

## **On the nature and treatment of epistaxis / by Alexander Harkin.**

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NATURE AND TR  
OF  
EPISTA

BY  
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HOSPITAL, ST. ALBANS,  
MEMBER OF THE SOCIÉTÉ FRANÇAISE



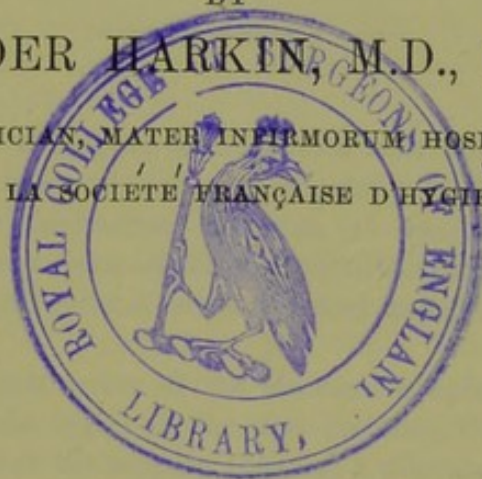
Read at the Meeting of the British Medical Association

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BELFAST:  
1887.

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ON THE  
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EPISTAXIS.

BY  
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CONSULTING PHYSICIAN, MATER INFERMORUM HOSPITAL, BELFAST ;  
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Read at the Meeting of the British Medical Association, Dublin, 1887.

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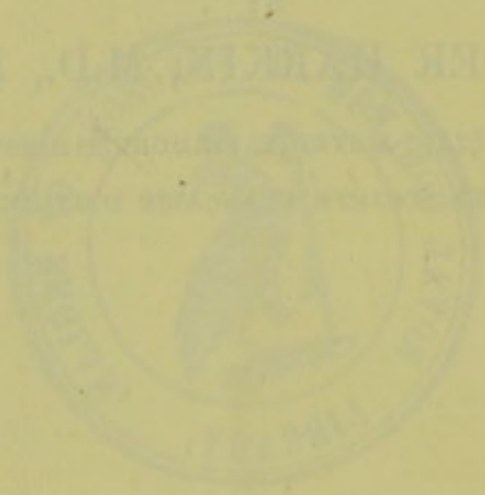
NATURE AND TREATMENT

OF

EPIDEMIA.

BY ALEXANDER LEITCH, M.D., F.R.C.S.

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THE

BRITISH MEDICAL ASSOCIATION, GREAT BRITAIN.

1857

## ON THE NATURE AND TREATMENT

OF

# EPISTAXIS.

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EPISTAXIS is a disease belonging to the border land that divides surgery and medicine; at one time acknowledging a neoplastic or a traumatic origin, and yielding to styptic or mechanical agencies, at another giving evidence of dyscrasia, and amenable to hæmostatic or constitutional remedies, occasionally demanding both local and general treatment, and in some instances successfully defying them all.

When dependent upon errors of the circulation epistaxis may assume the anæmic or the hyperæmic type; in the first instance, the passive hæmorrhages from the delicate lining of the nostrils showing a diminished amount of fibrine and red corpuscles, an absence of the buffy coat, imperfect coagulation and a soft clot, with a diseased condition and impaired texture of the capillary vessels in the schneiderian membrane; when of hyperæmic origin, which is most frequent in early life, epistaxis is of an active character, the blood is surcharged with a large amount of red globules and fibrine in increased proportion. The disease also sometimes presents itself as a symptom or concomitant of cardiac and hepatic, of renal and febrile affections, and in cases of acute rheumatism with pronounced endocarditis, or hypertrophy of the left ventricle. It is seldom indeed that the malady can be regarded as of idiopathic origin, its outbreak being generally indicative of constitutional disorder and of a disturbance of the physiological equilibrium of the blood current. Very often after the successful suppression of the local hæmorrhage, should the systemic cause be overlooked, a periodical return of the flux is sure to occur.

The plan of treatment to be adopted will naturally depend upon our ideas of causation, and of the etiology and pathology of the disorder. The result of my observation and experience leads me to attribute its origination, in the first instance, to functional and often to structural disease of the liver, as the

hæmorrhagic diathesis is in my mind a dyscrasia, a secondary affection, chiefly due to chronic hepatic derangement.

