the last-named disease and rheumatic inflammation there also exist some connection, the association of the two forms of disease being sufficiently frequent to prove that some affinity in morbid action exists between them—a fact which, when the remarkable association of rheumatism and cardiac inflammation be remembered, may in some measure serve to account for the supervention or coexistence of heart disease with chorea.

B.

ON THE
USE OF VERBASCUM
AS A
NARCOTIC REMEDY.

TO THE EDITORS OF THE PROVINCIAL MEDICAL
JOURNAL.

GENTLEMEN,—As the accompanying remarks are particularly addressed to provincial practitioners, you will, perhaps, allow them a place in your widely circulated periodical.

I am, Gentlemen,

Your obedient servant,

C. BUTLER LANE, M.R.C.S. and L.A.C.

In the study of materia medica we find a vast field open for research and observation in the indigenous productions of Great Britain, the cultivation of which, indeed, has not been carried out with the zeal and energy which it deserves. It cannot be denied that any addition to our stock of medicaments obtained from native plants is desirable, inasmuch as it tends to render us independent of foreign sources of medicinal supply. That which is brought from afar, and of which there is some difficulty in the obtainment, is often consequently held in the highest estimation, and an expensive article is usually considered proportionably valuable. I should be sorry to tax the majority of the profession with this unphilosophical feeling, but with many I am confident it assumes an involuntary influence, tending to reduce the science of medicine to a level with any art or trade, and thereby greatly impeding its improvement.

Many are the plants which abound in our fields and hedge-rows, to which, judging by botanical analogy, and even by popular tradition, we should be ready to ascribe medicinal efficacy, the nature of which is well worth inquiry and elucidation. Among several that attracted my notice while practising in Sussex was the verbascum, or mullein, and, from such observations as I have been able to make, I believe that plant will be found to afford a medicine of considerable utility, and I shall be happy if this communication should induce any of my provincial brethren to turn their attention to the subject. Six species of the genus verbascum are contained in the British flora, two of which alone I believe to possess medicinal powers in a marked degree—viz., verbascum nigrum, and verbascum blattaria. The verbascum thapsus has been frequently noticed by herbalists, and even in some medical works, as being supposed to possess a slight remedial efficacy, chiefly as a demulcent, but in the varieties above named I am confident that a peculiarly modified narcotic influence resides. I am led to suppose that several varieties were often confounded together by Gerard and others,

which prevents our ascertaining the particular one they deemed medicinal, causing the virtues of the verbascum nigrum and blattaria to be ascribed to the verbascum thapsus. In many old herbals I have found the verbascum, or mullein, designated as lungwort, and its efficacy highly lauded in the pulmonary affections of cattle. The seeds, also, have a reputation of being equally potent with cocculus Indicus in stupifying fish. I doubt not that this testimony refers to the purple mullein, as it is called, but am not surprised that confusion should exist, from the different species often growing in the same locality, and from the leaves bearing some mutual resemblance at first sight. Dr. Home gave trial to the verbascum thapsus in catarrhal cough and diarrhoea, but only found a small amount of benefit derived in cases of the latter; in the former complaint it was of no avail.

The peculiar purple tint recognised in the flowers of so many of our narcotic plants will help us to distinguish the verbascum nigrum and blattaria from the other varieties, as it is at an early period of their flowering that they should be collected, then being in perfection. The flowers of these two varieties will be found to possess a peculiar narcotic odor very different from the sweet smell which the bright yellow flowers of the verbascum thapsus exhale.

It is scarcely requisite to describe the botanical characters of the species of verbascum to which I refer; all are contained in the same natural group, the solanaceæ, and in the Linnæan class, pentandria monogynia. The chief distinguishing characters of the two species to which I allude consist in their smoother leaves, purple stamens, and solitary arrangement of the flowers of verbascum nigrum and the paniced form of those of verbascum blattaria.

From the experience which I have had, I am led to consider the leaves as best adapted for medicinal purposes. I am inclined to think the root inert, or nearly so, but am not yet sufficiently enabled to speak with confidence on that point. A tincture of the dried leaves, in the proportion of two ounces to sixteen of dilute spirit, is the form of which I have availed myself. I shall now proceed briefly to recount the results of my observations on the effects of its administration.

Several cats and dogs were destroyed with the tincture of the above strength, from six drachms to an ounce and a half being given in divided doses, within the space of from twenty-five minutes to an hour and a half, and appeared gradually to reduce the nervous power without any irritative action, there being even very little convulsive motion. Sensibility and motor power were quickly reduced; the action of the heart and arteries was diminished; the respiration became slow and laborious; deep sleep ensued; and the fæces and urine were involuntarily discharged; the pupils were then found insensible to light; the posterior extremities became completely paralytic; and after slight convulsive movements life was extinguished. It required, however, that the tincture should be given at regular intervals, so as to maintain its influence, or gradual recovery would take place, even when the poison appeared to have assumed a powerful control. On post-mortem examination no organic change of any description could be discovered, the appearances being uniformly as follows:—The brain

perfectly healthy in color and texture, but with slight effusion of serum at its base, and in the ventricles, affording a strong odor of verbasum; the lungs somewhat gorged with blood, and containing much frothy mucus; the cavities of the heart nearly empty; the liver somewhat vascular; the stomach and small intestines preternaturally pale, and containing fluid; the kidneys pale, and the bladder filled with urine; the blood dark and liquid, and like all the other fluids strongly impregnated with the verbasum.

