

Of Mind Over... Matter

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Abstract

The distinct division of clinical symptoms into what is somatic and what is psychological in human sciences, has its roots in Cartesian thinking which may have been given a lopsided emphasis. This essay argues against this strict division, using examples and data mainly referring to gastrointestinal functional somatic syndromes (psycho-somatic disorders). The effects of context and also of psychotropic agents on this interaction between psyche and soma is discussed.



René Descartes (1596 - 1650)

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The sharp division between what is somatic (natural science based) and what is psychological, stems from the traditional Cartesian division of "res cogitans" (thinking substance) and "res extensa" (corporeal substance).

In the late 1630's René Descartes tackled the relationship of mind and body in his meditations on First Philosophy, more particularly in the Sixth Meditation, where he inferred that mind and body are reciprocally distinct, and in the second Meditation, where he made an absolute distinction between mind and body by showing that the body is divisible but the mind cannot be conceived as divisible.

Our human sciences have been heavily influenced by this strict division, which in my opinion has been given a lopsided emphasis. Descartes certainly stressed the division between "res cogitans" and "res extensa". In his "Synopsis of the Six Following Meditations" he says:

"...although all accidents of the mind be changed: I may think certain things, will others and perceive others, the mind does not vary with these changes. On the contrary the human body is no longer the same if a change in form occurs in any of its parts."

And again in the Sixth Meditation:

"...When I consider myself as a thinking thing, I can distinguish in myself no parts and although the whole mind seems to be united to the whole body, yet when the foot, arm or any other part is cut off, I am conscious that nothing has been taken from my mind.

...But quite the opposite holds in corporeal or extended things; for I cannot imagine any one of them, (however small it may be) which I do not know to be divisible"¹.

What seems to have been missed in Descartes's thinking is that he was well aware of the unity and interdependence of res cogitans and res extensa: Again in the Sixth Meditation:

"I am not lodged in my body as a pilot in a vessel, but I am so intimately conjoined, and as it were intermixed with it, that my mind and body compass a certain unity.

...all these sensations of hunger, thirst, pain etc are nothing more than certain confused modes of thinking arising from the union and apparent fusion of mind and body".

So, the body function is an expression of the mind, as the mind is an expression of the body.

In fact the human body is not simply composed of organs, cells and electron-microscopic organelles, but may be thought of as molecules, atoms and eventually sub-atomic structures or elementary particles. The latter can be considered akin to Plato's



"forms", or even, at the limit of this reductionism, as mathematical structures.² In fact mathematical modelling can make predictions even about non-linear biological systems that can be tested in the laboratory³ Biological problems have become increasingly multi-disciplinary.

At this stage you may ask: 'What has this got to do with bowels or their contents?'. After all, the brain, which is the seat of our thinking process, is embryologically of ectodermal origin, while the intestines are of endodermal and mesodermal origin. One cannot even postulate an embryological connection. The aim is to show that, if one accepts the nexus between body, cells and Plato's forms, then the strict division between the "res cogitans" and "res extensa" does not hold.

In clinical practice this is evidenced by the multitude of psychosomatic disorders and syndromes, which produce functional somatic symptoms. The gastrointestinal tract is frequently effected, e.g. aerophagy, irritable bowel syndrome (IBS), non-ulcer dyspepsia, but other systems may also exhibit functional somatic symptoms e.g. fibromyalgia, tension headache, low back pain, chronic fatigue, non-cardiac chest pain etc. In fact there is often an overlap between various functional somatic symptoms in the same patient.⁴ Not surprisingly, these disorders often respond to psychotropic therapies, eg, tricyclic compounds, which are primarily indicated in diseases such as depression and anxiety, which effect the "thinking substance" or "res cogitans". Admittedly, these therapeutic agent may also have a direct favourable effect on the target organ, e.g. tricyclic compounds reduce colon motility in irritable bowel syndrome and on urinary bladder detrusor in cases of urge incontinence. Rather than invalidating the above argument, this point should weigh in favour of the use of these agents. Furthermore, the brain or mind, may alter the way pain producing information is processed, effecting not only perception but also body responses (Figure 1).

Functional somatic symptoms are common, often misdiagnosed and not without consequence. Their incidence has been

calculated as 20% of cases in primary care⁵ and 25% to 35% of the out-patient clinic population^{6,7}. Multiple aetiological factors may be involved in varying proportions. These include psychological factors e.g. anxiety and depression, biological factors e.g. disturbances in neuronal biochemistry, social factors e.g. marital problems and medico-social problems e.g. litigation.⁸

The usual train of events is that a precipitating factor e.g. trauma, serious illness in a relative or friend, triggers off functional somatic symptoms in individuals who are psychologically or biochemically predisposed. Other factors, such as misdiagnosis, over-investigation, questionable self-directed therapies, occupational stress and the possibility of compensation may encourage chronicity of the condition.

