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# Functional Somatic Symptoms in Children and Adolescents: The Stress-System Approach to Assessment and Treatment

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## Online Supplement 1.1

### Historical Context: Terminology

**Abstract** In this supplement to Chapter 1, we provide an overview of the different terms that have been used to refer to functional somatic symptoms across time. We also touch on the myths, assumptions, and beliefs about these symptoms that have shaped – and in some cases continue to shape – both clinical practice and the perceptions of patients, families, and clinicians.

The names given to functional somatic symptoms have varied dramatically from Ancient Greece to the present. In all periods, and continuing into the twenty-first century, the terminology has reflected the medical knowledge of the time, the context in which the symptoms arose (whether in civilian life, which is typical for women, or military service, which is typical for men), and the broader culture's myths, assumptions, and beliefs about such symptoms. These same factors have, in turn, shaped symptom presentation, the perceptions of patients, families, and clinicians, and the actual treatment provided to address functional somatic symptoms. What one also sees here are the struggles to conceptualize, without an adequate scientific theory, phenomena that lie at the interface of body and mind.

## General Expressions, Long in Use

### ***Hysteria* (Used: Ancient Greece to 1980s)**

The word *hysteria* came from the Ancient Greek word *ὑστέρα* (hystera), meaning womb. For the ancient Greeks, *hysteria* was a disorder of the body. It involved symptoms of choking, suffocation, fainting, fits, and nervousness in female patients, and it was conceptualized as being caused by the movement (wanderings), strangulation, or other ills of the uterus (the *wandering womb* hypothesis) (King 1993).<sup>1</sup>

Knowledge from Greek medicine – and the idea that symptoms of ill health seen in women were related to conditions of the womb – was transmitted to, and further elaborated by, physicians within the Roman Empire (King 1993). Following the decline of the Roman Empire, ideas from Greco-Roman medicine were transmitted and absorbed into Arabian medicine via translations from the works of *encyclopedists* within the Byzantine Empire (285–1453) and by translation of Greco-Roman texts into Arabic (Campbell 1926). Beginning in the eleventh and twelfth centuries, as Arabic texts were translated into Latin, Greco-Roman and Arabian ideas about health and illness were transmitted back to Europe and absorbed – and, in many cases, resorbed – into Western medicine.

During the early modern period – following Descartes' (1596–1650) formulation of mind-body dualism, in which mind and body were considered separate substances – the meaning of *hysteria* began to change. Some physicians continued to conceptualize hysteria as a disorder of the body. For example, the physician Edward Jorden (1569–1632) believed that hysteria was a natural disease amenable to medical study; he wrote that, in hysteria, 'the principle parts of the bodie by consent do suffer' (Jorden 1569–1632; Trimble 1982).<sup>2</sup> Other physicians, however, began to conceptualize hysteria as a disorder of the mind. For example, Thomas Willis (1621–1675) suggested that 'the passions vulgarly called hysterical do not always proceed from the womb, but often from the head's being affected' (Willis 1667), and Thomas Sydenham (1624–1689) proposed that, in hysteria, 'their mind sickens more than the body' (Sydenham 1682, p. 88). This pendulation between explanations involving the body versus the mind

continued into the 1880s, as can be seen in the work of Jean-Martin Charcot (1825–1893), the famous Parisian neurologist who dedicated much of his career to the study of *la grande hystérie*. Early in his career Charcot conceptualized hysteria as a physical condition related to the ills associated with the uterus or ovaries,<sup>3</sup> and later in his career as a condition caused by traumatic events (Shorter 1992).

By the 1900s, the focus on female reproductive organs had dissipated, and the intellectual contributions of eminent psychotherapists – Pierre Janet (1859–1947), Sigmund Freud (1856–1939), and Carl Jung (1875–1961) – increased the popularity of psychological explanations and also the use of terminology suggesting that hysteria originated in the mind (see below). By 1950, a study looking at men admitted to veterans hospitals confirmed that hysteria occurred in both sexes (Robins et al. 1952).<sup>4</sup> Despite the change in meaning, the term *hysteria* continued to linger in the form of *hysterical neurosis*, which was used in the second edition of the U.S.-based *Diagnostic and Statistical Manual of Mental Disorders* (DSM-II) (American Psychiatric Association 1968) and World Health Organization’s ninth edition of the *International Classification of Diseases* (ICD-9) (World Health Organization 1979). In 1980, DSM-III formally substituted *conversion disorder* for *hysteria* (though *hysterical neurosis, conversion type* was included in parentheses) (American Psychiatric Association 1980), and in 1992, ICD-10 began to use *dissociative disorder* (with *conversion* in parentheses) (World Health Organization 1992). The term *hysteria* is not used in DSM-5 (American Psychiatric Association 2013) or ICD-11 (World Health Organization 2018) (see Appendix 1.1 at the end of this supplement).