The theory of the hepatic origin of epistaxis will not, perhaps, appear unreasonable if we consider for a moment the *role* of the liver in the constitution and distribution of the blood, its metabolic activity, as in the formation of glycogen in the hepatic cells, its double supply of blood through the hepatic artery and portal vein, its power of transforming hæmoglobin into bile pigment, and of elaborating the raw material so that it may be assimilated when it enters the general volume of the blood, as the product of cellular metamorphosis. Now, the proportion of the vital fluid continually flowing through the liver is fully one-fourth of the whole blood careering through the body; and further, that, as the result of heterogenesis we owe the existence of the lithic acid, and the glycosuric discrasia, it is not unreasonable to attribute to the same cause the establishment of the deteriorated, depraved, and hypinotic blood of the anæmic subject of epistaxis. According to Michael Foster (1) "Since in the heart and great blood vessels the blood is simply *in transitu* without undergoing any great changes, it follows that the changes which take place in passing through the liver and skeletal muscles far exceed those which take place in the rest of the body." And Aitken (2) "Numerous instances of the hæmorrhagic diathesis have pointed to a definite organ as its source—namely, either a morbid condition of the spleen or the liver, and in case of *leukemia*, usually toward the close of life, a genuine hæmorrhagic diathesis is developed."

Immerman, writing on the general diseases of nutrition, says:—"If a disorder of nutrition, looked at broadly, depends upon a disturbance of the mutual relations between the blood and the tissues, it necessarily follows that it may originate either in an abnormal state of the blood or the tissues. Hence the pathogeny of the general disorders of nutrition suggests the possibility of their arising in different ways, and regards any one-sided theory, *e.g.*, that they are a blood disease, as *a priori* unjustifiable. For, since the blood, besides supplying the tissues with pabulum, also receives from them the products of cellular metamorphosis, it is always possible that, owing to a morbid state of all or a majority of the tissues, a secondary heterometry or dyscrasy of the blood may be induced, as in diabetes mellitus."\* Further, "The anemic condition may possibly depend on a state of the tissue elements in which the desire for pabulum is relatively good, when accompanied with an inadequate energy of sanguification; the hyperæmic state on a weak, acquisitive power in the tissues, while the power of renewal of the constituents of the blood is unimpaired."

My contention is that the starting point of the constitutional disorder which takes the form of anæmia or hyperæmia, and of which epistaxis is the frequent outcome, is as clearly due to hepatic disorder as diabetes mellitus itself—that is to say, to an abnormal condition of the tissue elements or cells in the liver, secondarily affecting the blood, and, through it, the general constitution.

Looking, then, at epistaxis as a sign of a blood dyscrasia, itself a secondary result of a disordered liver, treatment would naturally proceed on the lines of

(1) Page 35. (2) Aitken, vol. ii., page 78.

\* Zinnson, vol. xvi., page 257-9.

improving the quality of the blood, of adopting adequate measures for restoring the equilibrium between its solid and fluid constituents, and also of restoring the health of the liver, whether functionally or organically defective.

In accordance with my experience, the first indication is most readily satisfied by the free administration of chlorate of potassium, alone, or combined with a soluble salt of iron. The second, by counter-irritation over the region of the liver, a large blister being in practice the most convenient and suitable procedure.

While chlorate of potassium has a most salutary influence in the cure of the hæmorrhagic diathesis, I am satisfied from multiplied observation that it is not solely through its immediate action on the molecular elements of the blood, but also by its direct operation on the disordered condition of the liver itself, that it controls and puts an end to the congestions and other lesions of this important organ. Nor need it be considered strange that such important results should follow its administration when we remember that the elements of which it is composed—viz., oxygen and potassium—are indispensable to the genesis of healthy arterial blood, and to the recuperation of its nutritive powers, when, after making the circuit of the system, it returns to the heart as venous blood, of darkened colour and impaired coagulability.