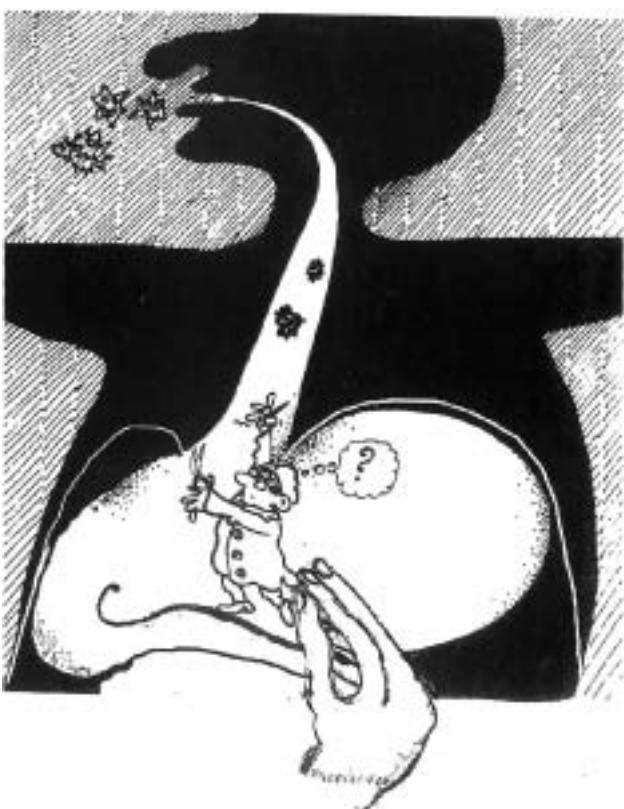
Aerophagy, which is such a good example of the interaction of psyche and soma, is especially fascinating. When one swallows only saliva, ie in the absence of food, one also swallows 5mls of air with each gulp. Normally one swallows about 3 to 4 times every 15 minutes. In aerophagy the rate is much higher, often exceeding 30 times every 15 minutes.⁹ There are 2 basic forms of presentation: In the first form of the condition, the patient who is continuously burping and obviously swallowing saliva and air at a high rate. A good proportion of the air that is swallowed does not pass through the cardia and is burped up by retrograde oesophageal peristalsis. In the second form the patient complains of epigastric and sometimes, generalised abdominal distension, bloating and discomfort, relieved by burping and to a lesser degree by the passage of abundant flatus. The air is here swallowed well and truly and after distending the stomach is either regurgitated into the oesophagus with frequent and sonorous burping or passes into and out of the intestine as flatus. Characteristically these patients swallow air by indulging in a sort of melancholic sigh, frequent swallowing of saliva or else during inconsiderately speedy meals. This form of aerophagy sometimes follows blunt thoracic or abdominal trauma, resulting in acute upper abdominal pain and tender-

ness and occasionally even in respiratory distress due to acute gastric dilatation and splinting of the diaphragm. The mechanism involved in this latter type is aerophagy and not a neurogenic dilatation. Symptoms and signs improve dramatically with naso-gastric intubation, though symptoms may recur after some time if the patient's anxiety persists.¹⁰ There are few really effective avenues for symptomatic treatment of the more common types of aerophagy, short of a gastrostomy, which would be like cracking a peanut with a sledge hammer. The reason lies with the aetiology of the condition, often a degree depressive psychosis or anxiety neurosis. It is the treatment of this underlying condition, which is most likely to be successful.

As for IBS, Choudhury and Truelove¹¹, categorised 3 types of psychological influences in this disorder:

- Diagnosable psychiatric illness eg obvious depression or anxiety state. A standard research interview must be used to put patients in this category. Psychiatric illness is present in half the patients with IBS whilst only 18% of the control group, having organic illness, could be so categorised.
- Personality disorders eg the chronic worriers. These are more neurotic than normal patients but cannot be classified as overtly psychiatric.
- Environmental stress eg family or work problems occurring before the onset of symptoms of IBS.

