IRWIN (J.A.)

THE LITERATURE OF SEA-SICKNESS

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The Literature of Sea-Sickness.

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SEA-SICKNESS as one of the earliest noted, most constant, and most palpable of human infirmities, has a literature which, if not particularly instructive to the practical student, is at least as ancient and comprehensive, and probably more closely associated with the humanities, than that of any similarly unimportant derangement. It is remarkable, then, that the modern writer upon this subject so persistently ignores the record of previous investigation, and usually presents as new theories and suggestions —the outcome of his individual experience and cogitation—many which are centuries old, and usually have been long since exploded, or found impracticable for general use.

Even the discussion recently inaugurated by an authority no less distinguished in another department of medicine than Dr. Graily Hewitt,[1] is by no means exempt from this reproach. The connection of sea-sickness with visual disturbance was fully discussed by Gilchrist[2] in 1757; by Darwin,[3] 1794; by Miller,[4] 1808; by Bell, Johnson, and Maxwell[5] about 1826, again by Allard,[6] in

[1] Brit. Med. Jour.
[2] Use of Sea-voyages.
[3] Zoönomia, vol. i.
[4] New York Med. and Physical Jour.
[5] Edin. Jour. Med. Sci., and Med. and Chir. Rev., 1826.
[6] Thèse pour le Doctorat, à Montpellier.

1829, and subsequently by many others. In a paper published by the writer,[1] in 1881—intended to prove that the etiological method of all motion-sickness, or *kinesia*, was a disturbance of the special function of equilibration located mainly within the semicircular canals of the internal ear—there occurs the following paragraph: "That sea-sickness can exist independently of visual impressions is easily demonstrable; there can be no doubt, however, that these impressions exercise an important influence in some cases. Ordinary visual vertigo depends upon either an exhaustion of the optic mechanism, or a discrepancy between the visual impressions of the moment and the conceptions formed in the central organs of equilibration. In the visual vertigo of sea-sickness there appears to be a discord between the immediate or true visual impressions and a certain visual habit, or visual sense of the fitness and order of things, which passes into consciousness as a distressing feeling of uncertainty, dizziness, and nausea."

Erastus Darwin promulgated the view recently advocated by Dr. Hewitt,[2] that visual disturbances are the principal cause of sea-sickness; and, like him, constructed a swinging apparatus, which, although originally intended for the cure of insanity, was incidentally to be used for "a week or two before going on board" as a prophylactic against sea-sickness. Miller recommended the preparatory exercise of "turning rapidly on one foot," or "whirling in a chair or small bed suspended to a simple machine," etc.; and, that while on board, "the patient should place himself in a horizontal position, shut his eyes, and lie perfectly still." Aronssohn[3] suggests "gradually practising on an oscillating plank;" and Rey[4] expresses the simple and oft-repeated counsel, "*fermez les yeux et prenez patience.*" In 1796 Autenrieth[5]

[1] The Lancet, November, 1881.
[2] Brit. Med. Jour., 1892.
[3] Union Méd., 1860, vol. iii.
[4] Nouv. Dic. de Med. et de Chir., vol xxi.
[5] Jour. der Practischen, etc., vol. ii.

discusses the statement of Adanson [1] that short-sighted persons are, in consequence of their infirmity, less liable to sea-sickness; while James,[2] of Harvard, has argued that a similar immunity existed among deaf-mutes. The experiments with rotatory machines by Crum-Brown,[3] of Edinburgh, and Mach,[4] of Prague have established beyond question the association of vertigo and nausea with perverted visual impressions the result of motion. Founded upon the theory of visual causation many of the older writers have also recommended fixing the gaze upon some object distinct from the vessel: a plan, however, which would scarcely be applicable during ocean voyages, when, as a rule, there are no such objects in view.

Other somewhat eccentric and inconvenient occupations —such as balancing a glass of water, continuously humming popular airs, and timing one's respirations to the movements of the vessel—have had at various times warm advocates. Many years ago De Cassagnac,[5] having tested the latter method, expresses his disgust: "Mais c'était quelque chose de si odieusement ridicule de m'étudier à devenir une montre de Genève, que je donnai le remède au diable, comme cent fois pire que le mal."