In a paper read at the meeting of the British Medical Association at Cork, in July, 1880, I explained at length my views of the *modus operandi* of chlorate of potassium in the cure of the various phases of the hæmorrhagic diathesis. Among others, I published the particulars of a case of "epistaxis-hæmophylia" in a young man of eighteen years, one of a family of bleeders, permanently cured in 1874 by the use of this salt, the product of the laboratory. As then, and up till the present date, I have found that remedy most potent in the treatment and cure of all maladies dependent on suboxidation on defective nutrition, excretion, æration, and molecular metamorphoses. Whether the salutary agency of this salt is attributable to the separate action of its component parts, or to their combined influence as a whole, it is difficult to decide. Doubtless, a large proportion of the salt, as in the case of nitrate, bromide, and iodide of potassium, passes away by the kidneys unchanged. My own impression is that another portion, borrowing the language of Bence Jones, as applied to iron, "diffuses into the liquor-sanguinis, into every texture, into the blood globules and white corpuscles, making a greater formation of hæmato-crystalline, and thereby promoting that combination with protagon, on which the formation of new blood globules depends." A very large proportion of each dose of iron undergoes a change which leads to its traversing the intestines in the unabsorbed and inert form of the insoluble sulphuret; and it is a comparatively small proportion which enters the circulation and constitutes so invaluable an agent for promoting the development of the blood (*vide* Simon's Pathology, page 254). The remainder is supposed to part with three equivalents of oxygen in the blood, leaving as a residuum chloride of potassium, which is found in the urine as well as the blood, of which it is a normal constituent. Certainly the clinical facts remain, that the administration of this salt produces in the human subject the identical results claimed for oxygen by Beddoes, Hill,



Thornton, and Birch, and by Hayem, who says "that it energises to a considerable extent the nutritive functions, increases the appetite, slightly elevates the temperature, stimulates the cardiac movement, and augments the body weight, increases the number and stimulates the organic activity of the red globules." Bence Jones also says—"By dialysis all crystallised medicines act as directly on the textures as on the blood; they act according to their chemical power when they enter the textures, and according to the chemical and physical properties of which the textures are composed." If the physiological effects of chlorate of potassium on the blood in circulation approach in any degree to its effects upon the blood of animals exposed for many days to the external air, the change must be remarkable. Chlorate of potassium, when added to blood blackened by exposure, instantaneously changes the colour of the serum and the clot to a vermilion hue, decarbonizes it at once, and restores its natural appearance. The result of this experiment recalls to my recollection the appearance presented by a case in which, after the use of chlorate of potassium, the patient voided a quantity of hæmoglobin in the urine, similar in colour and appearance to the altered sheep's blood in the experiment just referred to.

It happened that during my investigation into the hæmostatic virtues of chlorate of potassium, I observed that its therapeutic value in the suppression of hæmorrhage from the bowels in cases of internal hæmorrhoids, was much enhanced by the application of a blister over the region of the liver, and further, that in several cases, counter-irritation alone sufficed to stop the bleeding, while the chlorate, by combatting the allied diathesis, confirmed and completed the cure. I had thus established a curative relation between those remedies in the successful treatment of congested livers, and their natural safety valves, the enlarged hæmorrhoidal veins. By these means I have often had the satisfaction of restoring my patients to health, and of saving them from the pains and perils of the ligature and the clamp. And this success in the case of hæmorrhage from internal piles suggested to me the possibility also of putting an end to hæmorrhage from the nostrils—the upper end of the alimentary canal—knowing well, from long observation, that in the great majority of persons suffering from congestions, cirrhoses, or other diseases of the liver, if free from bleeding from the anus, they complained of desultory discharges of blood from the nostrils, and generally the right side, I recognised the similarity in the office performed at either orifice of the intestinal canal, and felt that the bleeding from the nostril was in many instances simply vicarious of a discharge from the hæmorrhoidal veins, the natural vent for relieving hepatic congestion. My extended clinical experience completely tallied with my theory of causation, and confirmed its correctness; and, finally, matured observation enables me to put forward the plan of counter-irritation over the liver as a speedy and effectual remedy for this troublesome disorder. The presence of bleeding from the right nostril has always been regarded by me as a sign of hepatic congestion, and even Galen (quoted by M. Verneuil) points to this peculiarity as a guide in treatment.\*

\* The *Gazette Hebdomadaire*, 1881, No. 10,145, contains this extract from his works:—"Cupping glasses applied to the hypochondrium arrest nasal hæmorrhage. When the blood streams from the right nostril, they should be applied over the liver; from the left, then over the spleen; when from both sides, then the cupping glasses should be applied over both sides."—*Vid. Bulletin Medical*, Ap. 27-'87, page 260.

