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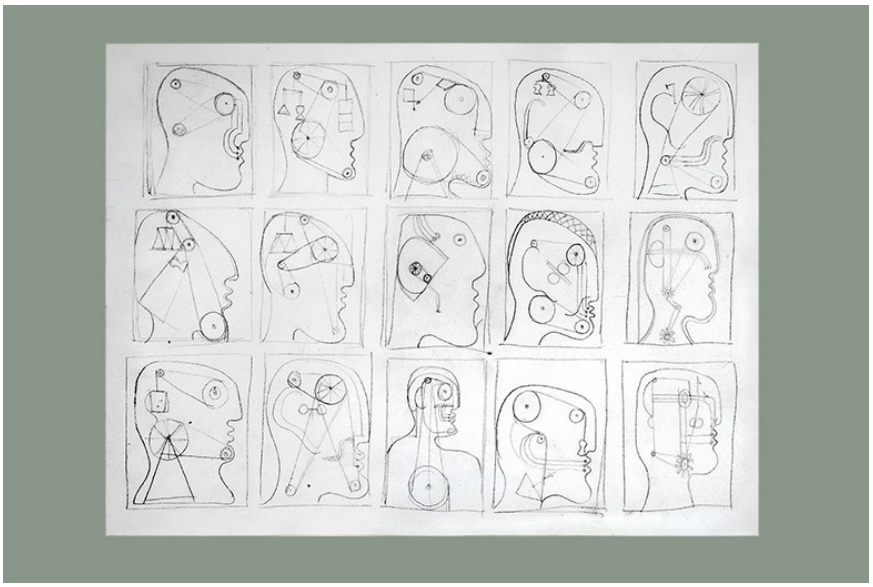
Henry Jay Przybylo
COUNTING BACKWARDS
A doctor's notes on anesthesia
240pp. Norton. £21 (US $25.95).

Kate Cole-Adams
ANAESTHESIA
The gift of oblivion and the mystery of consciousness
405pp. Text Publishing. Paperback, £12.99 (US $28).



Preliminary sketches for "Hypnosis" by Julian Trevelyan (1910–88)

Blacking out

Christopher Lawrence asks: what do we experience when we are unconscious?

CHRISTOPHER LAWRENCE

Anaesthetics is a strange medical speciality. The old joke that doctors become anaesthetists because they don't like patients suggests that anaesthesia is a technical business distant from emotions and is of limited use as a means to investigate the human condition. In many areas, doctors lament the separation of mind and body, and feebly unite them with terms like psychosomatic. In anaesthesia the Cartesian gap is spanned by one word that means two quite different things. "Unconscious" is used to refer both to the unresponsive body and the unaware mind.

Anaesthetists themselves have contributed to their insular image. Among doctors, they are the most enthusiastic historians of their own speciality, and produce innumerable, well-crafted studies of instrumental history. This concern with the technical fix is probably a measure of the fact that anaesthetists are called on to deal with two of the most incomprehensible and often overwhelming phenomena of existence: consciousness and pain. Their work is aimed at closing these things down (one of them reversibly), and their histories are chronicles of their means of doing so. Until recently the wider meanings of these phenomena have largely been absent from their discourse.

Like most writers who invoke the history of anaesthesia, both Henry Jay Przybylo and Kate Cole-Adams, authors of *Counting Backwards* and *Anaesthesia*, respectively, fall into the technological determinism trap. The historically reconstructed occasions in the 1840s when ether and nitrous oxide were deemed to have first been administered successfully are treated as non-human events, like meteor strikes. This interpretation makes surgery before anaesthesia painful, crude and barbaric, and after it, more or less, modern. But the introduction of anaesthesia raises two questions. First, what was happening to surgery that drove the introduction of

anaesthesia, and, second, what was happening to the understanding of pain to make that introduction a sought-after good? The first question is easier. Surgeons, and especially French surgeons, had been asserting that they were modern since about 1800. In 1815, the Parisian surgeon Alexis Boyer proclaimed that surgery "seems now to have attained all the perfection of which it is susceptible". With or without anaesthesia, surgeons in the 1840s were carrying out vastly complicated operations on bones, joints and soft tissues, making the knife the treatment of choice before diet and drugs. As the renowned medical historian Henry Sigerist put it in a striking, albeit teleological, way: "Surgery became great, not because anesthesia and antisepsis were introduced, but anesthesia and antisepsis were found because surgery was to become great".

The question of the changing nature of the meanings of pain and the introduction of anaesthesia is more complex. Out of a mix of early nineteenth-century rationalism, religion and commercialism, a new attitude to pain was forged. In Britain, Jeremy Bentham's reforming philosophy stressed pain and pleasure as the fundamental springs of education and benevolent action. Evangelicals waged war on unnecessary pain and suffering. Benthamites completely, and Evangelicals in part, moved the idea

of pain from an individual burden understood through Christianity to an object through which social reform could be mobilized. The pain of disease or its putative cure was no longer comprehended through Adam and Eve. The pains of childbirth were the last bastion of religious interpretation. In the fifty years before anaesthesia, the sick who visited surgeons were increasingly writing about their pain and suffering in secular terms rather than as a burden of original sin. The secularization of pain was ripened through commercialization. In America, the dentists Horace Wells and William Morton – anaesthesia's founding fathers – were seeking gaseous agents to economically enhance their practices. Morphine was isolated in the early nineteenth century and the pharmaceutical company Merck marketed it commercially in 1827.