Inventions intended to mechanically diminish motion, and so avoid sea-sickness, have been many, and in a few instances interesting; but, from the "*Ile Flottante*" of Tellier[6] designed to carry trains across the Channel, the Bessemer saloon, the swinging state-room in an earlier White Star steamer, the Castalia, and even the twin-ship, Douvre-Calais, down to the *Fauteuil-de-Mer*, of Derotrie,[7] the *Cadras suspendus*, of Pellarin,[8] and innumerable cots,

[1] Voyage to Senegal, 1759. [2] Cambridge, Mass., 1882.
[3] Jour. Anat. and Physiology, 1874.
[4] Wiener Sitzungsberichte, November, 1873, and Med. Centralblatt, 1875. [5] Voyage aux Antilles.
[6] Rey: Nouveau Dic. de Méd. prat., vol. xxi.
[7] Jour. (Méd.) de la Soc. Académique (Loire Inf.), vol. xxxvi.
[8] Le Mal de Mer. Paris, 1851.

hammocks, and patented berths—all have proven more or less failures or been long since entirely abandoned. In the enormously increasing size of the modern ocean steamer seems to rest the only hope from this direction.

Another prophylactic and remedy recently resurrected is the belt or abdominal compress, a device of time-honored celebrity, and long a favorite among French writers. Kerauderan,[1] a well-known authority, says in 1812, "La compression abdominale paraît donc le moyen le plus sûr de modérer du mal de mer." Fonssagrives,[2] Levicaire,[3] Le Grand,[4] Jobert[5] of Brussels, and many others have reiterated this opinion. The "*belt of Vasse*" was recommended by Forget,[6] in 1832, and about 1853 Levilly's "*Thalazone*"—a leather belt fitted with steel plates and screws so that pressure could be altered at will—obtained a high, but short-lived reputation. Even the versatile Montaigne[7] relates how "les médecins m'ont ordonné de me presser et cengler d'une serviette le bas du ventre." The admission, however, of the last discoverer of the merits of this procedure,[8] that "the hint was obtained from a gentleman who was previously a martyr to sea-sickness, but now in his frequent journeys across the Channel makes them with comfort and triumph, and, needless to say, with perfect immunity from sea-sickness," has a special interest as recalling the similar observation of the illustrious Bacon,[9] recorded nearly three hundred years ago: "Equidem memini quendam Anglum," etc.; or, as translated in a quaint English edition published in 1638, "I remember a certaine English-Man, who, when he went to Sea, carried a Bagge of Saffron next his Stom-

[1] Jour. de Méd., Chir., et de Corvisart, t. xxiii.; Diction. des Sciences Méd., t. xxx., 1818.
[2] Traité d'Hygiène navale, 1856.
[3] Lancet, August, 1853.
[4] Thèse à Montpellier, 1814.
[5] Compte-rendu des Trav. de l'Acad. des Sciences, lxxx.
[6] Médecine navale, 1832.
[7] Œuvres compl. Paris, 1836.
[8] British Medical Journal, September, 1892.
[9] Historia Vitæ et Mortis.

ach, that he might conceale it, and so escape custome; And whereas he was wont to be always exceeding Sea-sick; At that time he continued very well, and felt no provocation to vomit."

The value of stimulant, and usually in the form of wine, has been noted from early times. In the famous "Regimen Sanitatis Salernitatem," supposed to have been written for Robert, Duke of Normandy, by the medical monks of Salerno, about the beginning of the twelfth century, there occur these lines, which also possess a peculiar interest although from a literary rather than a medical standpoint:

> "Nausea non poterit quemquam vexare marina,
> Antea cum vino mixtam si sumpserit illam."

Owing to an oversight of the learned composers, or a mistake of the early transcribers, or possibly an intentional ambiguity because something particularly nasty was intended, it is left uncertain to what the *illam* refers; or exactly what commodity, in admixture with wine, is advised as prophylactic against sea-sickness. As a consequence many of the subsequent editors of this extraordinary work, which has gone through probably not less than two hundred editions, have altered the second line so as to express that which in their individual judgment would seem best for the purpose indicated. Most of the older ones favored sea-water, and hence we find: "Undam cum vino mixtam qui sumpserit ante;"[1] upon which rendition the comment of Curionem[2] is practical and amusing: "Nempe, si divites illi fuerint, ut per dies aliquot antequam navem conscendant, vinum suum aqua marina temperent; si pauperes aquam marinam absque mistione bibant!" De Renzi[3] renders the line, "Anteà commistam vino qui sumpserit *istam*," but without explanation. Others recommended some herb not specified, thus: "Si

[1] Villa Nova, 1480; Joannen Curionem, 1605; Sylvius, 1649.
[2] Frankford, 1605.
[3] Naples, 1852.

prius hanc vino commixtam sumpserit *herbam;*" but the French editors[1] almost invariably designate *absinthe :*

"Prêt à vous embarquer buvez de vin d'absinthe
Si du vomissement vous redoutez l'atteinte."