In the *Lancet*, October 30, 1886, under the heading of "Vicarious Bleeding from the Under Lip and the Modern Treatment of Hæmorrhoids," I gave the particulars of five cases—two of hæmorrhoidal discharge, and three of epistaxis—a short abstract of which will at once illustrate my theory and practice:—Case 1 was that of a married woman, mother of seven children, who had suffered so much from profuse bleeding from piles that her doctor sent her to the Royal Hospital, Belfast, in February, 1873, where one of the attending surgeons deligated the offending growths. She remained a month in Hospital. On leaving, she suffered from irritation at the anus, which only ceased when occasional slight attacks of epistaxis occurred; these, too, subsided on the appearance of bleeding from the under lip, which had continued three or four times daily, for about ten minutes at a time, for twelve months previous to the day of her visit to me. She was then etiolated and bloodless, given to fainting on slight exertion, anæmic in a marked degree.

Having recognised the existence of enlargement of the liver, I immediately applied a large blister over that region. On visiting the patient next day I found that the labial hæmorrhage had completely subsided, and it has not returned up to the present date, a period of nearly three years. I should add that the use of chlorate of potassium and iron after some time restored her health and colour, and that in some twelve months after she gave birth to a healthy child, and that neither during the nine months of pregnancy, nor afterwards, as a consequence of labour, were there any troublesome hepatic ailments experienced. The pathological relations between a congested liver, the hæmorrhoidal vessels, and those of the nose and lips seem to be fairly established in this case. Case 2 was also that of a married woman, to whom I was called on account of profuse bleeding from the rectum after every motion—one or two ounces of blood coming away at each stool. On examination I found the existence of a small blood vessel inside the sphincter, from which the discharge apparently proceeded. The application of a blister at once put a stop to the bleeding; the patient had a relapse, however, from excessive fatigue before the return of her strength. A second blister, followed by the chlorate of potassium and iron, completely restored her health. I had the advantage of Dr. Walton Browne's advice in this case. The three remaining cases were similar in symptoms, treatment, and cure. They were young men, about eighteen years of age, healthy and plethoric, who were suffering from daily attacks of profuse epistaxis—two from the right nostril, one from the left. In each of the cases I merely requested leave to examine the hepatic region, finding evidence of congestion and tendency on pressure; I then painted each patient over the liver with the episstatic fluid, with this result, that in five hours free vesication was established, and a permanent and prompt cure was effected.

I have for so far given evidence of the speedy cure of epistaxis by the administration of chlorate of potassium and iron; by a combination of these hæmostatic remedies and counter-irritation, and by counter-irritation alone. The advantage of the latter plan has lately received valuable testimony and corroboration from a statement of Professor Verneuil communicated to the Academy of Medicine, Paris, on 25th April last, in which important paper he also

gave the particulars of three cases where, every other remedy having failed, a large blister over the liver effected an immediate cure. In the article published in the *Bulletin Medical* of 27th April upon "Epistaxis and Diseases of the Liver," M. Verneuil gives at length the histories of the three cases, with a short heading, as follows:—*Observation 1—Epistaxis in an intermittent form*, probably symptomatic of cirrhosis of the liver; insuccess of sulphate of quinine, of ergotine, and of digitalis; prompt cure by the application of a blister over the hepatic region. *Observation 2—Traumatic Epistaxis*; resistance of hæmorrhage and successful resistance to internal and mechanical remedies; application of a flying blister over the region of the liver, rapid cure. *Observation 3—The subject of epistaxis, of intermittent character*, in a patient formerly the subject of nephritis, at present having an affection of the heart and congestion of the liver; failure of plugging, of ergotine, of the water of Lechelle, of perchloride of iron, &c.; immediate cure by the simultaneous employment of sulphate of quinine and a large blister over the right hypochondrium.

The paper winds up with these conclusions:—"1st—Latent, and even non-malignant, affections of the liver may provoke and be the occasion of troublesome epistaxis. 2nd—Relief procured, by the aid of a large blister over the right hypochondrium, which appeared to be the best means of curing hæmorrhages of this nature."

