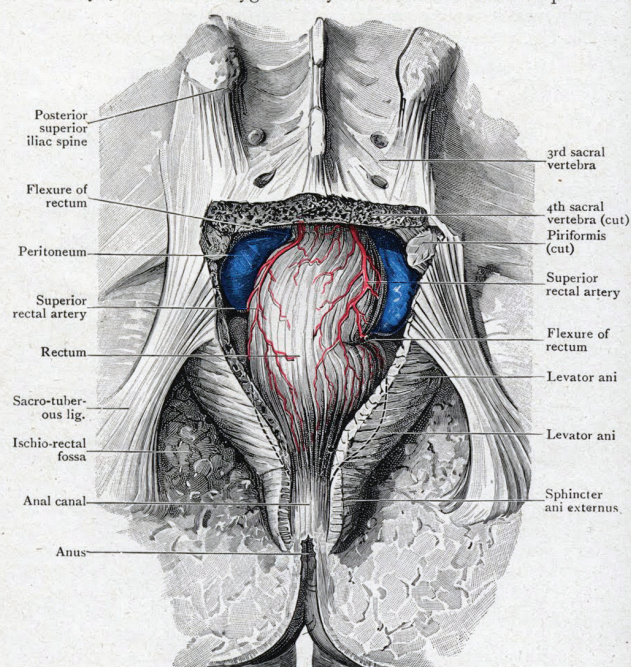


FIG. 225.—Dissection of Rectum from behind.

formis, coccygeus and levator ani on each side form a smooth, curved bed in which the rectum lies. But between it and this bed there are smaller structures:—the median sacral vessels; the sympathetic trunk more laterally; and, still more laterally, the lower lateral sacral vessels, the lower sacral nerves and the coccygeal nerve.

She knelt on the carpet, her chest and shoulders across the cushions. Spitting on her fingers, she pushed the saliva into her anus with one hand, testing my penis with the other. I hesitated to enter her, nervous of tearing her scarred anus, but she pressed my penis into her, adding more spit between the gasps of pain. When I was fully inside her she at last relaxed, and her rectum was as soft as the vagina of a child-bearing woman. She buried her face among the teddy bears and brought her wrists behind her back, inviting me to force them to her shoulder blades. I moved carefully, trying to control her prolapsing rectum, gently forcing her arms as she wanted, picking the hairs from her mouth as she shouted to me, an eager, desperate child.

'Bugger me, daddy! Beat me! Pixie wants to be buggered!' (*The Kindness of Women*, 1991)



## BRACHIAL PLEXUS

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anterior descend under cover of the plexus, between it and the scalenus medius.

*Anteriorly*, a large number of structures intervene between the plexus and the skin:—(1) The superficial fascia contain-

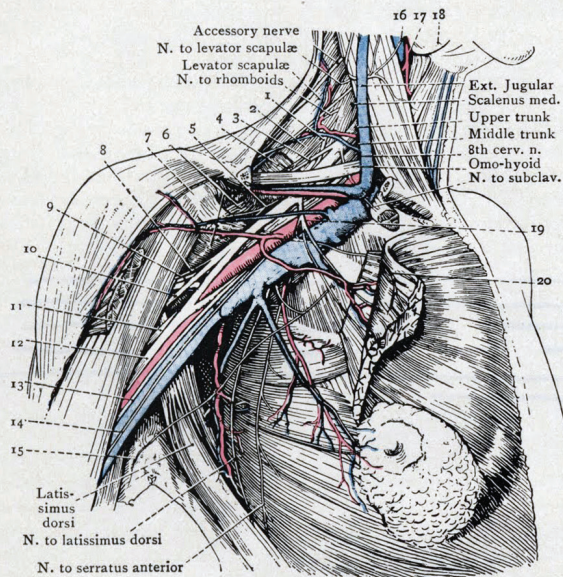


FIG. 16.—Dissection to show the General Relations of the Brachial Plexus.

- |                                |  |
|--------------------------------|--|
| 1. Nerve to serratus anterior. | 11. Radial nerve.                      |
| 2. Scalenus medius.            | 12. Median Nerve.                      |
| 3. Suprascapular nerve.        | 13. Medial cutaneous nerve of forearm. |
| 4. Serratus anterior.          | 14. Medial cutaneous nerve of arm.     |
| 5. Upper subscapular nerve.    | 15. Intercosto-brachial nerve.         |
| 6. Subscapularis.              | 16. Internal jugular vein.             |
| 7. Pectoralis minor.           | 17. Superior thyroid artery.           |
| 8. Nerve to coraco-brachialis. | 18. Submandibular gland.               |
| 9. Circumflex nerve.           | 19. Lateral pectoral nerve.            |
| 10. Musculo-cutaneous nerve.   | 20. Medial pectoral nerve.             |

'Not in our minds, Robert. These are the oldest memories on Earth, the time-codes carried in every chromosome and gene. Every step we've taken in our evolution is a milestone inscribed with organic memories—from the enzymes controlling the carbon dioxide cycle to the organisation of the brachial plexus and the nerve pathways of the Pyramid cells in the mid-brain, each is a record of a thousand decisions taken in the face of a sudden physico-chemical crisis. Just as psychoanalysis reconstructs the original traumatic situation in order to release the repressed material, so we are now being plunged back into the archaeopsychic past, uncovering the ancient taboos and drives that have been dormant for epochs...' (*The Drowned World*, 1962)