Despite its exclusion from formal diagnostic systems, the term *hysteria* continues to be used by some clinicians and also by some contributors to the medical literature in both Western and non-Western countries (Keeler 2012; Edwards et al. 2012; Medeiros De Bustos et al. 2014; Zhao et al. 2018). What’s especially puzzling about this continuing use of *hysteria* by clinicians is that, according to a study by Jon Stone and colleagues (2002), contemporary patients find the term *hysteria* particularly offensive – second only second to being told their symptoms are ‘all in the mind’.

## ***Functional Somatic Symptoms (Used: 1600s to Present)***

The term *functional* has a complicated history (Trimble 1982). As late as the sixteenth century, it was widely accepted in Europe that *hysteria* involved a disturbance of bodily functions, with the womb being a key factor (King 1993; Jorden 1569–1632; Trimble 1982).<sup>5</sup> In the eighteenth century, the philosopher David Hartley (1705–1757) explicitly distinguished between the structure and functions of different organs (Hartley 1749). In the nineteenth century, the physician and phrenologist Andrew Combe (1797–1847) was the first to apply *functional* in relation to nervous diseases (Combe 1831). Subsequently, neurologists used the term *organic* versus *functional* to distinguish between neurological illnesses that had identifiable structural abnormalities and those that did not. Along these lines, Hughlings Jackson (1835–1911), a famous English neurologist, used *functional* to describe the ‘morbid alterations of the normal function of nerve tissue’ – physiological states that involved overfunction, dysfunction, or the loss of function (Jackson 1958, p. 93). Accordingly, for Jackson, neurological disorders such as epilepsy, chorea, tetanus, and neuralgia were all functional disorders.

In the early 1900s, when the work of Janet, Freud, and Jung gave prominence of psychological theories, Freud developed the structural model of the mind and used *functional* to refer to symptoms that were caused by mental conflict. In this way, Freud shifted the meaning of *functional* from its *physiological* meaning (as related to the function of the body) to a *psychological* meaning (as a synonym for *psychogenic*; see below) (Trimble 1982).

In this book, we use the term *functional* in its pre-Freudian sense, to reflect changes in body function (overfunction, dysfunction, loss of function), with the understanding that stress-related changes in function (see Chapter 4) can be accompanied by experience-dependent changes in structure, such as DNA methylation, histone modification, and RNA-mediated gene silencing (epigenetic changes), and in brain plasticity, including glial cell proliferation and changes in neuron spinal density. We also use *functional* with the understanding that functional changes in brain-body function can be triggered by both physical and psychological factors.

## ***Hypochondria/Hypochondriasis/Hypochondriac (Used: Late 1500s to Present)***

The word *hypochondriac* – from the Greek υποχονδρία (hypochondria), meaning *below the cartilage of the breastbone* – came into use in Europe in the late 1500s. Understood in terms of humoral theory,<sup>6</sup> a *hypochondriack* person suffered from an overproduction of black bile and vapours in the hypochondria, resulting in melancholia (i.e., sadness) (Lemnius 1576). Half a century later, in 1633, John Hawkins used *hypochondriac melancholy* to describe the case of Queen Elizabeth of Bohemia (daughter of James I), whose symptoms, largely physical, were ‘twitching of the stomach, rumbling of the guts, palpitation of the heart, attacks of trembling and swooning, sleeplessness and weight loss’ (Weiner 2008, p. 492).<sup>7</sup> In the 1800s, the diagnosis of hypochondria continued to be used for referring to such symptoms, though mostly in relation to men, whereas the diagnosis of hysteria (see preceding subsection) was more often used for women (Williams 2002). In ICD-10 (1992) and DSM-IV-TR (2000), hypochondria came to be classified under *somatoform disorder(s)*, which, in DSM-5 (2013), has been replaced by *somatic symptom disorder*. Today, *hypochondria* and *hypochondriasis* are used exclusively to refer to patients who constantly worry that they may have a serious illness; under DSM-5 (2013), this phenomenon is categorized as *illness anxiety disorder* and in ICD-11 (2018) under *bodily distress disorder* (see Appendix 1.1 at the end of this supplement).

## ***Psychosomatic (Used: Late 1700s to Present)***

The term *psychosomatic* – from the Greek ψυχή (psyche), meaning mind or soul, and σῶμα (soma), meaning body – was introduced to counter mind-body dualism and to emphasize body and mind as a biological unity (Margetts 1950). According to Edward Margetts (1950), the term appears to have come into use at the end of the 1700s, when it became acceptable for physicians to write in their native tongues rather than in Latin. In the German and English medical literature, various versions of *psychosomatic* included *psychisch-somatisch*, *psycho-somatologie*, *psycho-physical*, *psycho-organic*, *somatopsychonologia*, and *psycho-somatic*.