As, however, it may not appear clear to everyone that hæmorrhagic discharges from the upper extremity are as evidently due to obstructions of the portal system as those from the rectum, I am enabled to quote the authority of an eminent pathologist, the late Dr. Moxon, in support of my position. In one of his lectures on Analytical Pathology, delivered in Guy's Hospital,\* he states that—"It is indeed very surprising to find a very free and even a fatal hæmorrhage from the stomach, while the mucous membrane from which the blood (as in epistaxis) must have come is entire, yet no doubt this sometimes occurs. I have met with a case where cirrhosis of the liver led to total obstruction of the portal vein by ante-mortem coagulation in it, and in consequence of this obstruction a varicose œsophageal vein ruptured close to the cardiac orifice of the stomach; a small hole was found leading into the vein channels; the patient had bled to death from this. The occurrence was equivalent to the rupture of *œsophageal piles*, and it is an interesting link, connecting the common anal hæmorrhoids that arise from hepatic obstruction with the dilated venules on the cheeks and in the mouth that we recognise as signs of obstructed hepatic circulation. *These venules are indeed no other than facial hæmorrhoids.*

It remains to consider what is the *rationale* of blistering in cases of congested liver and portal system, and in what manner this procedure relieves nasal hæmorrhage. In the solution of this problem it must be confessed that the Academicians have not given any assistance. While admitting the importance of the clinical facts, they preferred not to commit themselves to any therapeutic theory. They did not as a scientific body admit the principle of revulsives—M. Dujardin Beaumetz declaring *that* was too extensive a subject to enter on. In

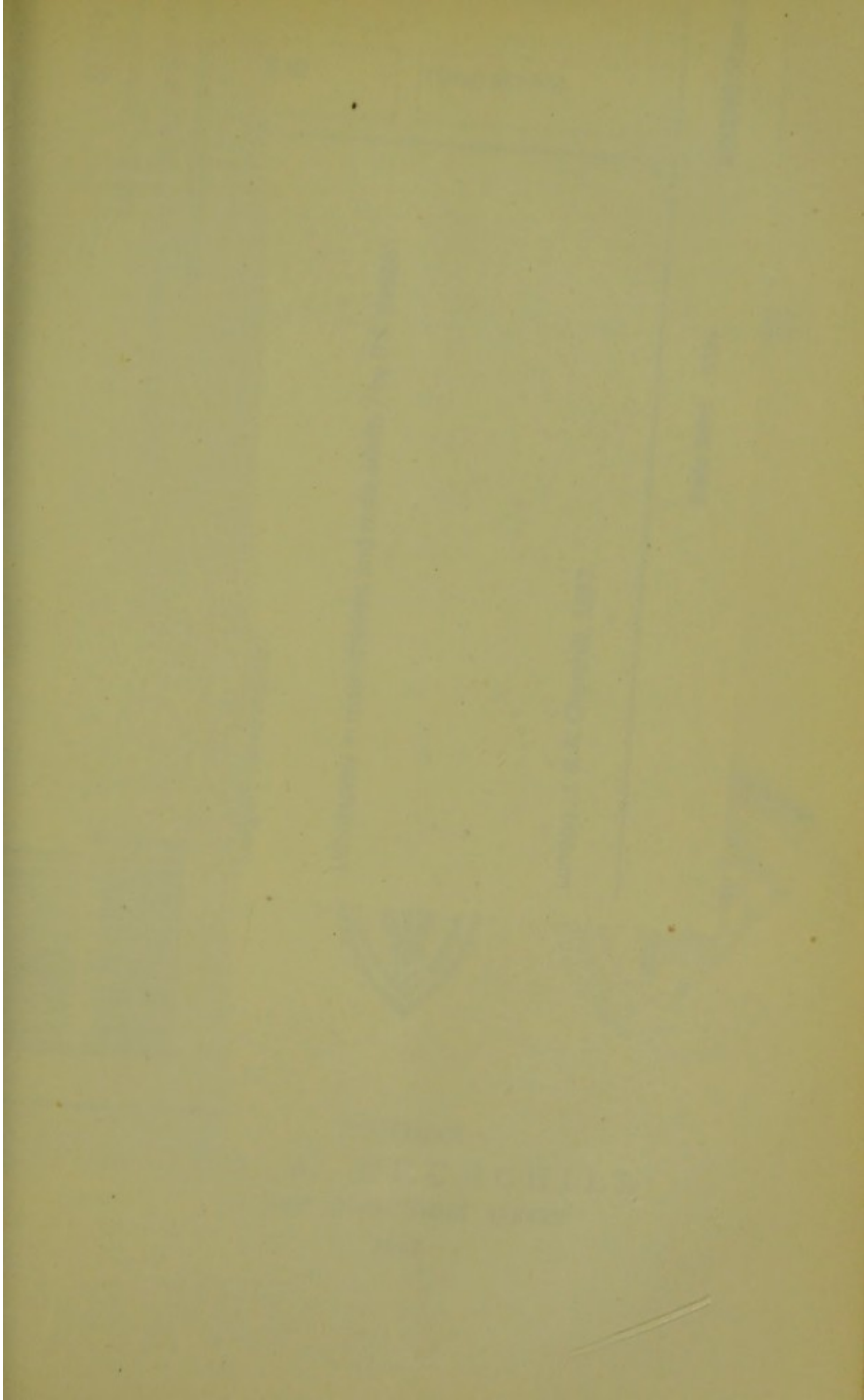
\* *Medical Times and Gazette*, July 11, 1870; page 58.

