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VI. *Experiments with Camphire, by Mr. Alexander, Surgeon in Edinburgh.*

Read Jan. 29,
1767. **A**S medical authors have differed so widely in their opinions concerning the nature and effects of camphire, one part of them positively affirming that it heats, and another asserting with the same confidence that it cools the body; I made the following experiments with it, in order, if possible, to have cleared up the difficulty.

If camphire was a heater, I concluded it would raise my pulse, and augment my natural heat; and therefore, previous to my taking it, I counted the number of pulsations in a minute, which were sixty-eight, and found that, in the space of five minutes, the mercury in Fahrenheit's thermometer arose eighteen degrees by the heat of my stomach*.

Having thus found the state of my pulse, and of my natural heat; I took $\frac{1}{2}$ of camphire in a little of the pulp of tamarinds; and twenty minutes afterwards applied the thermometer to my stomach: the mercury, in the space of five minutes, arose exactly eighteen degrees, as it had done before taking the dose, but my pulse beat only sixty-six, which was two strokes less.

Three quarters of an hour after I had taken the camphire, I applied the thermometer again; in the

* The thermometer was applied to the pit of my stomach.

same space of time, the mercury arose exactly the same as in the last trial, but my pulse beat only sixty-five which was one stroke less, and three fewer than it had done before I took the camphire.

The next day, having found that the mercury arose nineteen degrees in five minutes, by the heat of my stomach; and that my pulse beat seventy-seven in a minute, I took $\frac{1}{2}$ ij of camphire in a little of the syrup of pale roses: immediately after swallowing it, I felt a sensation in my mouth something similar to that occasioned by strong peppermint-water, but much more disagreeable; ten minutes after I had taken it I applied the thermometer to my stomach; in five minutes the mercury arose eighteen degrees, which was one degree less than it had done before I had taken it. My pulse now beat only seventy, whereas before I took the dose it had beat seventy-seven: five and twenty minutes after I had taken it, I applied the thermometer again, and the mercury arose the same as at the last trial, but my pulse had increased from seventy to seventy-seven, the exact number which it had beat before I took the camphire: soon after this, my head grew so very giddy that it was with great difficulty I could walk through the room. In this condition, I had an inclination to breathe the fresh air, opened the window and looked over into the street, where every thing appeared to me in the utmost tumult and confusion; feeling myself in danger of tumbling from my station, I shut the window and staggered from it to bed, threw myself down upon it, and having a book with me, endeavoured to read, but had no distinct idea of any one sentence, and far less could I connect two or more of them together so as to comprehend the meaning of the author:

author: not being able to amuse myself by reading, I arose, to see whether I could walk any better, but, to my great mortification, found that I was more giddy and could hardly walk at all. I then returned to the bed, and feeling myself thirsty, called for some mutton broth; it being dinner time, the servant, instead of bringing the broth, covered the table as usual, not knowing that I was any way disordered. Seeing the dinner on the table, I got out of bed again, and with no small reluctance, swallowed down a plate-ful of the broth, but could neither taste bread nor meat, on account of a nausea, which however was not accompanied with any inclination to vomit.

I now staggered again to the bed, and took up the book I had left there, with a design to divert the attention of my mind into some other channel than that into which the present confusion of my ideas had hurried me: at this time, self-preservation suggested to me the expediency of taking a vomit; but as I felt very little pain, and was not apprehensive of much danger, I resolved not to spoil the success of my experiment by evacuating the camphire before I should discover what its effects would be. Hitherto, amid a tumult of indigested ideas, I had retained some degree of sensibility; but now there arose such a noise in my ears, the confusion and giddiness of my head increased so much, that all consciousness of what was present, as well as memory of what was past, were soon entirely obliterated, so that whether I endeavoured to read in the book I had taken up, or what else I did, I know not.