## Expressions Describing Responses to Traumatic Events, Including Military Combat

### ***Cardiorespiratory Neurosis, Idiotism, and Syndrome du Vent du Boulet* (Used: 1789 Through Aftermath of the French Revolution)**

French doctors working at the time of the French Revolution and Napoleonic Wars were the first to systematically describe functional symptoms – functional paralysis, loss of speech, collapse, and stuporous states – that were ‘provoked by the violence of combat and the “moral emotions” of the terror or of the war’ (Crocq 1999, p. 35).<sup>8</sup> Philippe Pinel (1745–1826) used the term *névroses de la circulation ou de la respiration* (cardiorespiratory neurosis), which presumably referred to symptoms such as shortness of breath, palpitations, sweating, chest pain, blurry vision, dizziness, and changes in consciousness that arise with activation of the autonomic and respiratory systems and hyperventilation (see Chapter 6), and the term *idiotisme* (idiotism) (a subtype of neurosis that could have many causes) for acute stuporous states (Crocq and Crocq 2000). Army surgeons coined the term *syndrome du vent du boulet* (syndrome of the wind of the cannon ball) to describe the symptoms that arose from soldiers’ exposure to exploding cannon balls in combat (Crocq 1999). During World War I, this same phenomenon came to be described as *shell shock* (see below).

### ***Irritable Heart, or Da Costa’s Syndrome* (Used: 1861 Through Aftermath of the American Civil War)**

The American physician Jacob Mendes Da Costa (1833–1900) wrote about a functional disorder of the heart – which he called *irritable heart* – that he observed in soldiers treated in military hospitals during the American Civil War (1861–1864) (Da Costa 1871). *Irritable heart* was a different name for what had been called *cardiorespiratory neurosis* during the Napoleonic Wars (see above). Irritable heart included cardiac pain, attacks of palpitations, and difficulties in breathing, with increased heart and respiratory rates on clinical examination. Sometimes the cardiac symptoms were preceded by diarrhoea

and accompanied by other somatic symptoms (dimness of vision, giddiness, dizziness). In some cases, the soldier would, after experiencing a multitude of symptoms, fall to the ground insensible. Exercise or exertion commonly triggered symptoms. Patients also commonly experienced significant fatigue and disturbed sleep. Some showed orthostatic intolerance (their heart rates increased significantly in the standing versus lying position). Irritable heart was also known as *Da Costa's syndrome*, *cardiac neurosis*, and *neurocirculatory asthenia* (all in ICD-10 [1992]), as well as *effort syndrome*, *soldier's heart*, *cardiorespiratory neurosis*, *subacute asthenia*, *chronic asthenia*, *primary neurasthenia*, and *functional cardiovascular disease*.

### ***Traumatic Neurosis (Traumatischen Neurosen) (Used: 1884 to Late 1900s)***

The term *traumatic neurosis* – *traumatischen Neurosen* in German – was introduced by Hermann Oppenheim (1858–1919) in a book about the physical and mental symptoms suffered by victims (mostly men) of railway and workplace accidents (Oppenheim 1884). Symptoms included ‘disturbed and diminished sleep, frequent starting when dozing, dreams of collisions, noises in the ears, feverishness, feeble pulse, much pallor, or, on the contrary, frequent flushing, and constipation’ (p. 73) as well as ‘tingling and numbness of the extremities, local paralysis, paraplegia, functional lesions of the kidney and bladder’ and ‘sometimes . . . slowly-ensuing symptoms of intellectual derangement’ (p. 112). Some physicians saw *traumatic neurosis* as referring to a disorder of the body (from concussion or microscopic lesions of the spine) and used it interchangeably with terms such as *railway spine* and *railway brain* (Harrington 1996). Other physicians saw traumatic neurosis as a disorder of the mind and used it interchangeably with *hysteria*, *neurasthenia*, and *hysteron-neurasthenia* (Crocq and Crocq 2000).

### ***War Neurosis (Kriegsneurose) (Used: 1907 to Late 1900s)***

The term *war neurosis* – *Kriegsneurose* in German and *névrose de guerre* in French – was coined by the German physician Georg Honigmann (1863–1930), who had served in the Red Cross Society of Russia in the Russian-Japanese



War (1904–1905) and who presented a talk at the German Congress of Internal Medicine in 1907 (Honigmann 1907). ‘The symptoms were – like those observed in traumatic neurosis or the “railway brain” of civilians – partly of a neurasthenic and hysterical, and partly of a hypochondriacal character (hysterical monoplegia, hyperaesthesia, hypoaesthesia, hemianaesthesia)’ (Anonymous 1907, p. 1740).<sup>9</sup> Other synonyms used at the time included *combat hysteria* and *combat neurasthenia* (Crocq and Crocq 2000). *War neurosis* was used for a broad spectrum of combat-related presentations, many of which included a wide range of functional somatic symptoms (Kardiner 1941).