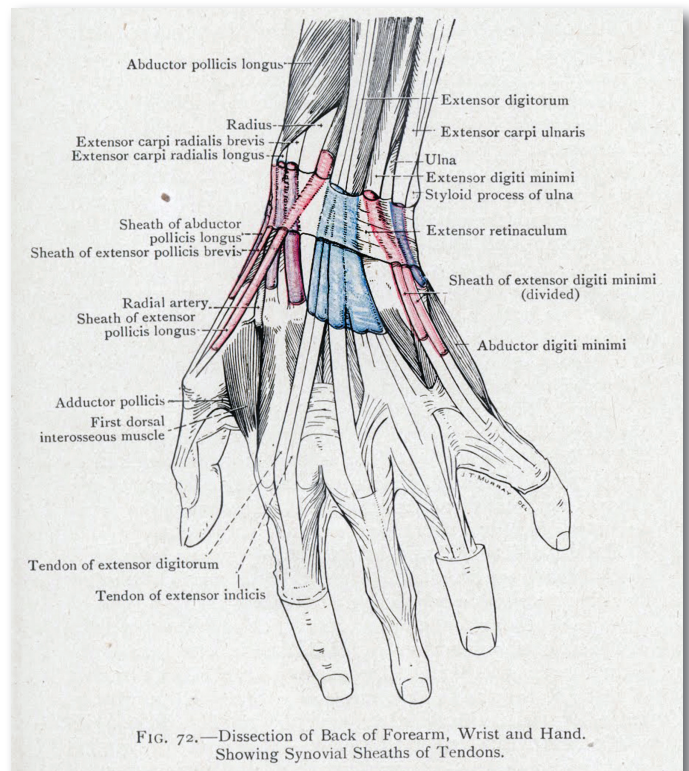


FIG. 72.—Dissection of Back of Forearm, Wrist and Hand. Showing Synovial Sheaths of Tendons.

He walked among the displaced contours of her pectoral girdle. What time could be read off the slopes and inclines of this inorganic musculature, the drifting planes of its face? ("You: Coma: Marilyn Monroe", 1966)

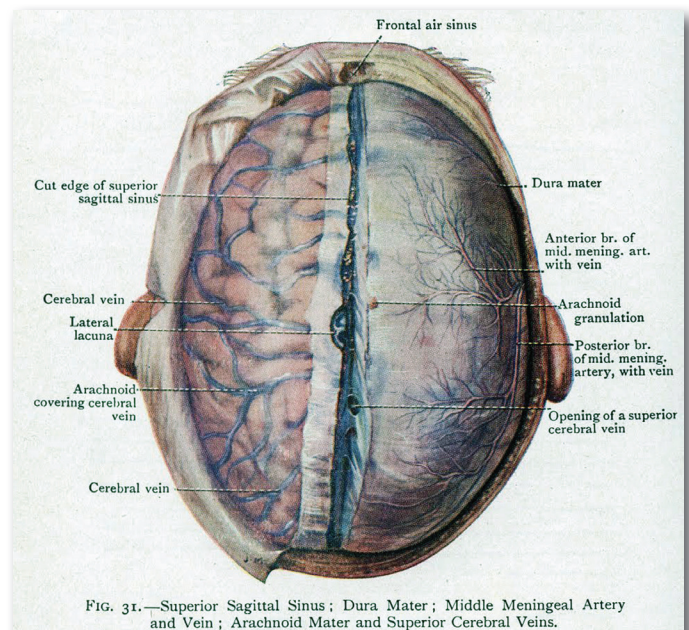
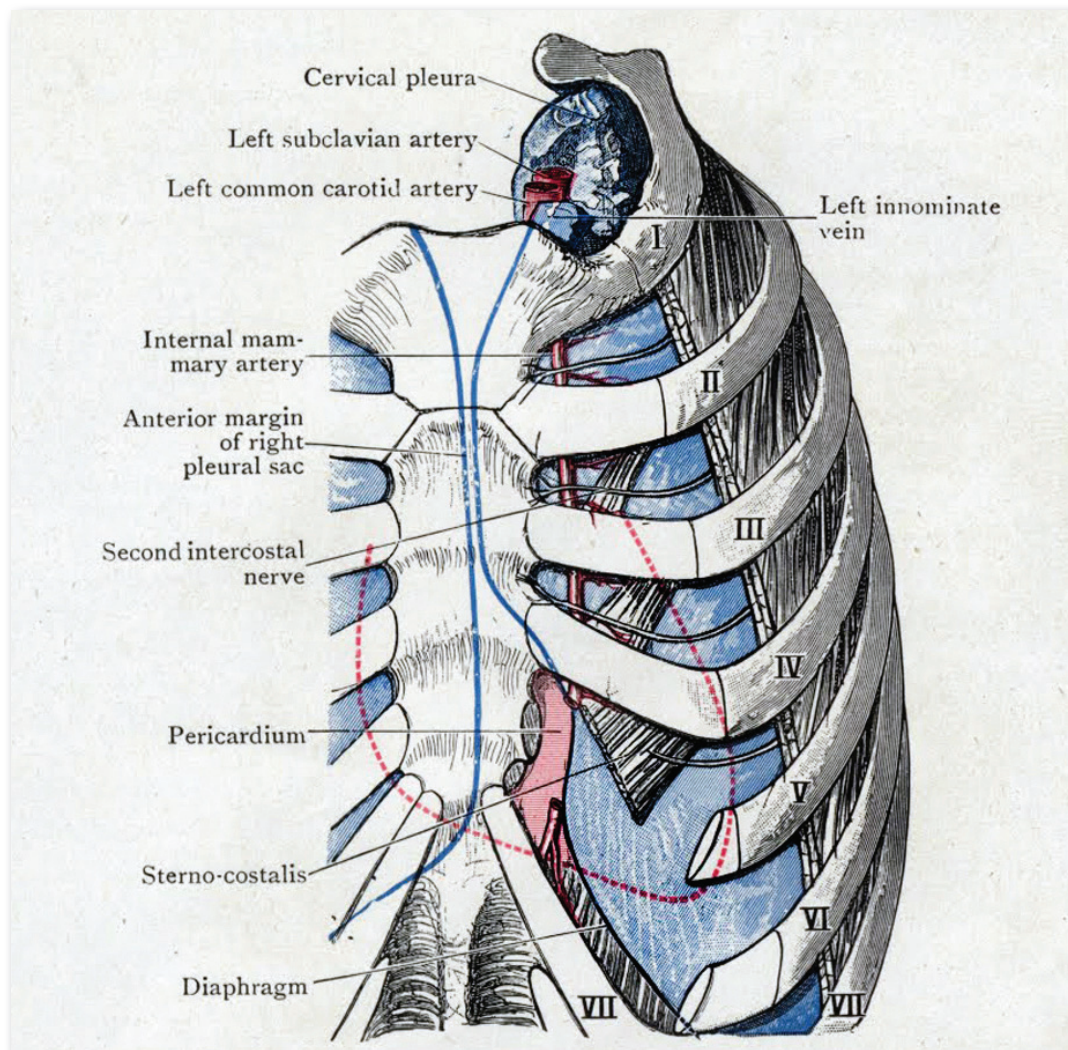