Patients with IBS scored highly in the latter two categories in comparable percentages to those in category (a). One must note a similarly high rate of psychological problems was noted by Creed in patients other with negative findings (ie normal appendix etc) at appendicectomy.¹² It was also noted in the paper that a proportion of these eventually developed I.B.S., but this was not compared with a control group. Craig and Brown found that 67% of patients with functional bowel disorders had experienced severe stress prior to onset of symptoms compared with 23% of patients with organic disease and healthy controls.¹³ This is not surprising if one considers the multiple aetiological nature of functional somatic symptoms and their interaction already discussed. One must note that I.B.S. is not a homogenous condition and is often subdivided into diarrhoea predominant and constipation predominant. Anxiety is more



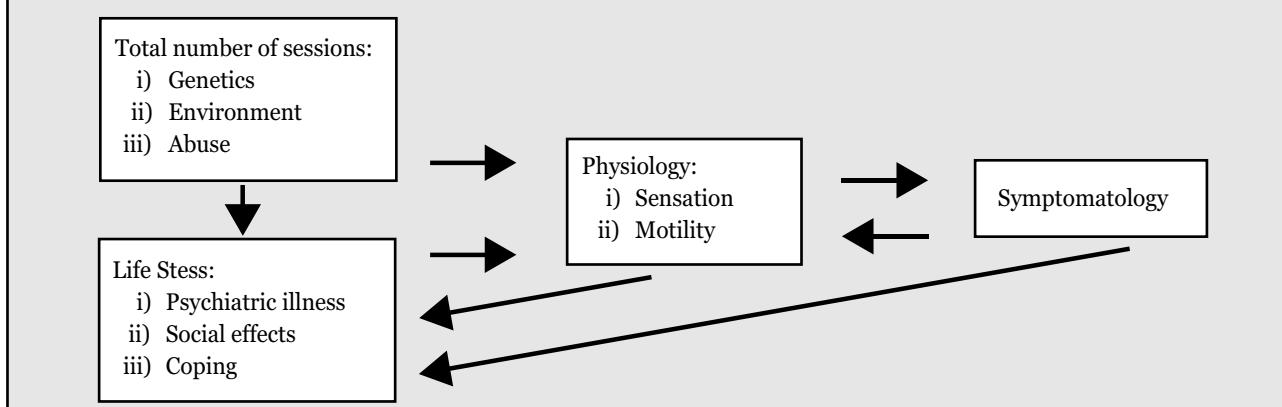
frequently found in the former type.

Another example illustrating the interaction of psyche and soma is the high correlation between the intensity of post-operative dysphagia following laparoscopic "floppy" Nissen fundoplication and the construct of the patient's personality, as has been neatly shown by Kamolz et al.¹⁴

The intricate interaction between what is somatic and what is psychological should discourage the clinician from indulging in an insistent analytical separation of these, but rather steer a utilitarian course, concentrating on what can effectively be done to help (Figure 2).

One should suspect the possibility of functional somatic symptoms when the symptom complex does not fit into clear-cut pathological or physiological mechanisms, when symptoms are multiple, varied and unconnected, when there are voluminous notes and there are indications from observations by medi-

Figure 1: The Biological and Psychological Influences on Functional Somatic Disorders



cal and paramedical observers as well as relatives and friends. This positive diagnostic tack has its difficulties: Psychotic patients may well develop organic illness. Disappearance of symptoms following treatment of psychotic factors may be reassuring but cannot be interpreted as absolute proof of the correctness of the diagnosis or the management. Patients' symptoms occasionally improve in spite and not because of treatment.

Detection of psychological influences is important because:

- i. Untreated anxiety and depression will inhibit response to conventional therapy for G.I.T. symptoms.
- ii. Untreated psychiatric illness can turn these patients into "Chronic clinic attenders".
- iii. Over-investigation of neurotic or psychiatric patient may well aggravate his symptoms.
- iv. Detection of psychiatric illness or personality problems would allow these to be tackled before they result in complications, following treatment of somatic disease e.g. operative treatment.

I am not hereby suggesting that conditions, such as aerophagy and I.B.S., should be primarily treated by prescribing psychotropics. However, considering the degree of psycho-neuro-response in these conditions, one should stress (and perhaps draw the attention of research to), the importance of context effects. This involves a warm doctor-patient relationship integrated into the overall therapeutic process,¹⁵ including a good bedside manner, simple but accurate explanation to the patient, of the mechanisms involved in producing his symptoms and an agreed plan for future follow-up. This integrated therapeutic process may include the use of psychotropics where this is considered necessary.

In 400 BC, Hippocrates wrote: "The patient" ...may recover his health simply through his contentment with the goodness of his physician¹⁶. He was not referring specifically to aerophagy or I.B.S. but to what we now regard as the effects of context on medical care, which may result from psycho-neuro-immunological responses or psychological modification eg raised expectation or conditioned responses. When one considers the preponderance of funding and effort involved in evolving diagnostic and therapeutic innovations, one cannot help feeling that not enough attention has been directed at the interactions of psyche and soma, which frequently is manifested as symptoms and disease and which have such clear implications on clinical management.

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Hippocrates (460 – 377 BC)