fact, since the time when M. Malgaigne, some forty years since, commenced a crusade against revulsives, and particularly blisters, in the Paris Academy of Medicine, this subject has continued to prove a bone of contention. Among French practitioners the practice has still warm friends, but even so late as 1886 the use of blisters in any form, or for any purpose, was condemned and spat upon (*despuer*) by the Medical Society of Tholouse. M. Colin could not understand why blisters were preferably applied over the liver, as there was no vascular connection between the skin and that organ. He considered it was the heart that was at fault, and that epistaxis was provoked by exaggeration of the vascular system that ruptured the delicate vessels of the pituitary membrane in the nose. M. Verneuil defended the application of blisters, as it was not necessary, he said, to have any vascular connection between the organ and the part to which they were applied, and explained that the nervous system played an important *role*, as it was the existence of reflexogene zones that determined the point of application. Finally, he said, it mattered little whether the epistaxis had a mechanical or dyscrasic origin, as it was not his desire to formulate any Therapeutic Etiology, but simply to state interesting facts.

Were I to venture on the debatable ground so carefully avoided by the Academicians, I should say that I did not attribute the curative effects of blistering to any revulsive properties—this would, to a certain extent, approve the theories of the humoral pathologists of the eighteenth century—but to its counter-irritant and depletive qualities. As a counter-irritant, the blister acts by causing an irritation of the surface and of the terminal branches of the cutaneous nerves, which, through the influence of the trophic nerves, affects the calibre of the arterioles, and thus controls their congestion and hypertrophy.

But, the vesicant acts as a powerful depletive by abstracting from the circulation in the neighbourhood of the diseased organ a quantity of white blood, highly albuminous, solidifying on the application of moderate heat. Doubtless, wet cupping in the hypochondriac region, or free leeching from the anus, would also rapidly react on the liver, and, perhaps, as readily relieve present congestion; but, irrespective of the greater inconvenience of such remedies, there is this potent objection to their use, that they must abstract from the system, already too anæmic, a quantity of red globules and fibrine, confessedly present in insufficient proportions, while the blister is as powerfully depletive, leaving untouched the hæmoglobin, and not increasing the hypinotic condition. Finally, there is no organ in the body more amenable to treatment than the liver; none whose congestions and hypertrophies yield more readily to suitable remedies; and not another that has suffered more from heroic remedies and aggressive surgery. It is at present apparently a matter of competition as to who shall invent the most perfect clamp or ecraseur; whether the ligature, the knife, or the cautery is best suited to deligate and destroy the apparatus supplied by nature for the relief of the overburdened viscus at its lowermost outlet, the hæmorrhoidal veins; and to crown all, the dagger or trocar is too often plunged without remorse into its delicate parenchyma, to tap and vivisect this most passive and illused organ in the body. The advice of M. Verneuil, in his reply to his

critics, is, I consider, most apposite, and of widespread application :—"The maladies of the liver," he says, "constitute a serious complication for operations, and when one recognises clearly their existence in a patient, the wisest course is at once to return his bistoury, *dans sa poche*."



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