FIG. 31.—Superior Sagittal Sinus; Dura Mater; Middle Meningeal Artery and Vein; Arachnoid Mater and Superior Cerebral Veins.

Precisely. The stream of retinal images reaching the optic lobe is nothing more than a film strip. Every image is stored away, thousands of reels, a hundred thousand hours of running time. ("Zone of Terror", 1960)



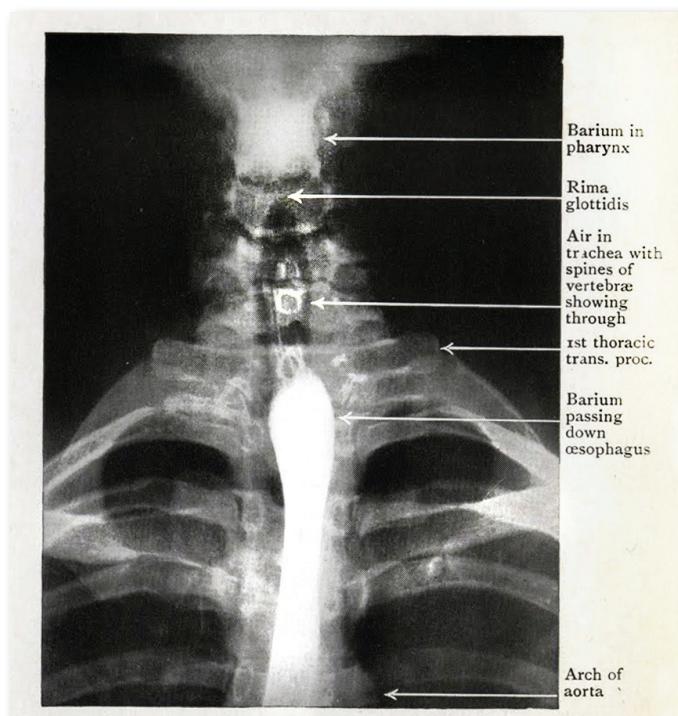


Mallory sat down and placed his hands on her diaphragm, gently respiring her. Every morning he feared that time would run out for Anne while she slept, leaving her forever in the middle of a last uneasy dream. (*Memories of the Space Age*, 1982)