Fortunately, at this juncture, one of my young gentlemen came into the room, who told me, after I

recovered, that I desired him to shut the windows, and threw myself backward on the bed, where I lay a few minutes very quiet, after which, in a sort of frenzy, I started up and sat upon the side of it, made some efforts to vomit, but evacuated nothing; that I then threw myself back again, fell into strong convulsions, foamed at the mouth, shrieked with great violence, stared dreadfully at, and endeavoured to grasp and tear every thing around me. This outrageous fit was succeeded by a calm, something similar to fainting, during which time a relation was sent for, who came between three and four o'clock; when he spoke to me, I awaked, as I thought, from sleep, and knew him, though almost intirely insensible to every other object. Soon after, came Dr. Cullen, who had been sent for also; when he had felt my pulse, which beat one hundred in a minute, he ordered me to be blooded; but as it is probable that natural antipathies will remain when every other sensation is nearly lost, I obstinately refused to undergo this operation, on account of an unsuperable aversion I have to it. All this time, no person knew any thing of my having taken the camphire, nor did I recollect any thing of it myself; and though I was recovered so much from the fit I have just now described, as to know every one about me, I neither knew where I was, nor what I did.

As I felt a very uncommon sensation of heat, I got violently out of the bed, and threw myself on the floor, the coolness of which was very agreeable to me; upon which some cold water was brought, and my hands and face bathed in it; this proved still more agreeable, and in some degree quieted a tremor which had seized on every part of my body. At this time,

Dr.

Dr. Monro, junior, who had also been sent for, came to my assistance. As I could give him no account of the cause of my illness; while he was walking through the room, he accidentally cast his eyes on a paper I had left on the table, containing the relation of my having taken the camphire, and its effects upon me, so long as I had been able to mark them. Upon this discovery, he immediately ordered me warm water; of which having drank pretty plentifully, I soon vomited, and, though more than three hours had passed, since I had taken the camphire, a great deal of it was evacuated in an undissolved state.

While I was holding my head over the basin into which I was vomiting, the smell of the camphire arose very strong, and first made me recollect that I had taken it, though I could give no distinct account of the time when, or manner how. I now, by the Doctor's order, drank the juice of two or three lemons and oranges, but was not sensible of any benefit from them. I mentioned before, that I had not only lost all remembrance of my past actions, but also the knowledge of almost every present object; but I now began, in some degree, to recover both; though in a manner so extraordinary, as I cannot possibly describe, so as to give a clear idea of it. Among the first things I recollected, was, that I had that day visited several patients; but I could neither discover their diseases, names, number, nor any other circumstance relating to them. I could likewise recollect, that I had formerly known a great many things, of which I was become intirely ignorant, but could not fall on any method of recovering that knowledge which I had lost. A person

son who has lost his senses by liquor, as soon as he recovers, is perfectly well acquainted with every thing he knew before : but the case was very different with me, for the furniture of my room, and almost every other object on which I cast my eyes, appeared as strange, and new to me, as if I had only that moment begun my existence ; and though I could remember the name of any thing when I looked at it, yet it was not without investigating its nature, that I could discover its use.

I had been put to bed when I vomited, and I know not whether it was owing to it, or the camphire, but I had now a severe head-ach, which disturbed me not a little all the evening. Between five and six o'clock I arose, and drank a bowl of tea, and the diluted juice of some more lemons and oranges. The giddiness in my head, ringing in my ears, excessive heat and tremor, which I had felt so severely before, were now considerably abated, though far from being intirely gone off. About seven o'clock, I had another visit from Dr. Monro, who, upon numbering my pulsations, found they were now reduced from one hundred to eighty ; in a minute after this, the thermometer was applied to my stomach, and in half an hour the mercury arose two degrees above blood-warm ; it was then removed from my stomach to the Doctor's, and the mercury fell more than one degree.

Between eight and nine o'clock, though I was considerably better, I still felt an uneasiness of body, and a confusion of mind, which it is impossible to describe ; on account of which, I went to bed, and very soon fell into a calm and soft repose, which continued,

continued, without any interruption, till next morning. When I awaked, I found my head-ach quite gone, though a small degree of the confusion in it still remained. Upon going to stool that morning, I was extremely costive, though I had not been so before, nor continued to be so after. All that day I felt a great soreness, and rigidity over my whole body, as if I had caught cold, or undergone some severe exercise; the next day I was something better, and the day following quite recovered.

As the foregoing experiments had not fully satisfied me, whether camphire acted as a heater or cooler on the body, I resolved to try if it would give any additional heat or cold to fluids, in which it was dissolved; but, after repeated trials, I found that it never altered the natural heat of spirits, or oils, in whatever degree they were impregnated with it.

The first dose I took was a moderate one, and appeared to have acted as a cooler; but the next, if there is any trusting to the sensations occasioned by it, or to the increased celerity of the blood, certainly must have heated to a very great degree.