### ***Battle Hypnosis (Used: 1914 Until World War II)***

The French physician Gaston Milian (1871–1945) used the term *battle hypnosis* (*hypnose des batailles*) to refer to acute, stuporous, posttraumatic states in which soldiers, following military action, were immobile in a lying or sitting position, with eyes open and a fixed stare (Milian 1915; Clervoy 2015) (see also above subsection ‘Cardiorespiratory Neurosis, Idiotism, and Syndrome du Vent du Boulet’).

### ***Shell Shock (Used: 1916 Until Vietnam War)***

In 1915, during World War I, the term *shock* was first used in a House of Lords discussion pertaining to the hospital treatment of ‘nerve-shaken soldiers’ whose reason had become ‘deranged’ through ‘nervous shock’. About the same time, the physician Charles Myers (1873–1946) used the term in an article in the *Lancet* (Myers 1915). In a passage from his war journal, Myers described shell shock as follows: ‘After a man has been buried, lifted or otherwise subjected to the physical effects of a bursting shell, . . . he may suffer solely from concussion (. . . termed “shell concussion”) or solely from mental “shock” (so-called “shell shock”), or from both of these conditions in succession. If “shell shock” occurs, it will give rise to one or more of the following groups of mental symptoms, namely, (i) hysteria, (ii) neurasthenia, (iii) graver temporary “mental” disorders’ (Myers 1940, p. 25). Functional neurological symptoms (then

described as ‘hysteria’), such as memory loss, visual field disturbances, tremor, paralysis, contractions, limping, or fixed postures, were common during World War I (Crocq and Crocq 2000; Myers 1940).

Because shell shock could also occur when the soldier was remote from the exploding missile, the military subsequently used *shell shock W* (*W* for *wound class*) for symptoms that resulted from proximity to enemy action and that entitled the soldier to a military pension and *shell shock S* (*S* for *sick class*) for symptoms that did not result from proximity to enemy action and that did not entitle the soldier to a military pension (Myers 1940, p. 96).

## Expressions Arising from Psychiatry and Related Research

### ***Briquet’s Syndrome* (Used: 1859–1979)**

In 1859, Paul Briquet (1796–1881), a French physician working at the Hôpital de la Charité in Paris, published a treatise detailing his evaluation of 430 patients with *hystérie* – 427 women and 7 men – and their patterns of presentation, which included numerous physical complaints ranging over multiple body systems (Briquet 1859). Physicians using his approach described their patients as having *Briquet’s syndrome*. In ICD-9 (1979) and DSM-III (1980), Briquet’s syndrome was recategorized as *somatization disorder*, and at this time the terms *Briquet’s syndrome*, *somatization disorder*, and *severe somatoform disorder* were all used interchangeably within medicine. In ICD-10 (1992), the category *Somatoform autonomic dysfunction* provides an alternate category to diagnose autonomic symptoms in different body systems. In ICD-11 (2018), clinical presentations analogous to Briquet’s syndrome are subsumed into bodily distress disorder (see Appendix 1.1 at the end of this supplement).

### ***Neurasthenia* (Used: 1869 to Present)**

The term *neurasthenia* from *νευρο* (nerve) and *ασθένεια* (weakness, feebleness) (Van Deusen 1869) – meaning nervous prostration, nervous exhaustion, or tired nerves – became popular via the work of George Miller Beard (1839–

1883), a New York electrotherapist (Beard 1881, 1969). *Neurasthenia* referred to an impoverished quality of the central nervous system, whose symptoms included ‘general malaise, debility of all the functions, poor appetite, abiding weakness in the back and spine, fugitive neuralgic pains, hysteria, insomnia, hypochondriasis, disinclination for consecutive mental labor, severe and weakening attacks of sick headache’ (Beard 1969, p. 218). According to the historian Edward Shorter (2005), neurasthenia became, for a time, the prototypical functional nervous disease associated with a therapy called the *rest cure* (created by an American physician Silas Weir Mitchell in 1875).

Other later permutations of the term included *combat neurasthenia*, *hystero-neurasthenia*, *traumatic hystero-neurasthenia* (*hystéro-neurasthénie traumatique*), *chronic fatigue syndrome*, and *multiple chemical sensitivities* (Crocq and Crocq 2000; Shorter 2005). *Neurasthenia* has synonyms in Asian languages and is commonly used for stress-related presentations characterized by symptoms that may include fatigue, pain, weakness, exhaustion, anxiety, depression, and difficulties coping (Kleinman 1986). *Neurasthenia* had been retained in ICD-10 (1992), with its original emphasis on physical fatigue, under the umbrella of *other neurotic conditions*. In ICD-11 (2018), neurasthenia is subsumed under *bodily distress disorder* (see Appendix 1.1 at the end of this supplement).