In "The Englishman's Docter, or The Schoole of Salerne, sold at the little shoppe next Clifford's Inne Gate in Fleetstreet, 1607," the translator still further elaborates the original *illam :*

"If in your drinke you mingle Rew with Sage,
All poyson is expel'd by power of those,
Who would not be sea-sick when seas do rage
Sage-water drinke with wine before he goes."

Next to stimulants, sedatives and narcotics have been most generally recommended. The bromides, Indian hemp, belladonna, opium in every form, chloroform, chloral, chlorodyne, chloralamid, ether, and almost all similar drugs have been enthusiastically advocated ; and no doubt are often useful, especially at the commencement of short voyages. But even in this line of treatment there is nothing new, for in 1772 Boissier[2] remarks, "Sunt qui usum narcatorum septima quavis hora suadent."

In olden times sea-sickness was not regarded as an unmitigated evil, and by many writers[3] was credited with curative influence in consumption, insanity, dropsies, tumors, apoplexy, elephantiasis, and "many diseases of the head, breast, and eyes." Even in our own times voyages have been undertaken with the sole object of inducing vomiting ; and, in some instances, payment made conditional upon that effect being produced. Few are aware, however, that *Kinetia*, or Motion-sickness has actually been applied as a method of legalized punishment ; yet Steinheim[4] says, "I remember having seen in

[1] Levacher, 1779 ; Macer, Moreau, et al.
[2] Nosologica Methodica.
[3] Galen, Celsus (Lib. iii. and iv.) ; Aretæus (de curat phthise) ; Avicenna (Lib. i.) ; Oribasius (Med. Col., Lib. iv. and vi.) ; Pliny (Nat. Hist. Lib. xxxi.) ; Mercurialis (De Arte Gymnastica).
[4] Wörterbuch der Medicinischen Wissenschaeften, 1843.

my childhood an old German good natured way of punishing children who had committed small robberies, especially of vegetables and fruits. They were locked up in a small sentry-box hanging perpendicularly on two hinges beneath the eaves of the town-hall, so that it could be turned. The little thief after being shut in was turned by the policeman with the greatest rapidity, until, ανω and κάτω, he had given a disgusting spectacle to the laughing mob."

It has often been half-jokingly remarked that the Frenchman's inherent dread of sea-sickness should be classed among England's strongest bulwarks against invasion. In which connection it may be interesting to learn that not only upon the sea but also in warfare on land this Gallic weakness has stood the Briton in good stead. For when, about the beginning of the century, Napoleon contemplated the formation of a dromedary corps for the war in Egypt, General Carbuccia,[1] to whom this duty was assigned, reported the serious disadvantage which would accrue from the swinging gait of that animal causing sea-sickness among the soldiers entering battle!

It is also interesting that of the various forms of motion observed to induce kinetia, the wave-like undulations of earthquake are among the most unfailing. This was particularly noticed during the seismitic disturbances which occurred in New England and Maryland about the middle of the last century, and again at the Sandwich Islands in 1868;[2] but is a matter of common knowledge in countries where earthquake is of frequent occurrence.

The writer may scarcely say so, since he too lays claim to having first demonstrated the true pathology of sea-sickness, as well as giving it and similar forms of motion-sickness a new and more rational name (*Kinetia*), and

[1] Fonssagrives: Traité d'hygiene naval. Paris, 1856.
[2] Lewis: Phil. Trans., vol. viii.; Michell, vol. xli.; De Varigny, Paris, 1874.

explaining other previously unstudied phenomena connected with sea-voyaging;[1] but, so fragmentary, contradictory, and generally unsatisfactory is the literature of this subject that the casual reader might easily conclude that the aggregate of our present knowledge is still compressible into the original assertion of Hippocrates, that "sailing on the sea proves that motion disorders the body:"[2] while of the remedies suggested not a few recall the oft-quoted reflection of Rabelais, "Oh! que trois et quatre fois heureux sont ceux qui plantent des choux; ils ont un pied en terre et l'autre n'en est pas loin."

[1] Lancet, November, 1881. Influence of Sea-voyaging upon the Genito-uterine Function. New York, 1885.

[2] Sec. iv, Aph. xiv.