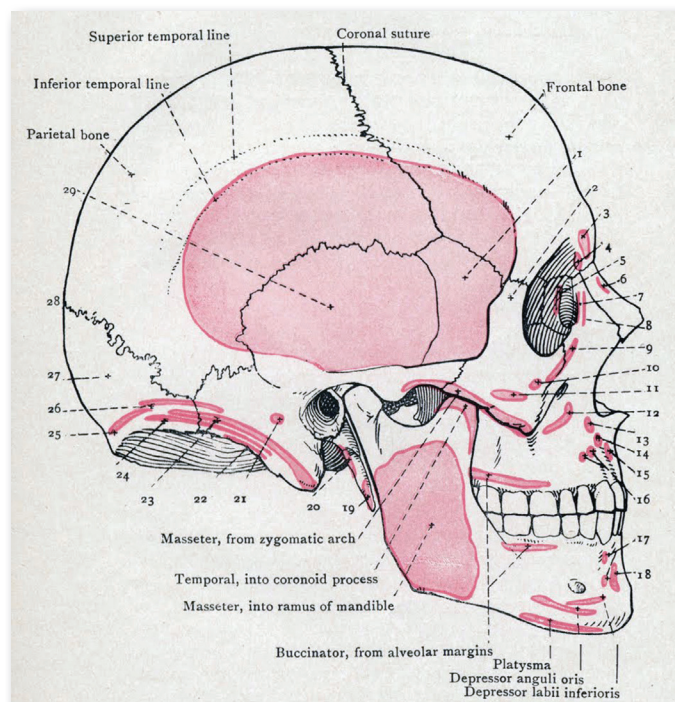
I freed his tongue and windpipe, massaged his diaphragm until his breath was even, and placed a choir cushion below his shoulders. On the floor beside him were the barrel, receiver, breech and magazine of a stockless rifle whose parts he had been oiling in the moments before his attack, and which I knew he would reassemble the instant he awoke. ("The Object of the Attack", 1984)

Jim squatted beside Mr Maxted, working his diaphragm like a bellows. He had seen Dr Ransome bring his patients back from the dead, and it was important for Mr Maxted to be well enough to join the march. Around them the prisoners were sitting upright, and a few men stood beside their huddled wives and children. Several of the older internees had died in the night—ten feet away Mrs Wentworth, who had played the part of Lady Bracknell, lay in her faded cotton dress, staring at the sky. Others were surrounded by shallow pools of water formed by the pressure of their bodies on the soft grass. (*Empire of the Sun*, 1984)



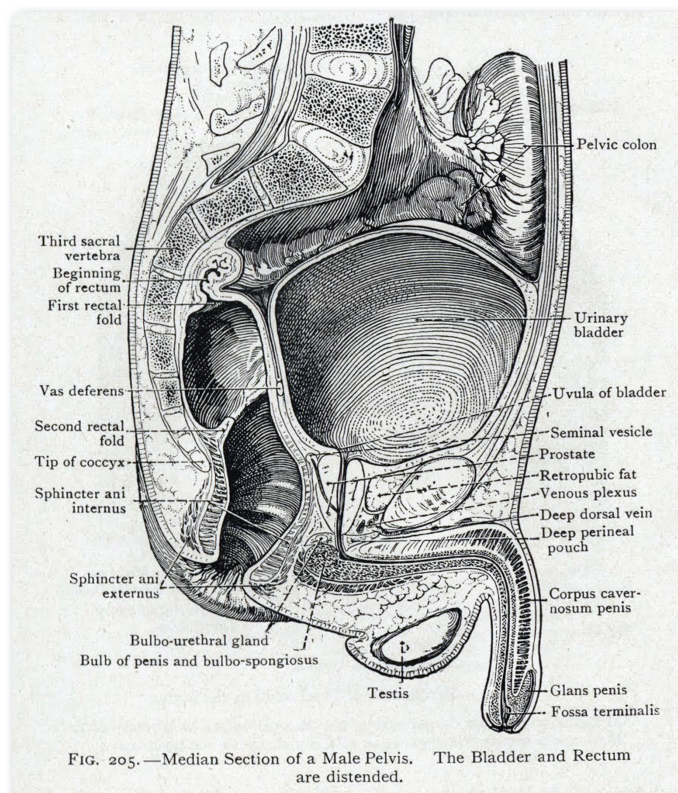


(2) a transverse section through the spinal level T-12... (5) an antero-posterior radiograph of a skull, estimated capacity 1500 cc. ("You and Me and the Continuum", 1966)



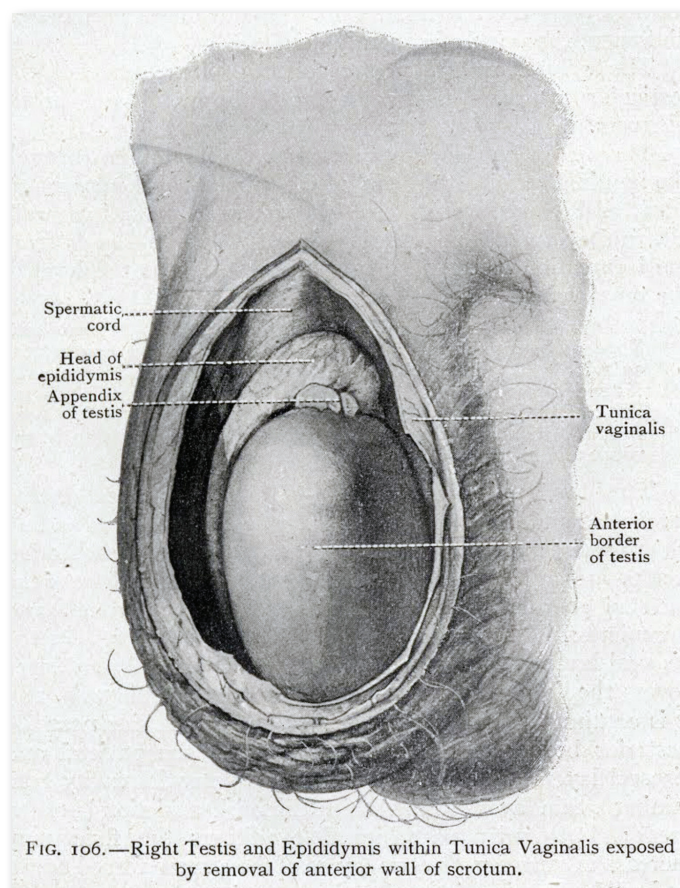
**Waking:** the concrete embankment of a motorway extension. Roadworks, cars drumming two hundred yards below. In the sunlight the seams between the sections are illuminated like the sutures of an exposed skull. ("The Assassination Weapon", 1966)