## ***Dissociation (Used: 1880 to Present)***

The term *dissociation* – from the French *déségrégation psychologique* – was introduced by Moreau de Tours (1804–1884) in 1845 in relation to his studies of the mental effects of hashish (cannabis resin). Janet subsequently used the term to describe the disruption of normal mental synthesis between ideas, acts, and sensory and motor functions, as seen in patients with what was then called *hysteria* (Janet 1889, 1892/1894). Janet’s thinking influenced ICD. ICD-10 (1992) used the term *dissociative (conversion) disorder* for functional motor symptoms and *dissociative convulsions* for psychogenic non-epileptic seizures. More recently, clinicians working from within the dissociation tradition introduced the term *somatoform dissociation* to refer to functional somatic symptoms (Nijenhuis et al. 2004). In ICD-11 (2018), all

functional neurological symptoms are subsumed under *dissociative neurological symptom disorder* (see Appendix 1.1 at the end of this supplement).

## **Conversion (Used: 1900 to Present)**

The term *conversion* – the process by which unacceptable mental contents (usually unconscious sexual conflicts) are transformed into somatic symptoms – was introduced by Freud (1953 [1905]), whose thinking influenced the terminology used for functional neurological symptoms in DSM. DSM-I (1952) used *conversion reaction*; DSM-II (1968) used *hysterical neurosis (conversion type)*; and DSM-III (1980) and DSM-IV (1994) used *conversion disorder*. In DSM-5 (2013), *conversion disorder* is also called, in parentheses, *functional neurological symptom disorder*. Clinicians and researchers working in the field, however, have rejected the cumbersome term *functional neurological symptom disorder* and have come to use *functional neurological disorder* (FND) instead.

## **Psychogenic (Used: 1920 to Present)**

*Psychogenic* literally means produced by (*genic*) the mind (*psycho*). The term can be found in Jung's *Collected Papers on Analytical Psychology* (Jung 1920). By the early twentieth century, the term *psychogenic* (used interchangeably with *hysterical* and *functional* [in the Freudian sense of the word; see subsection on *functional*]) was being used to refer to symptoms that had their origin in the psyche (mind), in contrast to organic diseases, where anatomical changes could be demonstrated (Jung 1920).

## **Somatization (Used: 1924 to Present)**

The term *somatization* was introduced in 1924 by Wilhelm Stekel (1868–1940) – an Austrian physician and analyst (a follower of Freud until 1912) – to refer to the hypothetical process by which a deep-seated neurosis could cause somatic symptoms (Stekel 1924). In this way, somatization was a defence mechanism that was similar to Freud's idea of conversion, the process by which mental conflicts were converted into physical symptoms.

Both DSM-III (1980) and ICD-10 (1992) used the term *somatization disorder* for what had previously been called *Briquet's syndrome* (see above). Later, Zbigniew (Bish) Lipowski (1924–1997), a Polish-born consultation-liaison psychiatrist, used *somatization* in a broader way, as ‘a tendency to experience and communicate somatic distress in response to psychosocial stress and to seek medical help for it’ (Lipowski 1988, p. 1358). Lipowski was a prolific writer and teacher, and the term *somatization* became widely used in medicine from the 1980s.

## Expressions Reflecting the Limits of Medical Knowledge

### ***Medically Unexplained Symptoms* (Used: Mid-twentieth Century [?] to Present)**

The terms *medically unexplained symptoms* (MUS), *unexplained medical symptoms*, and *medically unexplained physical symptoms* (MUPS) seem to have come into common usage during the 1950s and 1960s. Doctors used these terms to refer to a broad range of medical conditions and disease patterns (unexplained death, unexplained fever, unexplained bleeding, unexplained cardiac failure, and so on) as shorthand for, ‘I cannot explain this patient’s symptoms from what I know’. *Not explained* was used in a 1951 study of ‘hysteria’ in women (Purtell et al. 1951) and a 1952 study of ‘hysteria’ in men (Robins et al. 1952, p. 678) to mean a ‘clinical picture as not explained by any other medical, surgical or neuropsychiatric diagnosis’.

In the 1970s and 1980s, as more and more came to be known about health and disease, the term *medically unexplained symptoms* acquired a negative connotation. This shift in meaning was captured by Don Lipsitt in an article entitled ‘Medical and Psychological Characteristics of “Crocks”’ (Lipsitt 1970). In that article Lipsitt described a group of difficult-to-treat patients who presented with numerous medical symptoms from multiple body systems (analogous to Briquet’s syndrome), many of which symptoms were ‘not accounted for’ (p. 16) by medical explanations.<sup>10</sup> In describing the dynamic of such doctor-patient encounters, Lipsitt noted that the patient’s presentation and persistence could easily be met with a negative affective

response by the physician: ‘Under such trying circumstances the doctor is often pushed toward the decision that the patient is ‘crazy’ and/or that she is purposefully trying to drive *him* crazy’ (p. 20). He also highlighted that physicians contributed to the process by which *thin chart* patients became *thick chart* patients because they failed to recognize the pattern of presentation early on and because they failed to elicit the patient’s personal story of loss and life adversities that had contributed to the patient’s distress and somatic presentation.