People have always hoped that their doctors would relieve pain, and after the introduction of anaesthesia the public came to expect pain-free surgery. Until the Second World War, the practice of anaesthesia was devoted almost exclusively to this end. Since then, however, anaesthetists have become prominent in multidisciplinary teams as specialists in pain and disability management. Pain was brought to public prominence by numerous agencies, notably the war on cancer and euthanasia debates. But these forces

have changed the meanings of pain in the past fifty years. Pain is no longer just a feared symptom, but has become a scientific and political object. The World Health Organization has declared access to adequate pain treatment a human right.

Przybylo is a paediatric anesthesiologist practising in Chicago. The change in the political status of pain management appears in *Counting Backwards* as a personal achievement, a "newfound principle[which] grew through a series of experiences". This is a conclusion that prompts the reflection: how are deep shifts in political thought and cultural attitudes mediated such that individuals consider they have discovered them in eureka moments? Anyhow, if access to pain treatment is a human right, by what right do governments deny us unrestricted access to opioid and other pain-killing drugs? By no right at all, say some.

The cauldron of ideas and practice in which anaesthesia was brewed contained another nebulous ingredient. Ironically, just as Victorian physiologists began to designate the brain the organ of mind, other investigators, from mesmerists through to spiritualists, began exploring whether mind could be in a place other than the brain. In 1847 the Edinburgh obstetrician James Young Simson was playing

(glossed today as experimenting) with consciousness-changing drugs and discovered the anaesthetic properties of chloroform.

Often described comfortingly as sleep, anaesthesia is quite unlike it in many ways. From the start, what was going on in the mind of the anaesthetized subject has been contentious. Patients on the table have been known to struggle, sing and shout. Others recounted dreams or events that occurred during an operation. Early on, it was recognized that producing unconsciousness, meaning rendering the patient unresponsive, and ensuring pain relief were different things. The possible, unwelcome truth dawned that all that ether did to the mind was expunge memory. Today, a small number of patients have brought successful law suits claiming that, although unresponsive, they were aware and felt pain under anaesthesia. Perhaps they are the lucky few who got paid for experiences the rest of us simply don't remember. In the absence of remembrance, vital signs are taken to indicate we have been without awareness during anaesthesia.

Philosophically, although he doesn't say it explicitly, Przybylo is a sceptic. If something conscious goes on in the mind of his anaesthetized patients, then, to him, it is unknowable. The science and experience of

monitoring must be progressively refined on the assumption that vital signs indicate, if not prove, lack of consciousness and pain. Overall, he tells of the ways in which his experiences have incrementally taught him to deliver anaesthesia with increasing safety.

If Przybylo is a philosophical sceptic, Cole-Adams, a journalist, is an ontology hunter. She wants to know whether anaesthesia changes "the way we feel or think or behave in the minutes, months or even years after surgery". In *Anaesthesia*, as observer and patient, she weaves her way comprehensively through the literature of the subject and its meta-land to discover what really goes on (if anything) in the mind of the (apparently) unaware person. Neither of these books can be resoundingly recommended to the ordinary reader. Przybylo's concise, entertaining histories are intriguing but his cultural reflections are delivered as inductive "ah ha" moments. Cole-Adams on the other hand could have done with an unsparing editor. Her autobiographical narrative is seamed into an interminable travelogue, detailing discussions, seminars, meeting halls, cafes, hospitals, beaches, relatives, dreams and ghosts. Still, anyone wishing to know either the latest scientific research or the more unorthodox, transcendental speculations on whether there is anything conscious going on in their head

when inhaling anaesthetic agents, will find it here. One of her conclusions is that there are many half-remembered, puzzling anaesthetic experiences and these can change people, usually for the worse. Here, her prescriptions and those of Przybylo entirely coincide but for different reasons: "confused, anxious patients" and "absent, unaware doctors" are not conducive to anaesthetic amnesia.

The unknowable mind of the unconscious patient is of course not a problem confined to anaesthesia. Every day, comatose people have experts, bureaucrats, relatives and friends around their beds pondering the same question. From 1846 and until recently, theories of brain activity under anaesthesia have been dominated by spatial metaphors, such as "blocked", or "switched off". Today's metaphors, encouraged by encephalography and neuro-imaging, are more functional or temporal, centring on the disintegration of brain's power to bind information into meaningful perception or memory. Such is the appeal of this view that psychoanalytical theory is being aligned with it. On this subject Cole-Adams refers to the work of George A. Mashour who has collected empirical material suggesting that the anaesthetized patient is actively taking in and storing information. Using this data he has created a dynamic psychological model that explains modern accounts

of both the anaesthetized mind and the psychoanalytic unconsciousness. Still, theories and encephalography notwithstanding, no one can definitively know, including ourselves, whether every time we come round from anaesthesia we have been in an Edgar Allan Poe story about pain we cannot remember.