A faded agency picture of the car in which Albert Camus had died was elaborately re-worked, the dashboard and windshield marked with the words 'nasal bridge', 'soft palate', 'left zygomatic arch'. ("You: Coma: Marilyn Monroe", 1966)

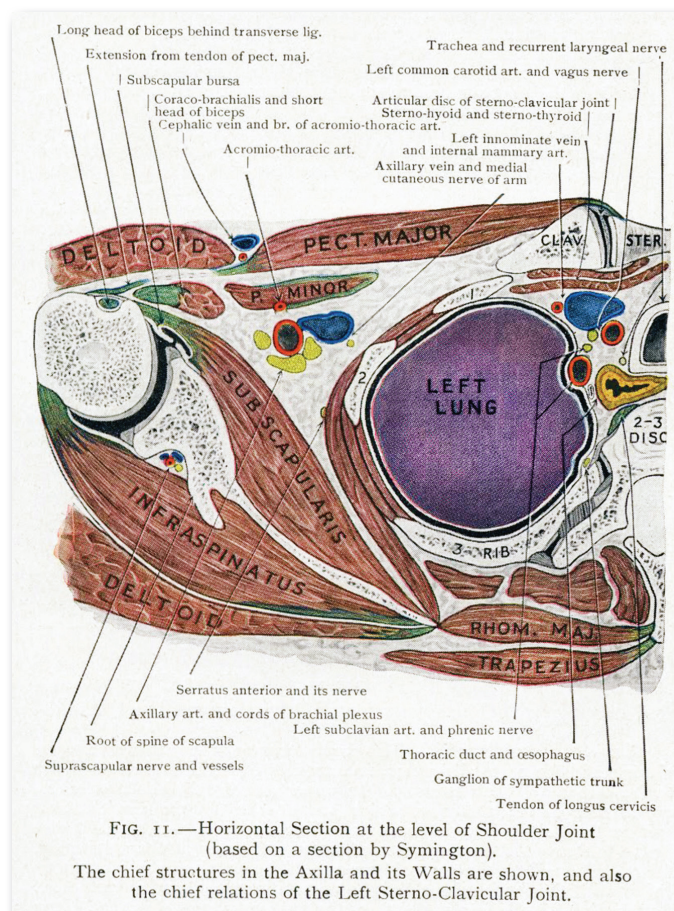


I looked down. She was holding my limp penis between thumb and forefinger, waiting for me to decide whether I wanted it to lie to right or left of the central bandage. (*Crash*, 1973)



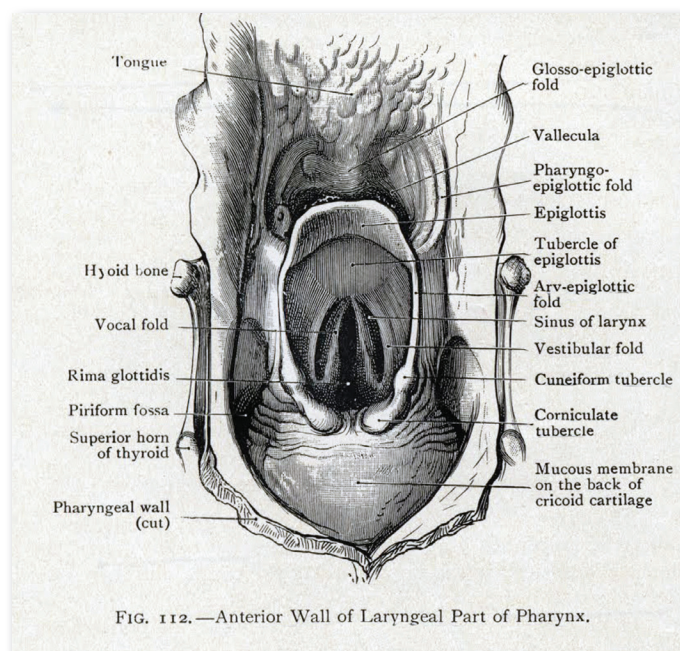


Other correspondences or respiratory and urinogenital function came to mind, enshrined both in popular mythology (the supposed equivalence in size of nose and penis) and psychoanalytic symbolism (the “eyes” are a common code for the testicles). (*The Atrocity Exhibition*, 1966)