By the 1980s, a number of authors were using *medically unexplained symptoms* to refer to the somatic ailments in male patients with Briquet’s syndrome, and they described these patients as having *hysterical traits* and *hysterical psychopathology* (de Figueiredo et al. 1980; Pitman and Moffett 1981). In this way, by the turn of the century, the expression *medically unexplained symptoms* was being used for conditions for which the treating physician’s investigations and clinical examinations ‘revealed no abnormality, or abnormalities that were thought to be trivial or incidental’ (Nimnuan et al. 2000, p. 22). An interesting finding in that same study was that physicians were more likely to diagnose symptoms as medically unexplained when they had a negative perception of their interaction with the patient (Nimnuan et al. 2000). The problems associated with making an ‘unexplained’ diagnosis continue to be discussed in the current literature (Stone et al. 2002; Stone 2014; Lipsitt et al. 2015).

### ***Abnormal Illness Behaviour (Used: 1969 to Present)***

The idea of *illness behaviour* – the ‘special position of the sick’ – was introduced by Henry Sigerist (1891–1957) in his classic 1929 essay of that title (reprinted in 1960) and elaborated in 1951 by Talcott Parsons (1902–1979), who used the term *sick role* to discuss social beliefs and attitudes toward illness. In their companion articles of 1960 and 1961, David Mechanic and Edmund Volkart examined the relationship between stress and *illness behaviours* from an individual perspective (Mechanic and Volkart 1960, 1961). They highlighted that illness behaviour referred to the ‘way in which symptoms are perceived, evaluated, and acted upon by a person who recognizes some pain, discomfort or other signs of organic malfunction’

(Mechanic and Volkart 1961, p. 52). The term *abnormal illness behaviour*, introduced by Issy Pilowsky in 1969, referred to individual responses at the extreme ends of the spectrum: individuals who deny symptoms and individuals who show an excessive response to symptoms. In contemporary clinical practice, clinicians most commonly use *abnormal illness behaviour* to refer to situations in which medical explanations either do not explain, or fail to account for the severity of, the patient's impairment.

### **Somatoform (Used: 1978 to Present)**

The term *somatoform* – from *soma* (body) and form (shape) – was introduced into the formal European and American diagnostic systems to refer to disorders in which a patient seeks medical attention for physical-symptom complaints that have no demonstrable medical foundation (Hyer and Spitzer 1978; World Health Organization 1979; American Psychiatric Association 1980). The term *somatoform symptoms* was used to distinguish somatic symptoms that were *medically unexplained* from somatic symptoms that were part of a medical condition.

## **The Rise of Scientific Medicine and Medical Specialization**

Our current era of scientific medicine began in earnest during the first part of the twentieth century. Abraham's Flexner's (1866–1959) landmark report, *Medical Education in the United States and Canada*, published in 1910, signalled the beginning of an exclusively science-oriented approach to medical education and clinical practice. The orientation toward science and the 'physiology-based and biochemistry-based understanding of human illness' led, in turn, to 'ever more specialization in the pursuit of greater knowledge and expertise' (Cassel and Reuben 2011, p. 1169). The resulting diversification of specialties and subspecialties – 131 as of 2018, each with its own field-specific scientific and clinical frameworks for understanding and addressing the needs of patients – has generated an even greater array of diagnoses for functional somatic symptoms, many of which are used alongside the two main international classification systems, the *International*

*Classification of Diseases* (ICD-6),<sup>11</sup> first published by the World Health Organization in 1948, and the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-I), first published by the American Psychiatric Association in 1952 (for terminology used in the latest versions of ICD and DSM, see Appendix 1.1 at the end of this supplement). Needless to say, the use of terms from different diagnostic systems – or even outside of current diagnostic systems – in clinical practice creates confusion for families and also for, and between, clinicians, as we see in the vignettes of Paula in Chapters 2 and 3 and the vignette of Mara in Chapter 2.

## **Disease and Dis-ease: How Patients with Functional Somatic Symptoms Got the Short Straw – And Are Still Stuck with It**

In the 1600s, before the introduction of mind-body dualism (Descartes 2017 [1641]), the word *disease* was used to mean the ‘absence of ease’ – that is, dis-ease – or to refer to a ‘cause of discomfort’, which included both conditions of the body and conditions of the mind (Oxford English Dictionary 2000).<sup>12</sup> After the introduction of dualist thinking, functional somatic symptoms became, over time, conceptualized as an illness of the mind (see Chapter 2), and conditions of the mind began to be separated out from conditions of the body.

Starting in the early 1900s, as the scientific base of medicine became better articulated, doctors began to reserve the word *disease* for disorders of the body that were ‘pathologically defined’ by changes in tissue structure (Flexner 1910; Sharpe and Carson 2001) – more specifically, where the neurophysiological changes could be measured or quantified with current technologies.<sup>13</sup> In that way, illnesses whose pathology was *understood*, as well as those with presumptive physical causes (including various cancers whose pathology was not well understood), were included under the *disease* umbrella; other conditions, in which no physical cause was identifiable or even imagined, were excluded.