Several experiments were tried as to the effects produced by its administration to the healthy human adult, in doses varying from half a drachm to two drachms. It occasioned a slight sense of weight about the head, with vertigo, often to a considerable extent, but at the same time somewhat pleasurable; a sensation of sinking and dimness of sight were also experienced, and more or less inclination to sleep. According to the state of the system the pulse was more or less readily reduced in number and in force, more especially in the latter respect than in the former; when the doses were large the extremities became cold, and the countenance pallid; there was invariably pain and oppression at the chest, with disinclination to frequent respiration; the urine passed within ten minutes from the administration of the medicine always afforded the odor of verbasum, and a considerable tendency to diuresis remained subsequently. In several careful series of observations there was found an increase in the bulk of the secretion of the kidneys of from 15 to 50 per cent. under the influence of moderate doses of the verbasum; in one instance during the preceding two days or forty-eight hours the renal secretion was found to amount to forty-seven ounces and a half daily; on the administration of the verbasum for two days it increased to fifty-seven ounces six drachms daily; and the two subsequent days a *diminution to forty ounces took place* when the medicine was omitted. The amount of fluids taken daily was limited to between thirty and forty ounces, and an uniform diet was observed. No unpleasant effects were ever experienced as secondarily consequent to the administration of the verbasum, and its narcotic influence usually wore off in the course of an hour or two. The bowels invariably became somewhat relaxed.

The conclusions to be arrived at from these observations are pretty obvious. In the two varieties of the verbasum which I have specified, we may expect to find a mild but efficacious sedative, somewhat peculiar in its action, and, at the same time, probably in some respects more agreeable to the system of its *modus agendi* than any other; were there anything noxiously irritant in its nature we should not find it so readily taken up into the circulating system, as we have seen was remarkably the case. This fact would tend to induce us to believe that the medicinal influence is on the blood—that there is a chemical action induced according to the hypotheses of Liebig. I am not, however, inclined to think such the case; the circulation conveys and applies it to all parts of the human body, but I am convinced that the action is essentially on the nervous system, like that of other sedatives derived from the vegetable kingdom. In reference to this I have certain experiments under consideration, which, when complete, I shall submit

to the profession, and which I expect will go far to establish the nervine action of medicines. There was an evident specific action exerted on the respiratory function, and the diuretic influence was, beyond doubt, different from that of digitalis, inasmuch as the heart's action, though lowered, was not apparently interfered with. From these considerations I was induced to administer the verbasum alone or in combination in numerous cases of chest affection, particularly in phthisis, bronchitis, with and without emphysema, with much benefit; also in cases of cardiac disease I have found it a valuable sedative. I have not much confidence in mere isolated cases as illustrative of the value of medicine, nor, at any rate, would I wish to put them forward till the results have been sufficiently confirmed by experience. I may, however, say that I have reason to believe that the verbasum will be found an efficient medicine in pertussis, the irritation of dentition, dropsy, and rheumatism, which it is my intention to demonstrate in a future communication, when I intend to give a summary of the results obtained, with various illustrative cases, and I trust that other members of the profession will by that time have had some experience in the use of the medicine in question.

ANALYSIS OF THE BLOOD IN SIX CASES OF MORBUS BRIGHTII.

In the first case the patient was a male, aged fifty-six. The blood was very slightly buffed; the serum had a specific gravity of 1023.

In 1000 parts of blood :—

Water	853.11
Solid matters of serum . . .	81.28
Fibrin and corpuscles	65.61

In 1000 parts of serum :—

Albumen	68.5
Urea	0.5
Alkaline salts	6.0

In the second case the patient was a male, aged thirty-two. The blood was both cupped and buffed.

In 1000 parts of blood :—

Water	835.85
Solid matters of serum . . .	82.54
Fibrin and corpuscles	81.61

In the third case the patient, a male, aged thirty-five, the subject also of phthisis.

In 1000 parts of the blood :—

Water	828.92
Solid matters of serum . . .	76.98
Fibrin and corpuscles	94.10

In the fourth case the patient, a male, aged sixteen, the blood being cupped and buffed, the specific gravity of the serum 1018, containing, in 1000 parts, albumen 64, and salts 6.5 parts; urea detected, but not estimated.

In 1000 parts of the blood :—

Water	777.06
Solid matters of serum . . .	71.14
Fibrin and corpuscles	151.80

In the fifth case the patient, a male, aged thirty-two, the specific gravity of the serum 6025, containing 72 parts of albumen, and 1.25 parts of urea in 1000.