‘Doctor..’ Kagwa’s strong hand gripped my right elbow, his fingers deliberately bruising the ulna nerve. He closed the cell door on the soldier, who had placed the mess-tin on the floor beside the European and was about to remove the slops bucket. ‘Your duties now are complete. You may return to your clinic and finish your packing.’ (*The Day of Creation*, 1987)

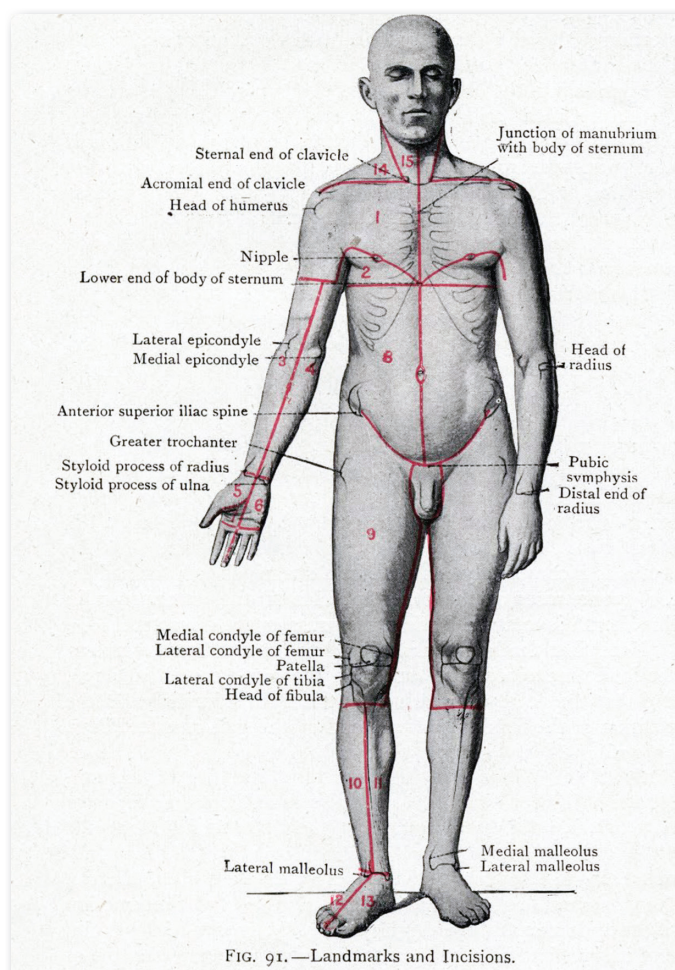




‘A professional killer? It’s remarkable that you can talk at all. Dr Hamilton says your throat isn’t damaged.’

‘It’s hard to explain, Inspector.’ Lips pursed, Paula pointed to the bruises on my neck left by the assailant’s fingertips. The attack had shocked her. Usually so quick-witted, and never at a loss for a word, she was almost silent. By leaving me alone in the apartment she had made herself partly responsible for my injuries. Yet she seemed unsurprised by the assault, as if expecting it to take place. Speaking in her flat, lecture-room voice, she said: ‘In cases of strangulation the voice-box is almost always crushed. In fact, it’s difficult to strangle someone to the point of unconsciousness without doing serious structural damage to the nerves and blood vessels. You were lucky, Charles. If you blacked out that was probably because you hit your head on the floor.’ (*Cocaine Nights*, 1996)

Lang was lying in his cot, body motionless under the canvas sheet. His lips were parted slightly. No sound came from them but Morley, bending over next to Neill, could see his hyoid bone vibrating in spasms. (“Manhole 69”, 1957)



After a year at London University I was thrown out of the medical school—while dissecting a thorax in the anatomy laboratory one afternoon I suddenly became convinced that the cadaver was still alive. I terrorized a weak fellow student into helping me to frogmarch the corpse up and down the laboratory in an attempt to revive it. I am still half-certain that we would have succeeded. (*The Unlimited Dream Company*, 1979)

(2) mean intra-patellar distances (estimated during funeral services) of Coretta King and Ethel M. Kennedy; (3) close-up of the perineum of a six-year-old girl (“Tolerances of the Human Face”, 1969)