By 1952, with the first edition of DSM, mental illnesses came to be classified mainly as *disorders* rather than *diseases*. This transition from the more global *dis-ease*<sup>14</sup> to the specifically physical *disease* – and with it, the



conceptual division between body and mind – has been particularly unhelpful for patients with functional somatic symptoms. Functional somatic symptoms straddle the divisions of mind-body dualism, leaving clinicians with no obvious way of proceeding.

## Putting It All Together

In this book, we deal with the confusion about terminology and about our knowledge base in two ways. First, in Chapter 2, we use the parable of the blind men to understand the myriad terms that have been used for functional somatic symptoms. Much like the blind man's experience of the elephant – as a snake (trunk) or fan (ear) or rope (tail) or wall (body) or tree (leg) – virtually all of the terms that are used for referring to functional somatic symptoms reflect some portion of the truth. Second, we use systems thinking and the idea that all knowledge – including everything that is written in this book – is approximate (see Chapter 17). Our knowledge of any phenomenon is always approximate because when we examine a phenomenon on a particular system level – even when we take into account connections between that system level and other system levels – we are always forced to leave some connections out (Capra 1977).

When we step back and view functional somatic symptoms through the eyes of time and with the advantage of historical hindsight, we can see that functional disorders – whatever name they are given – are a family of disorders whose symptoms overlap with one another. In the patients of today, we recognize the patients of the past. In this way, the girl who stutters and shakes like a leaf, who is confused and has lost her memory, who collapses into states of unresponsiveness, and who wakes up from these events with paralyzed legs is reminiscent of the French soldier with *syndrome du vent du boulet* or the English soldier with shell shock. The difference is that the *shock* to the girl, unlike that to the soldier, came in the form of sexual trauma and the witnessing of family violence. Likewise, the adolescent girl with fatigue, dizziness on standing, nausea and diarrhoea, and sudden collapses triggered by hyperventilation, all triggered by a viral illness, is reminiscent of the American soldier with *irritable heart*. And both are reminiscent of Queen Elizabeth of Bohemia (see above). It seems that the

body responds to stress and threat – both physical and psychological – in a finite number of ways. The presentations do fall into patterns, as we have seen in this chapter, but these patterns – these constellations of symptoms – merge one into another, as the stress system affects, over time, one bodily system or another, all within the same patient or group of patients, within civilian and military settings, and across ages and sexes.

## Notes

1. In two separate books, historians Helen King and Donald Campbell provide informative accounts of pre-modern understandings of health, illness, and the body, and of how medical knowledge was transmitted across cultures (King 1993; Campbell 1926). King provides a detailed analysis of the meaning of *hysteria* as documented in the *Corpus Hippocraticum*, a collection of medical works that mostly come from the Greek classical period in the fourth and fifth centuries BCE (King 1993).
2. See Trimble (1982) for a quote from Jordan's writings.
3. The belief that the uterus or other organs of female reproduction caused functional somatic symptoms continued into the late 1800s. Dr Poirier, who worked under Jean-Martin Charcot, devised an ovarian compressor belt to exert continuous pressure on the ovaries in order to avert hysterical attacks (Poirier 1878). See Edward Shorter (1992) for a detailed account of medical theories of functional somatic symptoms from the late 1800s onward.
4. In their article Robins and colleagues (1952) suggest that the occurrence of hysteria in men was first suggested by Caroli Pisonis (aka Charles Lepois) in 1618 (Pisonis 1650). Hysteria was also subsequently documented in 1859 by Briquet, who found that 7 of his 430 civilian cases were men (Briquet 1859). Interestingly, Robins and colleagues found no cases when searching for hysteria in civilian hospitals; all their cases were drawn from veterans hospitals.
5. See Trimble (1982) for a quote from Jordan's writings.

6. Humoural theory dates back to the *Corpus Hippocraticum* (see note 1). On that theory, health and ill health could be understood in terms of four humours—blood, yellow bile, black bile, and phlegm—that correspond to the physical elements air, water, fire, and earth, respectively. In a healthy body, these four humours are in balance. When they become unbalanced, ill health is the result.
7. The original reference (written in Latin) is to John Hawkins (1633), *Discursum de melancholia hypochondrica potissimum* (Heidelberg, W. Fitzer).
8. The quote is our English translation of what Crocq (1999, p. 35) writes in French: ‘La Révolution française et les Guerres de L’Empire seront L’occasion de troubles psychiques provoqué par la violence des combats et les «emotions morale» de la terreur ou de la guerre’.
9. In some publications, such as Ellis’s 1984 article ‘The origins of the war neuroses’ (Ellis 1984), Honingmann’s name was misspelt as Honingman, a mistake that was subsequently repeated by others who quoted Ellis, and that continues to complicate searches on the internet for information pertaining to Georg Honingmann.
10. Later, Lipsitt also came to use the expression *medically unexplained* (Lipsitt et al. 2015).
11. According to the history provided in ICD-11:

The first international classification edition, known as the International List of Causes of Death, was adopted by the International Statistical Institute in 1893. The ICD has been revised and published in a series of editions to reflect advances in health and medical science over time. WHO was entrusted with the ICD at its creation in 1948 and published the 6th version, ICD-6, that incorporated morbidity for the first time. The WHO Nomenclature Regulations, adopted in 1967, stipulated that Member States use the most current ICD revision for mortality and morbidity statistics.  
(<https://www.who.int/classifications/icd/factsheet/en/>)

12. According to the *Oxford English Dictionary*, in the 1300s the word *disease* was used to mean ‘absence of ease’, ‘cause of discomfort’, ‘a condition of the body’ (including disturbed functions). Later, in the 1500s, *disease* also came to include ‘depraved conditions of mind’.
13. This change in meaning of *disease* took place in the last 100 years. As recently as the 1950s, doctors used the word *disease* in a broader way, and they had no difficulty in including patients with functional somatic symptoms under the *disease* umbrella (Purtell et al. 1951).
14. We became curious about the history of the word *disease* after reading Simon Wilkinson’s 2017 article entitled ‘The need for a disease model for medicine: Illness, sickness, disease, disorder and predicament’. Later, we discovered that Haggerty et al. (1975, p. 94) had also used the term *dis-ease* in referring to the new morbidity: ‘A group of new childhood difficulties that we have termed the ‘new morbidity’ is now gaining attention . . . Parents indicated much dis-ease, dissatisfaction, and unhappiness about such problems as behavior disorders among preschoolers, inadequate functioning in school, and the management of adolescents’ adjustment difficulties’.

## Appendix 1.1: Diagnoses Currently Used for Functional Somatic Symptoms in ICD and DSM

ICD-10 (2016 Version): Neurotic, Stress Related, and Somatoform Disorders	ICD-11 (Implemented 2019 Onward) Mental, Behavioural or Neurodevelopmental Disorders	DSM-5 (2013): Somatic Symptom and Related Disorders
<b>Somatoform Disorders</b>	<b>Disorders of Bodily Distress or Bodily Experience</b>	<b>Somatic Symptom Disorder</b>
F45.0 Somatization disorder	6C20 Bodily distress disorder	Illness anxiety disorder
F45.1 Undifferentiated somatoform disorder	6C21 Body integrity dysphoria	Conversion disorder (functional neurological symptom disorder)
F45.2 Hypochondriacal disorder	6C2Y Other specified disorders of bodily distress or bodily experience	Psychological factors affecting other medical conditions
F45.3 Somatoform autonomic dysfunction	6C2Z Disorders of bodily distress or bodily experience, unspecified	Brief somatic symptom disorder
F45.4 Persistent somatoform pain disorder		Brief illness anxiety disorder
F45.8 Other somatoform disorders	<b>Dissociative Disorders</b>	Illness anxiety disorder without excessive health-related behaviours
F45.9 Somatoform disorder, unspecified	6B60 Dissociative neurological symptom disorder (with 15 possible subtypes)	Pseudocyesis
	6B60.0 with visual disturbance	Unspecified somatic symptom and related disorder
<b>Dissociative (Conversion) Disorders</b>	6B60.1 with auditory disturbance	
F44.0 Dissociative amnesia	6B60.2 with vertigo or dizziness	
F44.2 Dissociative stupor	6B60.3 with other sensory disturbance	
F44.4 Dissociative motor disorders	6B60.4 with non-epileptic seizures	
F44.5 Dissociative convulsions	6B60.5 with speech disturbance	
F44.6 Dissociative anaesthesia and sensory loss	6B60.6 with paresis or weakness	

F44.7 Mixed dissociative (conversion) disorder	6B60.7 with gait disturbance	
F44.8 Other dissociative (conversion) disorders	6B60.8 with movement disturbance	
F44.9 Dissociative (conversion) disorder, unspecified	6B60.80 with chorea	
	6B60.81 with myoclonus	
<b>Other Neurotic Disorders</b>	6B60.2 with tremor	
F48.0 Neurasthenia	6B60.83 with dystonia	
F48.8 Other specified neurotic disorders	6B60.84 with facial spasm	
F48.9 Neurotic disorder, unspecified	6B60.85 with Parkinsonism	
	6B61 Dissociative amnesia*	
	<b>Diseases of the Nervous System</b>	
	8A00.3 Functional parkinsonism**	
	8A02.3 Functional dystonia or spasms**	
	8A04.4 Functional tremor**	

\* Dissociative amnesia is not technically a functional somatic symptom, but it is often comorbid with other functional somatic symptoms. We have left it in the table because a loss of memory in combination with non-epileptic seizures or other functional neurological symptoms is common.

\*\* These three functional disorders under “diseases of the nervous system” are doubles of those in the dissociative disorders (6B60.85, 6B60.83, and 6B60.2, respectively)

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