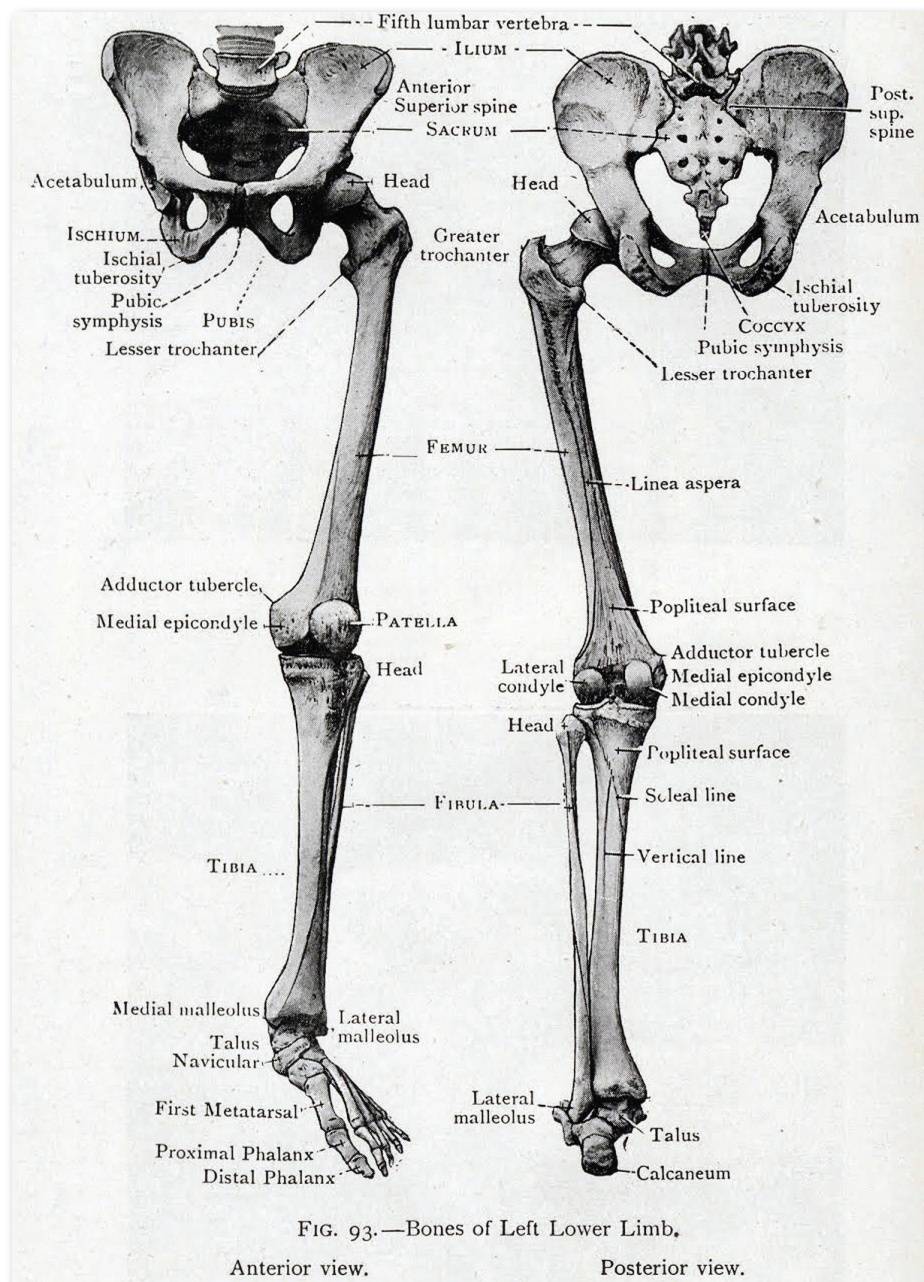


FIG. 93.—Bones of Left Lower Limb,

Anterior view.

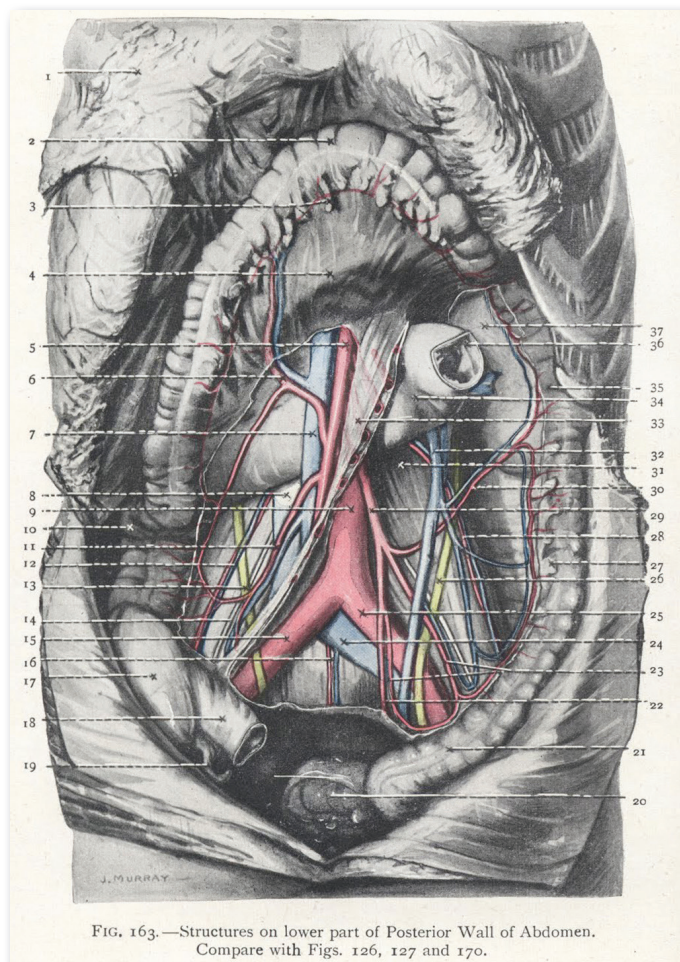
Posterior view.

The contractor's hut, the crane and the scaffolding have been removed, and the sand being driven into the bay along the coast has buried the pelvis and backbone. In the winter the high curved bones are deserted, battered by the breaking waves, but in the summer they provide an excellent perch for the sea-wearying gulls. ("The Drowned Giant", 1964) Precisely. The stream of retinal images reaching the optic lobe is nothing more than a film strip. Every image is stored away, thousands of reels, a hundred thousand hours of running time. ("Zone of Terror", 1960)

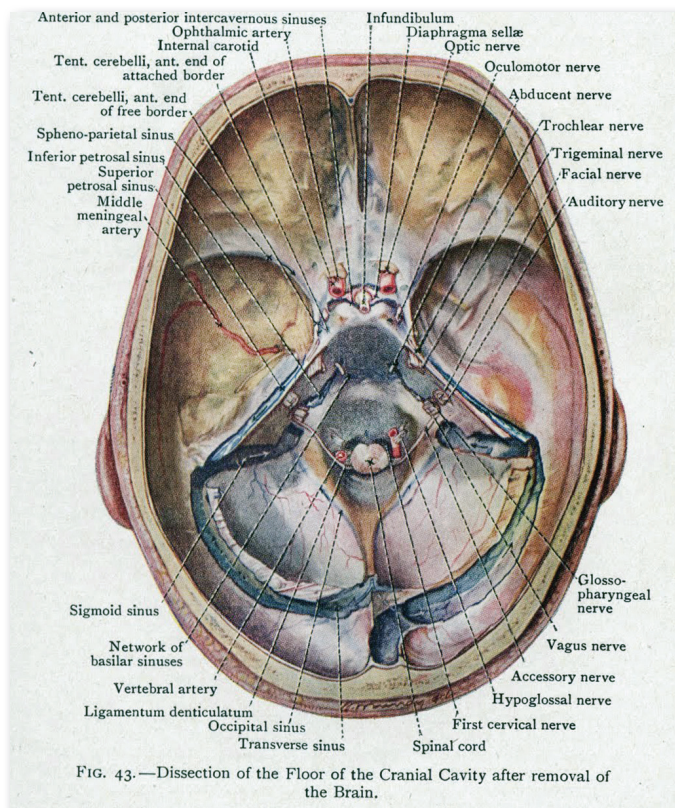
She pumped her buttocks rapidly, forcing her pubic bone against mine, then leaned back against the dashboard as a Land-Rover thudded past along the track, sending a cloud of dust against the windows. (*Crash*, 1973)

Lumbering about to the rhythm of the bongos, he selected a skull and femur from the pile of bones around the throne, began to beat out a tattoo for Kerans, tapping the varying thicknesses of the temporal and occipital lobes to pick out a crude cranial octave. Several others joined in, and with a rattle of femur and tibia, radius and ulna, a mad dance of the bones ensued. (*Drowned World*, 1962)

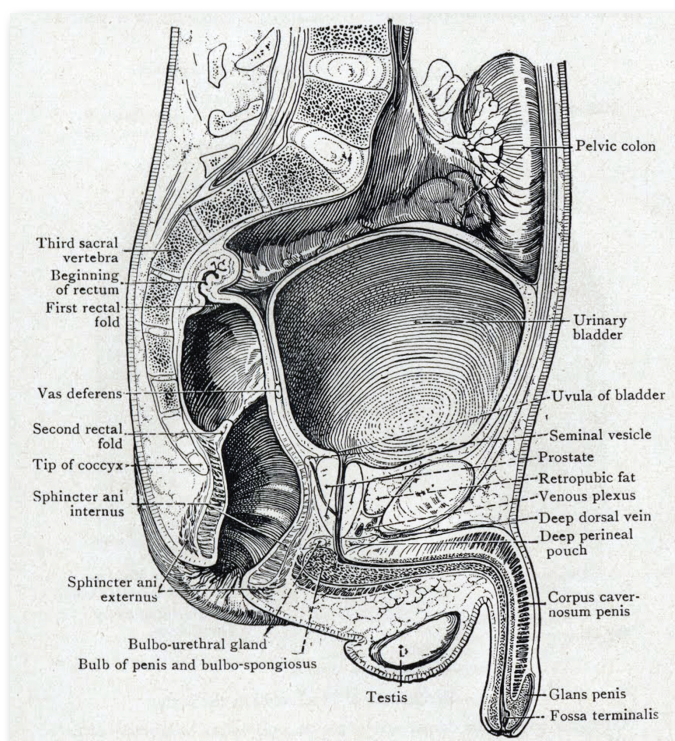




I looked down at my calves and arms, at the balls of muscles that hunted beneath the thinning skin. I had lost at least twenty pounds in weight, and my hip bones jutted above my shorts like the rim of our empty rice basin. I imagined my once plump mesentery as a fraying clothes line, on which was strung an ever-more hungry intestine. Nonetheless, I felt stronger than at any time since leaving Port-la-Nouvelle, and eager to cope with the exhausting task of steering the ferry and moving the oil drums to the fuel manifold. (*The Day of Creation*, 1987)



Surgery is necessary but be careful. Too much cortical damage and the archetypes may get restive. (*Passport to Eternity*, 1962)



I looked down. She was holding my limp penis between thumb and forefinger, waiting for me to decide whether I wanted it to lie to right or left of the central bandage. (*Crash*, 1973)